Historic, archived document

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

UNITED STATES
DEPARTMENT OF AGRICULTURE

YEARBOOK 1922

WASHINGTON
GOVERNMENT PRINTING OFFICE
1923

Organization of U. S. Department of Agriculture.

Corrected to April 1, 1923.

Secretary of Agriculture, HENRY C. WALLACE.
Assistant Secretary of Agriculture, C. W. PUGSLEY.
Director of Scientific Work, E. D. BALL.
Director of Regulatory Work, ———.
Administrative Assistants, W. A. JUMP, H. M. BAIN.
Chief Clerk, R. M. REESE.
Solicitor, ROBERT W. WILLIAMS.
Weather Bureau, CHARLES F. MARVIN, *Chief.*
Bureau of Animal Industry, JOHN R. MOHLER, *Chief.*
Bureau of Plant Industry, WILLIAM A. TAYLOR, *Plant Pathologist and Physiologist, and Chief.*
Forest Service, WILLIAM B. GREELEY, *Forester and Chief.*
Bureau of Chemistry, WALTER G. CAMPBELL, *Acting Chief.*
Bureau of Soils, MILTON WHITNEY, *Soil Physicist and Chief.*
Bureau of Entomology, L. O. HOWARD, *Entomologist and Chief.*
Bureau of Biological Survey, EDWARD W. NELSON, *Biologist and Chief.*
Division of Accounts and Disbursements, A. ZAPPONE, *Chief and Disbursing Clerk.*
Division of Publications, JOHN L. COBBS, JR., *Chief.*
States Relations Service, A. C. TRUE, *Director.*
Bureau of Public Roads, THOMAS H. MACDONALD, *Chief.*
Bureau of Agricultural Economics, HENRY C. TAYLOR, *Chief.*
Packers and Stockyards Administration, CHESTER MORRILL, *Assistant to the Secretary of Agriculture.*
Administration of Grain Futures Trading Act, CHESTER MORRILL, *Assistant to the Secretary of Agriculture.*
Insecticide and Fungicide Board, J. K. HAYWOOD, *Chairman.*
Federal Horticultural Board, C. L. MARLATT, *Chairman.*
Fixed Nitrogen Research Laboratory, F. G. COTTRELL, *Director.*
Librarian, CLARIBEL R. BARNETT.
Editor, EDWIN C. POWELL.

1922 Yearbook Committee.

C. W. PUGSLEY, *chairman;* DR. F. E. PEARSON, *executive secretary;* Earle H. Clapp; E. Z. Russell; C. W. Larson; W. W. Garner; C. R. Ball; Nat C. Murray, and G. C. Haas, *in charge of graphics.*

FOREWORD.

The Yearbook for 1922 continues the plan adopted for the Yearbook for 1921 of presenting in a somewhat detailed manner the economic situation regarding five of our leading agricultural products—hogs, dairy, tobacco, small grains other than wheat, and forestry. Wheat, corn, beef, and cotton were treated in the Yearbook for 1921. The object is to give the history of each subject, the present situation, and the future outlook.

The World War and the unprecedented advance in prices of all commodities culminated in a demand by farmers for the collection of market statistics by governmental agencies. The precipitous decline of prices following the World War resulted in an unusual interest in price data. The statistical part of the Yearbook has been accordingly expanded to meet this demand. About 150 pages of statistics have been added to the 1922 Yearbook. The additions include market prices, freight rates, receipts and shipments, foreign prices, and forestry statistics.

HENRY C. WALLACE,
Secretary of Agriculture.

CONTENTS.

Page.

The Year in Agriculture 1

H. C. WALLACE.

Timber: Mine or Crop? 83

W. B. GREELEY, EARLE H. CLAPP, HERBERT A. SMITH, RAPHAEL ZON, W. N. SPARHAWK, WARD SHEPARD, and J. KITTREDGE, Jr.

Hog Production and Marketing 181

E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON, and C. F. LANGWORTHY.

The Dairy Industry 281

C. W. LARSON, L. M. DAVIS, O. A. JUVE, O. C. STINE, A. E. WIGHT, A. J. PISTOR, and C. F. LANGWORTHY.

History and Status of Tobacco Culture 395

W. W. GARNER, E. G. MOSS, H. S. YOHE, F. B. WILKINSON, and O. C. STINE.

Oats, Barley, Rye, Rice, Grain Sorghums, Seed Flax, and Buckwheat 469

C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, C. E. CHAMBLISS, A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN.

Appendix:

Prepared under direction of NAT. C. MURRAY, L. B. FLOHR, and O. A. JUVE, Bureau of Agricultural Economics.

Statistics of Grain Crops 569

Statistics of Crops Other than Grain Crops 666

Live Stock 795

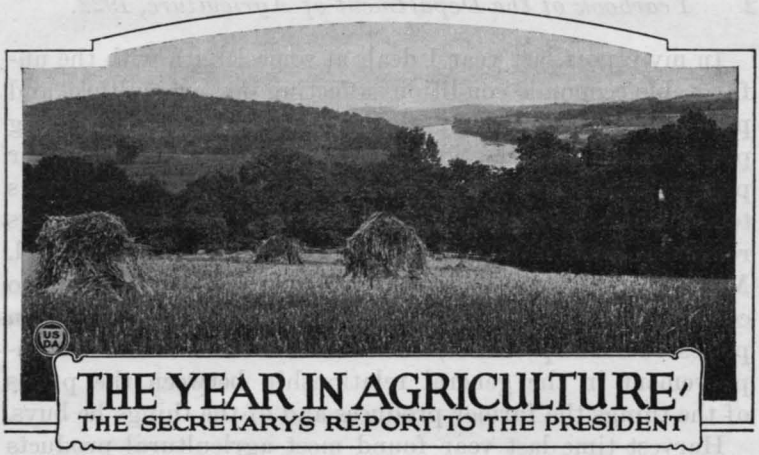
Forest Statistics 914

Imports and Exports of Agricultural Products 949

Miscellaneous Agricultural Statistics 983

Farm Operations 1045

Index 1079



WASHINGTON, D. C., *November 15, 1922.*

TO THE PRESIDENT:

If financial rewards were measured out in proportion to the results of honest, productive effort (unfortunately they are not always), the farmers of the Nation would have little reason to complain of their returns this year. In contrast with various other groups of workers they have produced abundantly and without cessation. This year the acreage of the 14 principal crops is about 337,000,000 acres, which is 7,000,000 acres above the 10-year average, and but 1,000,000 acres below last year. Production of these 14 crops is estimated for this year to be a total of about 265,000,000 tons, which is 11,000,000 tons above last year and above the 10-year average. This great total is the result of long hours of hard work, aided by favorable weather conditions. If the relationship between prices now was such as existed before the war, this would be a prosperous year for agriculture, and consequently a prosperous year for the Nation. With the distorted relationship of prices at the present time, the farmers, notwithstanding their hard work and large production, find themselves still laboring under a terrible disadvantage as compared with other groups. There is food in superabundance, and this contributes to the prosperity of business and industry for a time, but the inadequate return which the farmer is receiving, and has received for three years, inevitably must result in readjustments in the number of people on the farms and in the cities, which will not be for the continuing good of the Nation.

In my report last year I dealt at some length with the unfavorable economic conditions affecting our agriculture, and pointed out particularly the greatly reduced purchasing power of the farmers, who comprise about one-third of our population, caused by the decline of prices of farm products to below the pre-war level, while prices of most other things remained from 50 to 100 per cent above the pre-war level. Much of what was said in my report at that time applies to conditions now existing. There has been some increase in prices of farm products, but there has not been much improvement in the general relationship between the prices of the things the farmer produces and of the things he buys.

Harvest time last year found most agricultural products selling at bankruptcy levels. During the early spring of this year the farmer's condition was improved by substantial increases in the prices of many farm products, although this improvement did not inure to the benefit of the farmer as much as it should, since the major portion of his products had passed out of his own hands. Of the 12 representative farm products—cotton, corn, wheat, hay, potatoes, beef cattles, hogs, eggs, butter, tobacco, sheep, and wool—7, cotton, corn, cattle, hogs, tobacco, sheep, and wool, show advances in prices this year as compared with the same month last year. The other 5 were selling in September at prices lower than the prices in September, 1921. If we take all farm products and express prices in terms of index numbers, we find that the index for August, 1922, stood at 123 as compared with 122 for the year 1921.

The index number varies somewhat with different regions. Roughly speaking, it is lower from Ohio east, about the same in the Middle Western States, lower in the Northwest, and considerably higher in the Southern States, the latter being due to the very substantial advance in the price of cotton.

While the prices of many important farm products have advanced considerably over last year, this advance has been accompanied by equally large or larger advances in the price of other commodities. For example, the index of wholesale prices of commodities other than farm products was 176 in August of this year as against 150 in August, 1921. For a time last spring farm prices had advanced more, relatively, than prices of other things. This advance

was not fully held, as was to be hoped for. The index of purchasing power at the present time is about what it was in December, 1921, which was at the lowest point since the war. In August and September, 1922, a given unit of farm products could be exchanged for only about two-thirds (64 per cent) as much of other commodities as that same unit would have purchased in the year 1913. At the time this

PRICES OF FARM PRODUCTS AND FREIGHT RATES, 1909–1922.

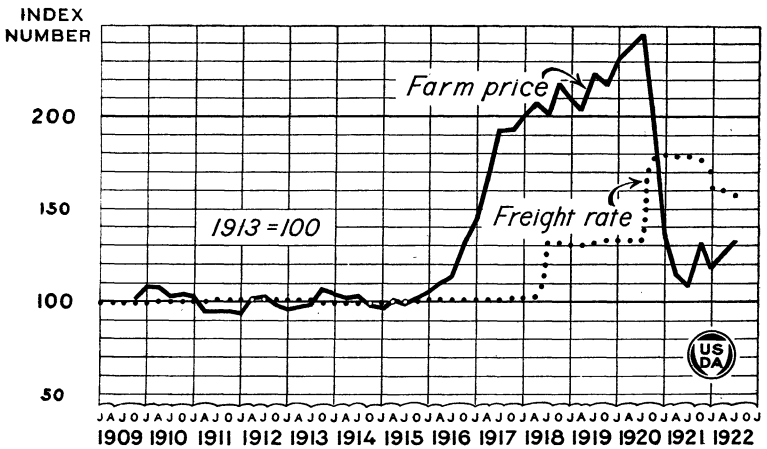


FIG. 1.—There is a considerable variation from year to year between the levels of prices of farm products and of freight rates. During the war period farm prices advanced much more rapidly than freight rates. Since 1920 prices have declined while the freight rates have advanced. During 1921 and 1922 freight rates were relatively higher than prices of 31 farm products.

report is submitted an encouraging advance in farm prices is being registered and the future looks decidedly more hopeful.

Low Prices for Farm Products—High Prices for Other Commodities.

Among the causes which contribute to the abnormal relationship of farm prices to the prices of other things may be mentioned:

Overproduction of many farm crops.

Continued high freight rates.

The maintenance of industrial wages at near war-time levels.

Economic depression and depreciated currency in European countries.

Interference with the efficient functioning of necessary industries.

Unreasonably high costs of distribution of some farm products.

Some contend that there is no such thing as overproduction of farm products and can not be as long as there are people in the world who suffer for food and clothing. On the same line of reasoning it can be argued that the production of automobiles will be inadequate until every man and woman and every boy and girl of high-school age owns one. There is overproduction, so far as the producer is concerned, whenever the quantity produced can not be marketed at a price which will cover all production costs and leave the producer enough to tempt him to continue production. And whenever there is such overproduction the output will be reduced either by conscious effort on the part of the producers or by the operation of economic laws which drive the less efficient producers out of the business. The fact is that for three years in succession the farmers of the United States have produced more of some crops than could be sold at prices high enough to cover production costs.

It will never be possible for the farmers to relate their production to profitable demand with the nicety of the manufacturer, both because they can not control the elements which influence production and can not estimate demand as closely. Neither will the farmers ever be able to organize as have the labor unions, and by rules and regulations and disciplinary measures compel obedience to policies adopted. They can, however, bring about a better adjustment of production, and especially of marketing, to the needs and purchasing ability of possible customers, if they will perfect their organizations and call to their aid men skilled in interpreting conditions which influence supply and demand. Better adjustment of farm production is worth striving for. Both the farmers and the consuming public would be benefited through more stable production and therefore more stable prices.

There were substantial reductions in freight rates on farm products during the year, but rates still remain far above pre-war levels and constitute a heavy burden on agriculture. In the case of some crops grown at considerable distance from the large consuming centers freight rates

are now prohibitive or so nearly so as to make crop readjustments imperative. If this condition should continue, industrial readjustments must follow, our manufacturing centers gradually being shifted westward toward the great agricultural surplus-producing regions. In the case of some crops, notably fruits and vegetables, the higher freight rates tend to benefit eastern farmers at the expense of western and southern. In the case of the coarse grains and hay, however, the finished product of the western farmer is to some extent the raw material of the eastern farmer and the advance in freight rates hurts both.

The cost of labor is one of the largest elements which determine the price the farmer must pay for what he buys,

WAGES OF FARM HANDS, CARPENTERS. AND METAL WORKERS.

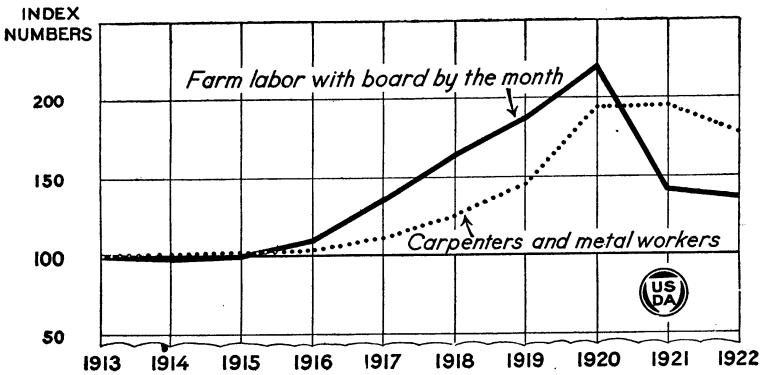


FIG. 2.—Wages of farm labor rose more rapidly during the period 1917–1920 than did the wages of carpenters and metal workers and fell more rapidly during the agricultural depression of 1920–21. In periods of prosperity and depression farm wages are more quickly adjusted to prevailing economic conditions than are union wages.

whether it be transportation, fuel, implements and machinery, clothing, or what not. The success of industrial labor in holding most of the gains in wages secured during the war period and the two years following accounts for a considerable part of the higher prices the farmer is now paying for what he buys. Wages of men working in organized industries, including transportation, remain at 50 to 100 per cent above pre-war levels and are perhaps within 10 per cent of the high level of 1920. These wages are carried into the price of the things produced. The farmer's income on the other hand is down to or below the pre-war level. The farmer benefits when there is full employment for labor and

when wages are good, because the wage workers can then buy freely of farm products. There is a limit, however, beyond which consumption is not increased, and as wages advance beyond this point they add to the cost of the things the farmer must buy and thus increase his own cost of production without in any way enlarging the market for what he produces.

The depreciation in the currency of European countries and the general economic depression existing there tends to narrow the outlet for our surplus crops. During 1921 we exported large quantities of agricultural products, especially those products which were selling at ruinously low prices. This export movement has been decreasing. European agriculture is gradually being restored and necessity requires restricted buying by the consuming public. Another phase of this export movement is the postponement of European buying. In times past the tendency was to come into our markets promptly and lay up farm products in store. Now the tendency overseas is to use up all available domestic supplies and import as little as possible. This requires us to hold our own exportable crops longer than before and adds to our credit and storage difficulties. The condition of our agriculture would seem to justify a thorough study of the international situation as it bears upon the outlet for the products of our farms.

Conflicts between employers and employed in necessary industries directly injure the farmer in many ways. When men are out of work food consumption is necessarily reduced, notwithstanding strike benefits paid. When the dispute affects transportation, the movement of farm products is seriously interfered with. During the recent railroad strike, for example, many fruit and truck farmers were unable to move their perishable products, and as a consequence suffered very heavy losses, running into many millions of dollars. Delays in transportation cause heavy shrinkage in live stock moving to market, as well as damage to many other farm products resulting from deterioration because of delayed movement. As a result consumers in the cities are compelled to pay unreasonably high prices, while producers on the farms must take lower prices. The effect of the transportation strike will injuriously affect the farmers long after the men are back to work, because of the impaired condition

of the equipment. So also farmers suffered severely from the coal strike. In many sections threshing was delayed, at heavy loss, through exposure of the grain to the weather. Farmers were compelled to pay exorbitant prices for such coal as they were able to buy, and the necessity of moving coal when finally the mines and the railroads resumed operations interfered materially with the prompt movement of farm products.

Cost of distribution of farm products remains high, notwithstanding frequent violent denunciations of profiteers in the cities. In part, this high cost of distribution is caused by the multiplication of distributing agencies during the past six years, in part by the increase in rent, wrapping paper and containers, twine, ice, etc., but in larger part by the higher

TAXES, PERCENTAGE OF FARMERS' NET RECEIPTS.

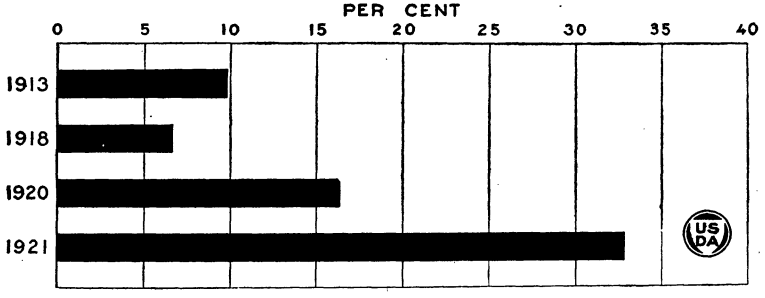


FIG. 3.—During 1913 taxes were about one-tenth of the farm receipts less expenses other than taxes and in 1921 were about one-third. Taxes, unlike farm prices, did not respond to the liquidation that took place following 1920. (155 farms in Ohio, Indiana, and Wisconsin.)

wages which employees in the distributing business have been able to maintain.

Although not directly affecting the price of farm products, the tremendous increase in taxes has added a burden which is very heavy to carry. In most farming States taxes on farms have more than doubled. On 155 farms in Ohio, Indiana, and Wisconsin in 1913 the income available for the owner's labor, profit, interest on capital, and taxes—that is, receipts less expenses other than taxes—averaged $1,147 per farm. Taxes averaged $112 per farm, which amounted to 9.8 per cent of the foregoing income figure. On these same farms in 1921 the estimated income available for labor, profit, interest on capital, and taxes averaged $771 per farm. The taxes in this year were $253 per farm. Taxes, in other

words, absorbed one-third of the farm income in 1921, as compared with less than one-tenth in 1913. Between 80 and 90 per cent (the percentage varying in different sections) of the taxes paid by the farmer is for expense within the county, the larger items being schools and roads. Such taxes, therefore, are within the control of the majority of the people in the county. Nevertheless, the increase in taxes is proving to be one of the most frequent subjects of complaint by farmers, as answers to a questionnaire sent out by this department showed very clearly, and during the next few years the whole question of taxation will evidently receive considerable attention by thoughtful farmers.

How the Farmers are Weathering the Storm.

The production records of this year furnish a vivid illustration of the vitality of American agriculture and of the courage and hopefulness of the American farmer. Certainly no other industry could have taken the losses agriculture has taken and maintain production, and we have no evidence to show that any other group of workers would have taken the reduction in wages in the spirit in which the farmers have taken their reduction.

Many thousands of farmers have not been able to weather the storm, notwithstanding their most strenuous efforts. Thousands who purchased land during the period of high prices, making a small payment down, have been obliged to give up the struggle, let the land go back, lose all the money they paid for it, and start anew. Many thousands of renters who had substantial savings invested in farm equipment and live stock have gone through the same experience and have lost everything. A pathetic picture which illustrates this comes in a letter from a farmer in a western State. He writes:

"Our neighbor joining on us on the east, a hard-working man, had rented 320 acres of land. He and his wife and one hired man farmed it. They had about 100 head of cattle and about the same number of hogs. The 1st of December they turned everything over to the landlord, save one team, which they hitched to an old wagon, put in their household goods, got in the wagon themselves, and drove away to town to get work at day labor and make a new start in life."

Most farmers have succeeded in maintaining themselves and their hold on the land by the exercise of the most rigid economy. They have refrained from buying anything they could possibly get along without. This enforced economy has contributed very much to the difficulties of manufacturers, dealers, and retailers, who are largely dependent upon farmers for their customers. Manufacturers of farm implements and machinery especially have suffered, farm purchases of such having decreased enormously since the summer of 1920. The result of this has been a steady depreciation in farm equipment.

Labor cost of production has been greatly reduced, both by lower wages paid farm hands and the reduction in the amount of labor employed. In the case of farm wages, in 1922 they were but 36 per cent above the 1913 level, having declined 38 per cent of the high level of 1920. Perhaps the larger reduction in labor cost of production, however, has come through longer hours and harder work by the farmer, the farmer's wife, and the farmer's children. To some extent the work of the children has been at the expense of their education, a matter in which the entire Nation may well feel concerned.

In addition to rigid economy in the purchase of such things as implements, machinery, and in the making of needed improvements, apparently there has been a much to be regretted reduction in the farmer's standard of living. It is not possible to measure this with any degree of accuracy, but our reports show that for the year ending August 1, 1922, there were slaughtered on the farms 10 per cent fewer hogs than in the year 1921 and 20 per cent fewer than in the year 1920.

With a view to reducing market costs there has been a very large increase in the number of cooperative marketing associations, large and small. Such associations, when well conducted, effect considerable savings in marketing costs. In addition, they are decidedly helpful in indirect ways, such, for example, as directing attention to the grading of farm products and prices as influenced by grades, to the need of regulating the amount marketed to what the demands of the consumers will absorb at a fair price, and in general to the economics of agriculture. Soundly organized

cooperative associations are now able to command the credit needed to enable them to market crops in a more orderly fashion. As sound principles of cooperative marketing become better understood and applied, the benefit growing out of such associations will correspondingly increase. The department is gathering information on successful cooperative methods at home and abroad.

The need of better quality in both crops and live stock is more and more coming to be realized. This is indicated by the increase in the number of pure-bred sires and the organized movement in many sections of the country to replace inferior stock with better.

Hopeful Aspects.

Notwithstanding the continued low purchasing power of farm products, it is fair to say that in general the farmers of the United States are in a better position financially now than they were a year or 18 months ago. Farm products are selling at considerably higher prices, and it is estimated that the aggregate value of the crops in the country this year is about a billion and a quarter dollars more than last year. Considerable quantities of these crops will be fed and the increased value will not be wholly recovered to the farmer, but the bare fact that such a large increase in money will reach the farmers' pockets this year is most gratifying and reassuring.

The advance in price of cotton has been most helpful throughout the cotton-producing States. While the crop is short in many areas, the cotton-growing country as a whole is probably in better condition financially than it has been for three years.

Considerably higher prices for wool, lambs, and sheep have resulted in pulling the sheep industry out of a slough of despond and setting it on its feet again. This is especially helpful to the industry in the range country.

Right through the period of depression hogs have been selling at considerably higher prices relatively than corn. This has enabled farmers in the great corn-producing States to secure much higher prices for their corn by feeding it to hogs than they could get by selling it as corn. Thirty-five

to forty per cent of our corn crop is fed to hogs. Hog prices continue relatively higher than corn. This is stimulating hog production, and there is danger that it may be overdone another year.

On the whole it has been a fairly satisfactory year for cattle feeders, the prices for fat cattle holding gratifying levels. Growers of cattle in the range country, and especially those who have marketed inferior grades of cattle, have not been so fortunate.

Credit conditions have vastly improved. Interest rates have fallen as compared with a year and 18 months ago. The banks in the agricultural sections are in far better condition to serve their farmer customers, and there seems reason to believe that this condition will continue to improve.

The greatly accelerated movement of farmers, and especially farmers' sons, from the farms to the cities and industrial centers is one of the hopeful signs. It is not possible to measure this movement with absolute accuracy, but our best estimates indicate that during the months of July, August, and September twice as many persons left the farms for the cities as normally. This movement is in direct response to the willingness of the buying public to pay much higher prices for labor in the building trades, manufactures, and industries than for labor on the farm. When fair relationships between agricultural and other prices are restored and the capable worker can market his labor on the farm, whether by working for himself or for another farmer at wages which will compare favorably, all things considered, with the wages he is able to get in the city, the movement will again become normal.

Another hopeful sign is the increasing willingness and desire of people engaged in industry, commerce, and finance to help bring about a more favorable adjustment for the farmer. Such people are coming to realize more and more the menace to themselves in conditions so unfavorable to agriculture as those of the past three years. Their attitude toward the farmer has changed from that of a benevolent paternalism such as was so much in evidence during the 10 years preceding the war. They now understand more clearly that their own future is inseparably linked up with

the farmer, and that in doing what they can to help him get on his feet again they are helping themselves as well.

Helpful Legislation.

In my report of last year I called attention to certain legislation recently enacted by Congress which promised to be helpful in relieving the agricultural depression. This promise has been made good. The activities of the War Finance Corporation undoubtedly saved many thousands of farmers from bankruptcy and hundreds of banks in agricultural States from passing into the hands of receivers. The benefit came not alone from the more than $350,000,000 of new money which was made available for agricultural purposes but from the renewed confidence which was inspired and the good effect upon interest rates charged by banks and other loan agencies. The measures which made possible greatly increased mortgage loans on the part of the farm land banks and joint-stock land banks contributed materially to relieving the financial stress by making it possible for thousands of farmers to refund their obligations and get them on a basis of deferred payments. These measures also were influential in reducing the rate of interest on mortgage loans.

The amendment to the Federal reserve act which provides that in making appointments on the Federal Reserve Board due regard shall be had to securing a fair representation of the agricultural, as well as the financial, industrial, and commercial interests, makes proper provision that the voice of agriculture shall be heard on this powerful credit agency when policies are being considered which may affect agricultural credit or agricultural prices.

The act to encourage the organization of farmers' cooperative marketing associations by giving them proper standing under the law, and thus assuring them from improper prosecution by overzealous officers, has made possible and stimulated greater activity in the organization of such associations.

The packers and stockyards act, which brings all packing houses, stockyards, and stockyard agencies under Government supervision, gives assurance that free, open, and competitive conditions will be maintained in the live-stock mar-

kets, and that farmers and stockmen will be protected against unfair and improper practices, as well as combinations which militate against them. More than this, this act gives opportunity for the first time to make a systematic study of the marketing of live stock from the time it leaves the farm until it reaches the wholesaler of meats in the city. Out of such study there should come in time more efficient methods of marketing, and especially more efficient methods of distribution.

The grain futures act, which extends Government supervision over the grain exchanges on which grain is bought and sold for future delivery, gives a similar opportunity to make a study of the present system of grain marketing. Up to the present time it has not been possible to secure that information, which must be had to form an intelligent idea of the effect of the dealings on these grain exchanges. If the act shall be held to be constitutional by the Supreme Court, that opportunity will be afforded.

The Joint Commission on Agricultural Inquiry, composed of members of the House and Senate, sat for many months during 1921, and the following winter made an extended report of its findings. This report contains a mass of material which will be exceedingly helpful in working out national policies designed to aid agriculture. It is the most comprehensive report on the subject which has ever been prepared.

Congress passed a number of other acts of lesser importance, but all helpful. No Congress in our history gave more extended, sympathetic, and understanding consideration to agriculture than the Congress which convened in March, 1921.

The National Agricultural Conference.

In January, 1922, there was held in Washington a national agricultural conference, called at your request. This conference was attended by 336 delegates. Some 20 different national farm organizations sent delegates, representing all phases of agricultural activity, these delegates numbering 87 and coming from 37 different States. There were individual farmers in attendance to the number of 80, from 30

different States. There were 84 delegates officially connected with agricultural organizations of the different States. There were 67 delegates representing businesses having direct relation to agriculture, and there were 18 women delegates.

Following your splendid opening address, the delegates were assigned to various committees, and spent four days considering matters relating to agriculture. At the conclusion of the session the conference brought in a number of important recommendations, some of them suggesting legislation, some suggesting administrative action, and some suggesting certain matters which should have the attention of farmers and farm organizations. The details of the discussions and the recommendations were presented to you in a special report February 6, 1922. Favorable action has been taken on most of the more important recommendations of the conference. The presence of this large number of practical farmers from almost every State afforded an opportunity for conference between them and the workers of the Department of Agriculture, and this intimate contact with the delegates proved most helpful in stimulating department activities, especially along economic lines. The coming together of men of widely divergent views from so many different sections was most beneficial in every way.

Credit Legislation Needed.

Among the recommendations of the national agricultural conference were two which dealt with the matter of farm credit. One urged the increase of the maximum which may be loaned to an individual by the Federal farm land banks from $10,000 to $25,000. The other expressed the need for a better system of credit for production purposes. Neither of these recommendations have been acted upon as yet, although the need of favorable action is urgent.

In the more highly productive agricultural regions the amount required to be invested in the average-sized farm which is the most economical unit for the average farm family is so great that a mortgage loan limited to $10,000 is not large enough to meet the needs of the average farm owner. Many farmers are therefore deprived of the benefit of the Federal farm land bank system and just at a time

when they most need it. This limit should by all means be increased to $25,000 as quickly as possible.

Short-time or working credit used by the farmer comes from two sources—the commercial banks and the merchants, the latter also necessarily being carried by the banks. The trouble with this short-time farm credit is that very often the notes given run for a shorter time than the farmer needs the money, and therefore must be renewed, and often the rates are higher than farm profits justify the farmer in paying. Our short-time credit system has been devised rather to meet the needs of business and commerce, both of which have a shorter turnover than agriculture. When business conditions are normal the farmer has gotten along fairly well. In times of stress the forms of short-time credit upon which he is obliged to rely often force him to sell his crops and live stock at severe sacrifice. There should be made available to agricultural producers a credit system adapted to their particular needs. Particularly there is needed a system of intermediate credit under which the farmer can borrow for periods of six months to three years. This form of credit is needed especially for live-stock production and feeding and for development purposes, such, for example, as the purchase of certain kinds of machinery, the building of silos and barns, the fencing and draining of land, etc. The need for credit of this sort has been recognized for a great many years. The lack of it made necessary the activities of the War Finance Corporation during the past year. Agriculture should not be required to depend on emergency organizations of this sort.

Congress has been giving consideration to this matter of intermediate credit. A number of bills have been before the appropriate committees for some months. It is very much to be desired that definite action be taken at the earliest possible moment.

Commodity and Regional Councils.

With the desire to be of the greatest possible service in the task of restoring agriculture to a prosperous basis we have been making comprehensive studies of the conditions which influence the profitable production of various crops, carrying on these studies through what we call commodity

councils. These councils are composed of representatives of the various bureaus and suborganizations of the department which have anything to do with the crop being studied. The cotton council will serve as an illustration. Meetings of this council are attended by the people who understand the soils of the Cotton Belt, by those who have made a special study of varieties as adapted to certain soils, by the experts in cultural methods, by the entomologists who understand injurious insects, their habits and methods of combating them, by specialists who understand grading and marketing methods and the conditions which influence demand, both at home and abroad, and by many others who have information needed to help bring about the most economical production and marketing of cotton. It is expected that out of these deliberations by the cotton council will come certain definite department policies with regard to cotton. When such policies have been formulated it is expected that meetings will be held with agricultural agencies and cotton farmers in the various cotton-producing sections. These meetings should result in formulating policies best adapted to the profitable production and marketing of cotton in the various sections, and the various agencies interested will then undertake to bring these policies to the attention of cotton growers through the cooperative extension agencies of the department and the various States. The same general policy will be followed with regard to all the principal crops.

Out of the deliberations of these councils which deal with particular crops it is expected there will grow regional councils which will consider in the same thorough and comprehensive way the agriculture of important regions of the country. For example, in the spring-wheat region of the Northwest there are certain large agricultural problems peculiar to that region. The same is true of the winter-wheat region of the Southwest and Central West and of the Corn Belt region. The problems to be studied are not limited to the growing of particular crops, but embrace the marketing of those crops, the interchange of crops and commodities, and the relations between the agriculture and the industries of the various regions.

It seems perfectly clear that developments of the past five years, the important changes in freight rates on agricultural

and industrial commodities, and the uncertainties of the foreign market will make necessary important readjustments in agricultural production and marketing. Through such studies as are being made in these commodity councils it is the hope of the Department of Agriculture to be helpful in making such readjustments.

Economic Research Work.

On July 1, 1922, the consolidation of the branches of the department doing economic research work was completed, the new bureau being known as the Bureau of Agricultural Economics. Included in this bureau are the former Bureau of Markets, the Bureau of Crop Estimates, and the Office of Farm Management and Farm Economics. The merging of these three units into one had been anticipated by an informal reorganization of their work. It is now possible to make a comprehensive study of economic questions involved in production, marketing, and distribution of farm products, following every step of these processes. This is necessary to secure for farmers the information needed to put American agriculture upon a permanently productive and profitable basis. Studies are under way which will cover every process through which the more important products of agriculture pass on the way from the farm to the consumer.

An intensive study is being made of the part distributors play in financing the production of fruits and vegetables, and the effect on production, distribution, and price. Also, studies are being made of the organized fruit-auction companies in the larger city markets. It is estimated that these companies handle about $150,000,000 worth of fruit each year, but little is known of them and their manner of doing business. Studies are being also made to secure detailed information on such matters as production, supply, distribution, and consumption of fruit and truck crops.

Marketing of Live Stock and Meats.

Through cooperation with the buying and selling agencies at the Chicago market, live-stock marketing information is being gathered to show the State origin, number, and aver-

age weight of each grade of beef steers received, together with the average price paid and the final disposition. This information makes it possible to determine the seasonal supply of the various grades of steers arriving at Chicago and the number going to the country for further feeding or grazing. Information is also being gathered to ascertain the percentage of each market class of sheep and lambs in the total receipts at Chicago, and the average weight and price of these classes. Information of this sort is necessary as a basis for enabling producers and feeders both to plan their operations and to regulate the marketing of their stock, and becomes more and more valuable as it accumulates.

Competition and Demand in Foreign Countries.

As long as we export considerable quantities of wheat, cotton, pork, and other farm products, it is important that we be informed as to competition to be met in foreign markets and as to conditions which influence demand and price. During the past year the department has had representatives in Argentina and in the Balkan countries, both of which compete with us to some extent, and in England and some of the other countries which buy from us. In addition to maintaining these representatives, two specialists were sent to Europe to make an economic survey of agricultural reconstruction there and to arrange for the interchange of information as to production and demand in those countries.

Crop and Live-Stock Reporting Service.

Plans have been made to greatly improve and broaden the statistical work of the department, especially as it relates to crop and live-stock production. A committee of experienced statisticians of national standing was called in and asked to consider carefully our statistical methods and make recommendations. This committee spent some time here and made recommendations of value, which are being adopted as rapidly as possible.

For many years the department's statistics on acreage and production of the principal farm crops have been regarded as very accurate. Live-stock statistics have not been so satisfactory, due in large part to inadequate funds. Con-

gress gave larger appropriations for the current year, and in cooperation with leading live-stock producers a program has been worked out which should result in much more reliable and complete live-stock statistics in the future. This program provides for the elaboration of the annual estimates of numbers of live stock on farms to show age and sex; preliminary and final estimates yearly of the calf and lamb crops of the range States; periodical estimates of the supply and probable movement of feeder cattle, sheep, and lambs in the range States; periodical reports of the numbers of cattle, sheep, and lambs on feed for market; periodical surveys of special live-stock producing areas; reports of the seasonal movement of cattle, sheep, and lambs from the range to the feed lots and from feed lots to market; semiannual reports of the spring and fall pig crop, gathered through rural mail carriers and field representatives of the department; monthly reports of feed and pasture conditions. The Postmaster General has taken a personal interest in the success of these pig surveys made through the cooperation of his department, and they have been quite successful. The information with regard to the production and potential supply of hogs is very valuable, affecting as it does the market for and price of corn as well.

Cost of Marketing.

Cost studies in the field of marketing have been pursued in an effort to get at the actual costs of marketing farm crops by various methods. The services performed and their cost by each of the agencies in the marketing process are being studied. Particular attention during the past year has been given to the cost of marketing live stock in the Corn Belt States, the information in all cases having been secured from accounting records. Reports of these studies will be made public as they are completed.

Grades and Standards for Farm Products.

The necessity for establishing grades and standards for farm products of all kinds becomes increasingly evident. Clearly defined and generally accepted grades not only prevent innumerable irritations, annoyances, and abuses but help the farmer produce to better purpose and with fuller

understanding of market needs. In the case of many farm products acceptable and fairly well understood grades already have been established, such, for example, as the grain and cotton grades. For some time studies have been in progress with the hope of perfecting market classes and grades for live stock and dressed meats. This work has been carried on in connection with the market-reporting service, the tentative grades being used as the basis for the market reports. Numerous conferences have been held with producers and members of the trade, and recommendations and suggestions have been invited, so that when standards are adopted they will be suited to trade conditions. Illustrated bulletins describing the various classes and grades and defining terms are now in course of preparation. Manuscript for a bulletin on "Market Classes and Grades of Dressed Beef" is in the hands of the printer. Similar bulletins will be submitted soon dealing with grades of cattle, hogs, veal, lamb and mutton, and pork carcasses, and cuts and miscellaneous meat products.

The standards for grade and color of American Upland cotton and for American-Egyptian cotton were revised during the year and a change was made in the grade names by the introduction of the numerical system to supplement the present grade names. The revised standards will become effective on August 1, 1923.

Much progress was made during the year in the wool standardization work. More than 500 sets of the tentative wool grades have been prepared and distributed among wool manufacturers, dealers, growers, agricultural colleges, and others interested, every State being represented. In this way interested people are able to study the grades until they come to know them.

Up to the present time grades have been formulated and recommended for 14 of the more important fruits and vegetables. These grades have been brought to the attention of growers and dealers through demonstration work done in cooperation with State representatives and with organizations of growers. Assistance also is given to States in preparing and revising grades for a large number of products.

Tentative standards have been prepared for eggs, and attention is being given to the preparation of standards for live and dressed poultry.

Tentative hay grades have been formulated for timothy, clover, timothy and clover mixed, mixed grass and timothy, and grass mixed hay. A complete exhibit of these grades has been prepared for display at conferences, conventions, terminal markets, and elsewhere. Also a bulletin on the subject "Laboratory Methods in Hay Standardization" is being prepared for early publication.

Revision of Grain Standards.

Complaint of the wheat grades, especially in the Northwest, led to a very thorough study of these grades during the summer and fall of 1921. Experts not connected with the department were employed to make a full investigation in the field. Many conferences were held with the trade and inspection departments, as well as with producers. As a result of these investigations some slight changes were made in the wheat and corn grades, and important changes were made in the rules governing inspection performed by licensed inspectors. In the hope of being of further assistance to the wheat interests in the Northwest, a price-reporting system designed to furnish producers and dealers with comprehensive information regarding market conditions and prices at the terminals was inaugurated. In addition to this, an extensive "Know-your-own-wheat" campaign is being conducted in cooperation with the extension directors and other agencies in the States of Minnesota, North Dakota, and South Dakota. This program should aid producers to know the quality and value of their wheat and enable them to market it to the best advantage. The ruling thought is that every effort should be made to secure conditions under which the actual milling values of the wheat will be reflected in the prices received by growers. At the end of the present wheat-marketing season we should be able to appraise fairly well the value of the changes in the inspection rules and regulations and of the educational campaign.

Shipping-Point Inspection.

The demand for Federal inspection of farm products at points of shipment becomes more insistent. Applications for such inspection already have been received from at least

20 States. The department has found it possible to render some service at shipping points, largely in cooperation with the various States, but it is quite impossible to comply with requests for such inspection until an additional appropriation becomes available. As most of the cost of this service is defrayed from fees collected, there seems no good reason why ample appropriations should not be made. In the case of inspection at receiving points, for example, which has been longer established, the department turned into the Treasury during the past year fees to the amount of $128,000. The total appropriation for this inspection is $175,000. It is expected that both receiving-point and shipping-point inspection service will be largely self-supporting through the fees received, but as these fees go direct to the Treasury, appropriations must be made to the department. Such inspection is of great value to both producers and consumers.

Market News Service.

Some extensions of the market news service have been made through cooperative agreements with the States, whereby the latter pay the expenses involved. Insistent demands have come for a considerable extension of this service, but have been denied because of lack of funds. It has been possible, however, to disseminate market information much

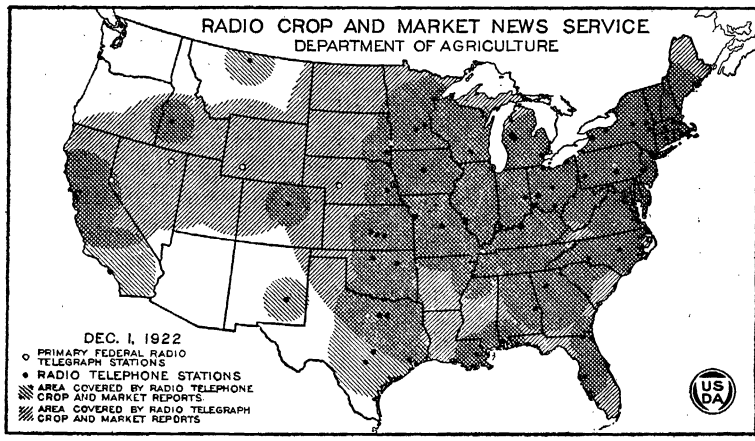


FIG. 4.—The official market reports of the department are broadcast by radio telegraph from nine Navy and Air Mail Radio stations to be received and rebroadcast by radio telephone broadcasting stations. In addition, 85 radiotelephone stations are broadcasting market reports which they receive direct from the department's market-reporting branch offices.

more widely than heretofore through the use of the radio stations of the Post Office and Navy Departments. At designated hours each day market reports are furnished to radio stations at Washington, Omaha, North Platte, Nebr.; Rock Springs, Wyo.; Elko and Reno, Nev.; Arlington, Va.; and Great Lakes, Ill., and also to 53 stations operated by State agricultural colleges and other broadcasting agencies. As a means of getting market information to the country the radio is growing to be quite popular. This sort of service is still in an experimental stage, but gives promise of great future development and usefulness.

Increased Activity Under the Grain Standards Act.

The volume of business handled by the offices of Federal grain supervision during the past year surpassed by far that handled in any previous year. This is especially true of appeals from inspections originally made by licensed inspectors. During the year 31,689 appeals, or approximately three times as many as the preceding year, were handled by the department. In addition to the handling of appeals on complaint of parties to commercial transactions, supervisors work in close contact with licensed inspectors, aiding them in inspection problems, and in applying the standards. A total of 175,896 supervision samples were handled during the year to check the work of the inspectors in order to se-

RECEIVING MARKET REPORTS BY MAIL.

FIG. 5.—The daily market reports of the department are distributed as bulletins from market-reporting offices in the large market centers and in the principal producing sections.

cure correct and uniform application of the Federal standards.

The large and steady increase in demand for appeal service, as well as the desired supervision of inspections not made the subject of appeal but to secure correct and uniform application of the standards, has taxed to the utmost the personnel in some of the offices in the larger markets. This situation had become so serious by the close of the past fiscal year that it was found impossible to handle the volume of work, which by its very nature must be promptly and efficiently executed, on the available funds. To avoid a breaking down of the efficient organization which has been perfected, the only alternative was to contract the service by closing field offices. Although serious protest was made by trade organizations and individuals, it has been found necessary to close four of the branch offices.

Administration of the United States Warehouse Act.

During the past year there has been an unprecedented increase in the number of applications received from warehousemen who operate on a large scale for licenses under the United States warehouse act. At the beginning of the past fiscal year there were licensed 238 cotton warehouses,

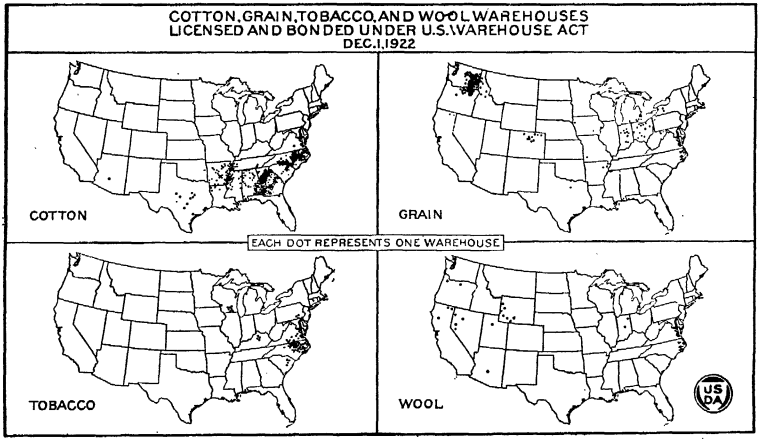


FIG. 6.—Storage or warehousing of products is essential to orderly marketing. But while the goods are in storage most farmers must be financed. A warehouse receipt issued under the United States warehouse act is one of the best forms of collateral for credit purposes. On December 1, 1922, there were over 400 warehouses licensed under this statute. The above map shows their distribution.

having a combined capacity of approximately 430,000 bales. By the close of the year this number had increased to 268 warehouses, having a combined capacity of 1,210,000 bales. The number of grain warehouses licensed under the act increased from 56, having a capacity of about 2,110,000 bushels, to 263, having a capacity of about 14,441,000 bushels. The number of wool warehouses licensed under the act increased from 5, with a combined capacity of 24,375,000 pounds, to 18, with capacity of about 27,500,000 pounds. During the year 14 warehouses controlling space to accommodate 68,395,000 pounds of tobacco were also licensed. Prior to the year 1922 no tobacco warehouses were licensed under the act. A marked interest developed also among warehousemen in sections in which no interest had been shown prior to this year.

Three important factors have contributed to the substantial progress made along this line during the past year: First, the more general appreciation on the part of bankers of the value of warehouse receipts issued under the act for collateral purposes; second, the insistence on the part of some of the farmers' cooperative associations that their products should be stored only with warehousemen who were federally licensed; and, third, the recognition accorded the federally license warehouse receipt by the War Finance Corporation.

Scientific Research.

Department workers in the field of research have been diligent during the year. Notes on work completed and progress made will be found in the reports of the various bureaus, which are being printed as separate documents, and in the various bulletins which have been issued during the year. A list of these bulletins is appended to this report. In view of economic conditions, especial interest attaches to investigations which may help in reducing the cost of production, such, for example, as improvement in varieties of plants and animals, more economical cultural methods, more complete control over plant and animal diseases and insect pests which lessen returns. However unfavorable conditions may be, a lowering of the cost of production must benefit the producer.

The extensive work in testing the relative value of buds from exceptionally productive trees as compared with nonproductive ones seems to show a remarkable difference in the productivity of the resultant stock. Already this has been carried far enough with certain of the citrus fruits to impress the industry with its commercial importance. It is believed that the same principles will be applicable to many other varieties of fruits.

Continued studies of the effect of the length of day upon crop growth are yielding good results and promise to be helpful in considering varieties of plants to be used in breeding work for different regions.

Great progress has been made in recent years in solving the problem of the cause and control of many formerly obscure plant ailments, commonly spoken of as physiological diseases—such, for example, as the mosaic disease of sugar cane, corn, cucumbers, potatoes, and many other of the cultivated crops. Some of the diseases of potatoes and beets apparently belong in this same category. It is being found that these are infectious diseases which may be transmitted by different insects. Each new discovery in this most interesting field brings nearer the possibility of controlling or eliminating these troubles, or of developing varieties and strains which may be resistant to them. Much of the failure in controlling some diseases is now known to be due to failure to recognize the fact that plants might be infected and capable of transmitting the disease without showing external symptoms. These researches have resulted in throwing much light on a field in which scientific workers previously have been almost helpless.

Barberry Eradication.

Efforts to wipe out some plant diseases by exterminating the intermediate host are encouraging. The warfare against the black-stem rust of wheat in the Northwest and against the white-pine blister rust in the forests are cases in point. The part played by the barberry in the transmission of the wheat-stem rust is now generally recognized, and scientists, extension workers, farmers, and people and communities interested in the wheat trade are cooperating in an extensive campaign to eradicate the barberry. The first annual appro-

priation ($150,000) for barberry eradication became available on July 1, 1918. This was increased to $350,000 on July 1, 1922. During the first two years of the campaign most of the effort was spent in getting bushes out of the cities, towns, and villages, on the supposition that the greater number of barberry bushes were located there, and also because they could be most easily and cheaply reached. In a farm-to-farm survey, which has been in steady progress during the last three summer seasons, 447 counties have been covered by squads of field men. It is estimated that it will be necessary to survey about 800 counties in all. More than

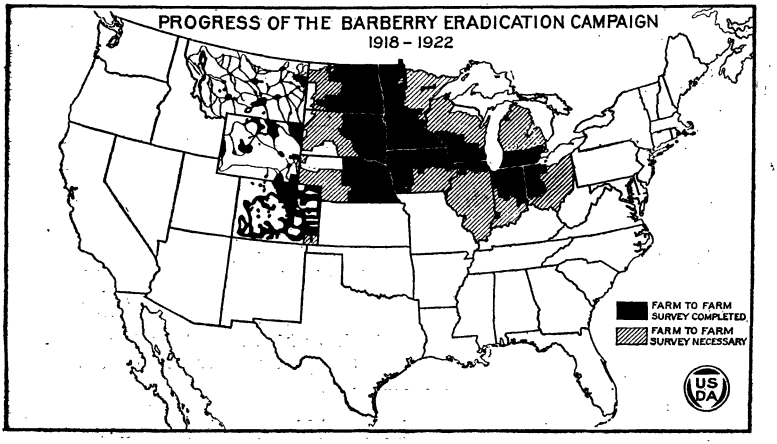


FIG. 7.—Thirteen States are included in the barberry eradication area. In these States 472 counties have been covered by the farm-to-farm survey, and 394 counties remain to be surveyed.

five and one-half million barberry bushes have been found and destroyed. The magnitude of the task has grown as we got into it. Barberry bushes are found growing wild here and there, and especially in the timbered portions of the States bordering on the Mississippi River. The complete eradication of the bushes when they are found is more difficult than had been supposed. If portions of the roots are left in the soil sprouts may develop under favorable conditions. This makes resurveys necessary and adds much to the duration and expense of the campaign. Many bushes are found in broken or rocky ground where it is impossible to remove the roots. Experiments in the use of chemicals as destructive agents are being made and seem to offer prom-

ise. With continued appropriations and cooperation on the part of interested parties, it is believed that the campaign

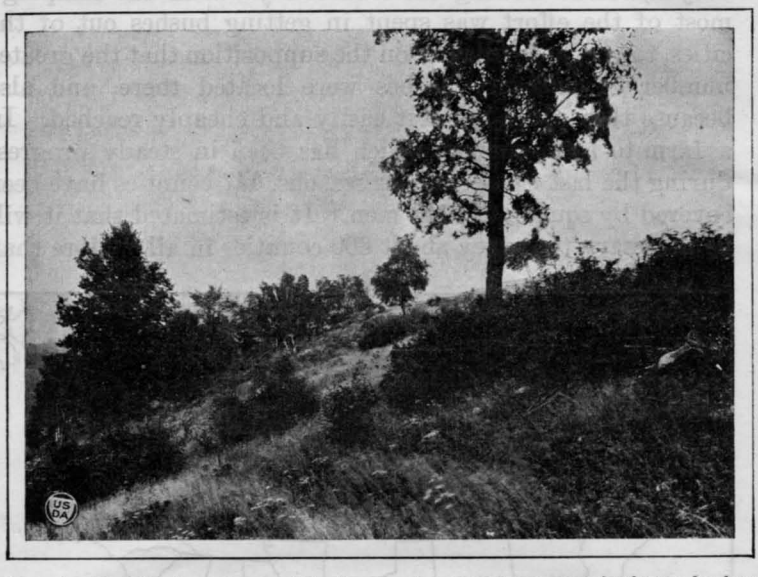


FIG. 8.—Woodland pasture with clumps of escaped common barberry bushes under trees where birds have dropped the seeds. These bushes in turn produce more seeds to start more bushes which spread farther the red rust of wheat. There are millions of such escaped bushes in the timbered portions of the North-Central States.

against the barberry can be rapidly carried to a successful conclusion.

White-Pine Blister Rust.

The white-pine blister rust, which has been destructive in some of the New England forests and has been mentioned in previous reports, has been found at points in the northwestern forests. A quarantine was promptly established, and by the vigorous application of methods of control which have worked successfully in the New England forests it is hoped to promptly check the spread of the disease. This disease is spread somewhat after the manner of the rust of wheat, the intermediate hosts being currant and gooseberry bushes.

Predatory Animals and Rodent Pests.

Similar to the warfare against plant and animal diseases and insect pests is the struggle to control or eradicate preda-

tory animals and rodent pests. The annual loss to agriculture from injurious rodents has been estimated to exceed $500,000,000. This has been materially reduced through the campaigns led by the scientists of the department, which have destroyed most of the rodents on almost 100,000,000 acres of public and private land. The destruction of predatory animals which cause losses of many millions each year is progressing satisfactorily.

Eradication of Tuberculosis.

Gratifying progress has been made in the campaign for the eradication of tuberculosis. All of the States are cooperating in this movement, and at the close of the year 16,216 herds had been accredited and over 100,000 additional herds had passed a first test without reactors. This widespread demonstration of the possibility of freeing individual herds from the disease has resulted in increased confidence in the area clean-up method. Already 23 States have joined in this movement. In these States more than 150 counties had completed or were in the process of testing all of their cattle and nearly 300 more were making arrangements to begin the work. Compared with the previous year, area test-

PROGRESS OF TUBERCULIN TESTING WORK, 1917–1922.

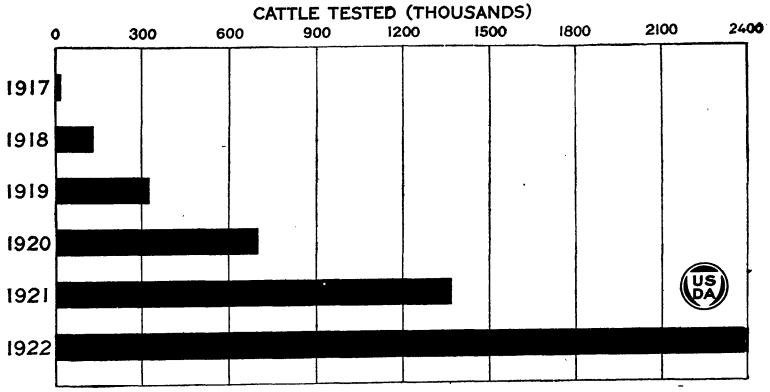


FIG. 9.—In connection with the growth of cooperative tuberculosis eradication work, it will be noted that the number of cattle tuberculin tested has practically doubled each year. There are approximately 300,000 herds containing 3,500,000 cattle under supervision for the eradication of tuberculosis; 21,000 of these herds containing 460,000 cattle are fully accredited and 235,000 herds containing 2,150,000 cattle have passed one successful tuberculin test. There are about 73,000 herds containing 810,000 cattle awaiting the first test.

ing has shown more than a tenfold increase. The adoption of the area clean-up method has not only reduced the expense and increased the efficiency of the work but the results already obtained have done much to strengthen the belief that bovine tuberculosis can be entirely eradicated. Conclusive evidence is already at hand showing that tuberculosis in swine arises principally from infected cattle and that its elimination from the cattle on a given premises results in its gradual reduction in the hogs. Extensive surveys show that tuberculosis is only present in about 1 per cent of the cattle in 42 per cent of the areas of the United States and that in a large additional area it does not exceed 3 per cent. The remaining area is much more seriously affected, but the evidence at hand indicates that this costly disease will finally yield to the scientific methods now being employed.

The Graduate School.

The school designed to provide graduate training for scientific workers which was started in the department last year has already demonstrated its usefulness in increasing the efficiency of the scientific work. Also it has stimulated the younger of the scientific staff to increased effort to obtain adequate training. An increasing number of our scientists are taking leave of absence or arranging for part-time employment to enroll in the standard graduate schools.

This graduate school has been a factor which has made it easier for the department to enlist the interest of the better class of graduates of our scientific and agricultural institutions. Many of these are now looking forward to employment in the Department of Agriculture. The value of the work of the department and its capacity for service to the Nation will necessarily be determined by its ability to enlist trained men of the best sort. The experience so far indicates that the graduate school will be helpful in this direction.

Increased Salary Standard.

The Department of Agriculture has suffered for years under the limitation of the amount which could be paid to scientific workers. In the appropriation bill which was passed last spring Congress increased the scientific salary standard. The result has been decidedly helpful and has

tended to check the depletion of the department's scientific force. The maximum salary now fixed is still inadequate to enable the department to meet the competition from other scientific institutions and commercial organizations, but it is a decided improvement over previous conditions in this respect.

Not a large number of promotions have been made under the permission given, but the knowledge that the opportunity for promotion is always open, combined with the opportunity for advanced training afforded by the graduate school, has contributed greatly toward raising the morale of the department workers as a whole and has resulted in a marked increase in efficiency.

The War Against Insect Pests.

The warfare against insect pests grows in intensity. These pests are multiplying and doing increasing damage. Details of the campaigns of the past year will be found in the reports of the Bureau of Entomology and the Federal Horticultural Board.

The cotton-boll weevil is now found in all the cotton-growing States. During the past year it has caused unusual damage and brought about great loss to the cotton growers. There is some impatience that our scientists have not been able to bring it under complete control. This failure has not been due to lack of effort by the department. The campaign against this pest has been waged with unremitting vigor and each year some gains are made, notwithstanding the increased damage which is being done. The results of the lime-arsenate dust treatment give increasing assurance that where this method of control is properly applied it will be found most helpful. The method is still expensive, however, and we have not yet been able to reduce the cost to the point where it can be profitably used on land which grows less than one-half bale of cotton per acre. During the summer experiments made in cooperation with the Air Service of the War Department give hope that the use of airplanes for the distribution of poisons may not only reduce the cost but extend the use of such poisons generally in the communities.

The fight against the pink bollworm, which is regarded as an even more serious pest than the boll weevil, has given us

great encouragement. This pest had gained limited foothold in Texas, Louisiana, and New Mexico. As a result of a conference of representatives from the Cotton States, held in the early summer of 1921, changes in State laws were made which permitted more complete cooperation between the department and the States. With this enlarged authority our operations in Texas have been highly successful. The two worst infested areas in that State have been cleaned up. New outbreaks which appeared in two Texas counties in 1921 were attacked vigorously, and up to 1922 recurrences of the pink bollworm have been determined in but three fields, these being on the Rio Grande, in the Great Bend district, where trouble is always to be expected because of its proximity to Mexico. As an illustration of the need of constant watchfulness, an inspector of the department found in the personal baggage of a passenger landing in Baltimore from Brazil last summer some fifty-odd packages of Brazilian cottonseed, all infested with living pink bollworms. The passenger who brought these had intended to take the seed to the cotton section of Mississippi for planting. Had this been done, in all probability the fight against the pink bollworm would have been lost. The fact that there was an inspector at this port at that particular time and that he was zealous in his duties undoubtedly has saved the Cotton States many millions of dollars.

The Japanese beetle, which came to us with a shipment of Japanese iris, has become a serious pest, apparently one of the most dangerous insect introductions made in many years. In the area of original infestation, where the insect has become most abundant, the damage to foliage and fruit is very alarming. This original area was quarantined, and this has checked the rapidity of the spread of the insect, but it is extending its operations at the rate of about 5 miles a year, and at any time may make extended jumps. During 1921 in some 200,000 baskets of sweet corn which moved out of the infested district upward of 5,000 beetles were found. The insect may be carried by almost any of the farm, garden, florist, or nursery products, and also is a strong flyer. Hope of eradication was early abandoned, and while the rapidity of its spread can be retarded by efficient quarantine, there seems no question but that in time this pest will spread throughout the United States. Holding it in check by

means of a quarantine is important, in that it gives time to study methods of control, and especially to find and introduce natural enemies upon which we must rely for the most effective control. Large shipments of parasites of this Japanese beetle have been received.

No new outbreak of the corn borer has been reported this year, but it has maintained itself in the previous areas of infestation. A correct estimate of the damage which may be done by this pest can not now be made, but there seems no doubt as to its threatening character. It may prove to be a very serious pest when it reaches the great Corn Belt, and particularly when it gets into the more southern regions of corn culture. Therefore, quarantine and control measures should be used vigorously. A hopeful development has been the discovery in the south of France of what seems to be a rather effective parasite of the corn borer. This parasite has been introduced and established in Massachusetts. Also, judging from laboratory studies, this same parasite will attack the native cornstalk borer in the Carolinas and the sugar-cane borer in Louisiana. Apparently, also, it will destroy the larvæ of the codling moth of the apple. It seems to be a benevolently active parasite, and everything possible is being done to make it at home here and encourage its multiplication.

The Nursery-Stock, Plant, and Seed Quarantine.

For over three years Quarantine 37 has been in force. This quarantine regulates and conditions the entry of foreign plants and seeds for propagation. It has been severely criticized, both by importers and many amateur florists and horticulturists. To give full opportunity for such criticism and for considering it on its merits, I called a conference at Washington in May of 1922. This conference was largely attended by representatives of the various trade associations, horticultural and agricultural societies and associations, both regional and national, and officials of the various State horticultural, agricultural, and quarantine agencies. In addition, there were many individuals interested in horticulture, as well as delegates from England, Holland, Belgium, and France. This conference was helpful in making clear the conditions which led to the establishment and enforcement

of the quarantine, and many who have been very critical found reason to modify their views and their criticism. While from time to time it may be possible to make changes which will render this quarantine less burdensome and annoying, the need for it seems very clear. Most of our damaging insect pests have come with imported foreign plants. Even on the plants which were permitted entry under the quarantine during the last fiscal year there were intercepted about 500 different species of insect pests and also a considerable number of plant diseases.

Proposed Bureau of Home Economics.

In the budget submitted for the coming fiscal year congressional authority is asked to create a bureau of home economics as one of the scientific bureaus of the department. The work in home economics was established in connection with the States Relations Service, and its development has been largely for the purpose of furnishing information and assistance to extension workers. The establishment of a separate bureau of home economics with a technically trained and experienced woman as chief should enable us to extend our work in that field and render better service to the workers in the farm home and rural community. Properly extended, the work in home economics is so broad that it embraces relationships with nearly all the fundamental sciences. For example, different phases of nutrition work are already under consideration in three different bureaus, work with textiles in two bureaus, household equipment in one, household management in another, while work in dietetics, foods, cooking, clothing, and household decoration already is organized in our economics department. With the organization of a bureau of home economics it will not be difficult to bring about coordination and cooperation of the work already being carried on and to begin research in new fields which must be explored scientifically if the department is to render the greatest service to the home maker.

The Forest Problem.

The necessity of working out and applying a comprehensive plan for protecting, regrowing, and utilizing our forests becomes more obvious with each succeeding year. We now consume timber four times as fast as we grow it.

At the present rate of wood consumption we should have about 4 acres of productive forest land per capita, and these acres should grow wood at the rate of about 50 cubic feet per acre per year to supply a population equal to that shown by the 1920 census. This production of wood can not even be approximated unless we become more skilled in the art of growing and managing forests and of utilizing forest products with economy. This requires cooperation between the Federal Government and various States and the owners of private forest lands. The desire for such cooperation seems to be increasing on the part of all. There was a time when Federal efforts toward developing a constructive forest policy were resented by owners of forest lands. Gradually

FORESTS: ANNUAL GROWTH AND DRAIN.

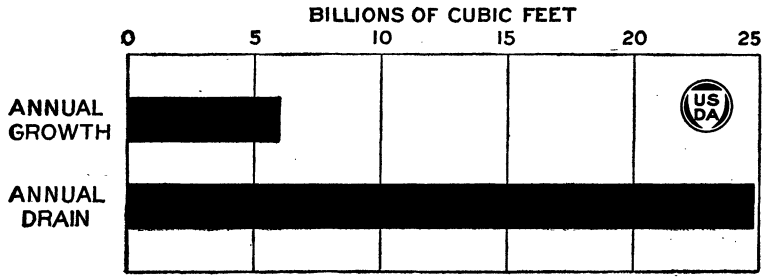


FIG. 10.—The forest problem of the United States can be summed up in the statement that we are growing timber at only one-fourth the rate our remaining forests are disappearing. To make up this deficit of 19 billion cubic feet will require that we grow timber crops with the same skill we now apply to growing farm crops.

that attitude has been changing, and during the past 18 months I have had many evidences of both the willingness and the earnest desire of timber owners to avail themselves of Federal cooperation and technical skill.

Through force of circumstances the main effort of the Department of Agriculture in its dealing with the forest problem has been to manage and protect the great national forests. In my report of last year I dealt somewhat at length with the general policies which have been followed in forest administration. These policies should be extended to cover the whole forest area of the United States, classing as forest area all land more suitable for timber production than for other purposes. The more quickly provision is made for this the better.

Equal in importance to the growing of forests and protecting them is the best possible utilization of the wood. It would be very wise to enlarge the work of the department in the scientific study of wood utilization. The work it has been able to do in its forest-products laboratory in Wisconsin has borne rich fruit and has won grateful acknowledgment from wood users of all kinds. The extension of such work as rapidly as possible will prove highly profitable to the general public. We are finding that the consumption of wood for many purposes can be greatly lessened through a better understanding of how to use it most efficiently, and that much inferior wood can be utilized to good purpose.

The establishment of additional forest experiment stations, especially in the Lake States and in the New England area, is much to be desired. At such stations we are able to make close-at-hand studies of matters affecting forest growth which can not possibly be made so well in any other way.

Forest Legislation Needed.

If it were feasible to enact a law which would provide for the administration of all our forests, National, State, and privately owned, under rules and regulations which would compel intelligent cutting, adequate protection, and economic utilization, that would be the best thing that could be done for the good of all the people. Such legislation does not seem feasible at the present time. It should be possible, however, to enact some legislation which will have the support of the most forward looking people interested in our forests, and I sincerely trust that this may be done soon. Such legislation should provide:

First, for the extension of Federal cooperation with the States in the protection of forests in State or private ownership, making such cooperation contingent upon equal expenditures by the cooperating States and also upon their compliance with adequate standards of protection. The limited cooperation which has been possible under present conditions has been very successful, and I think it is generally agreed by those who are familiar with this matter that larger investments of public funds in cooperation with the States and with private owners would do more to stimu-

late timber growth than anything else that can possibly be done. The annual loss (amounting to about $16,400,000) from forest fires and the continued unproductivity of much of our land is a shocking waste which should not be tolerated by an intelligent people. This loss can mostly be stopped through such cooperation as I have indicated. The use of Federal funds for the organization of a strong Federal agency for this purpose is justified to exactly the same degree that the use of the funds of the city for the organization and maintenance of a fire-fighting department is justified.

Second, for more complete cooperation with the States in growing and distributing forest-planting material. In most States there are regions better suited for timber growth than for any other purpose. Federal aid would have powerful and far-reaching effects in establishing new forests where they are most critically needed.

Third, for the purchase of timberland, which has been carried on under the act of March 1, 1911, should be extended as rapidly as the condition of the Public Treasury will permit. Such purchases represent money invested and not money spent. The lands already purchased could be sold for more than they cost, and as the timber grows they will increase in value and become a continuing source of national income. Aside from the direct value of such lands, such Federal enterprise serves as an educational stimulus to the reforestation of near-by lands in private ownership, which is greatly to the public benefit.

Fourth. There are large areas of lands in the unreserved public domain which are better suited to timber growth than to any other purpose, and similar large areas in Indian reservations which will ultimately be withdrawn as tribal properties and thrown open for other disposition. All of such lands ought to be included within the national forests. The practical way to do this is to authorize the President, with the assistance of some agency, such as the National Forest Reservation Commission, to classify and dispose of these public lands in accordance with their character and place in the national forests such lands as are best suited for forest purposes.

Fifth. Provision should be made for research in the growing and utilization of timber on a scale adequate to present

needs. While we are advancing rapidly in acquiring technical information, our present research agencies can not meet the demands of the existing situation as to timber use or new timber growth.

Legislation which would include the five matters before mentioned ought to be enacted at the earliest possible date. It would give the opportunity for the working out and application of a forest policy suited to the needs of the Nation. When we look about us and see the extent to which we use wood in our daily lives and then reflect upon the fact that we are cutting down our forests four times as fast as we are growing them, the urgent need of developing a comprehensive forest policy without further delay should be recognized by every man in a position of legislative or administrative responsibility.

Fighting Forest Fires.

Very substantial progress was made during the fiscal year in checking the inroads which forest fires are making in the

FIG. 11.—Fighting forest fires is a gruelling job. These fighters are clearing a line to break the advancing flames and save the sturdy trees in the background. The Forest Service uses every possible means to fight fires on the national forests, of which 60 per cent are man-caused and therefore preventable; and is making a strenuous effort not only to suppress fires, but to curb the willful and the careless setter of fires.

timber resources of the Nation. During a season of unusual hazard the fire-protective organization on the national forests of the West was brought to the highest pitch of efficiency

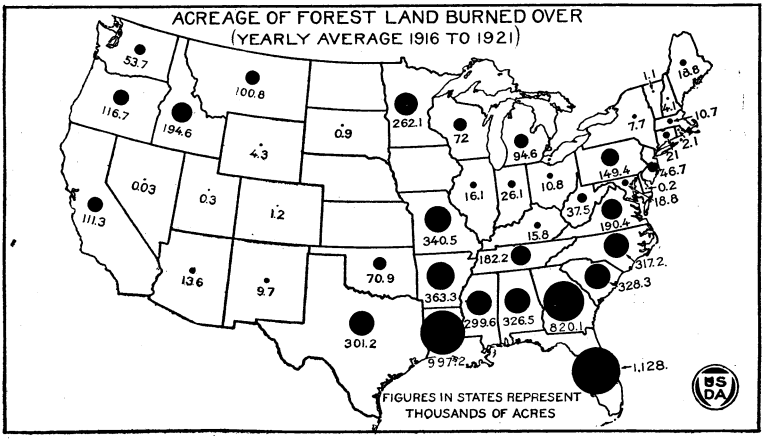


FIG. 12.—The largest areas burned over annually are in the South, where organized fire protection is either entirely lacking or, with a few exceptions, wholly inadequate, and where the burning of woodland pastures is still extensive. In the Northeast and the far West the situation is better, but far from satisfactory. In killing the young growth on which our future timber supply depends, forest fires do an even greater damage, though less spectacular, than the annual loss of $10,000,000 worth of merchantable timber.

it has ever yet reached, with the result that in most cases threatening fires have been reached promptly and suppressed with the minimum of loss and expenditure. However, the greatest progress has been made in bringing under protection privately owned timberlands. The increase in the appropriation from $125,000 to $400,000 for cooperation with the States in protecting forested watersheds of navigable streams made possible a very material extension of the work. The area placed under protection during the past year was increased by 26,000,000 acres. At the same time the protective force was strengthened and improved in regions where the smaller appropriations of the past have admitted only the retention of a mere skeleton fire-fighting organization. Cooperation was established with two additional States—Ohio and Tennessee—making the total number now 26. The additional funds made it possible to meet emergency conditions in several States where the fire hazard this year was unusually great.

The appropriation of Federal funds for this purpose has stimulated local interest in the efforts to safeguard the essential raw material represented by their forest areas. During the fiscal year 1922 the 26 States cooperating with the department in fire protection along navigable streams expended for that purpose from their own funds a total of $1,897,000, an increase of about $830,000 over the expenditure of the previous year. In addition to these public expenditures, private owners expended approximately a million dollars in the protection of their forests against fire. Federal leadership has heartened both the States and the private owners in undertaking this work, with the result that a very substantial forward step has been made in checking the red scourge.

According to the best information obtainable by the Forest Service, there has been an average of 33,500 fires annually during the past six years, burning an average area of 7,088,000 acres and involving an average annual immediate property loss of $16,424,000. The greatest loss and the greatest number of fires now occur in the regions not under cooperative protection. About one-half the forest lands of the country outside the national forests are now receiving some form of systematic fire protection, but 166,000,000 acres of forest lands are still wholly unprotected from fire and the

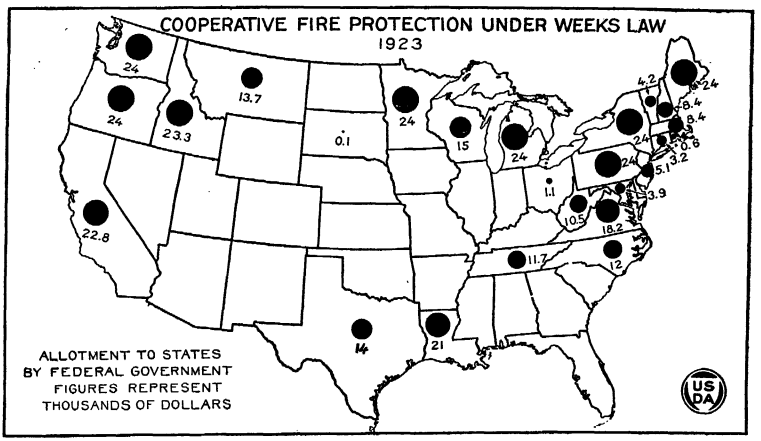


FIG. 13.—The Federal Government under the Weeks law annually allots to various States a total of $400,000 for protection against forest fires. This cooperation has not only greatly strengthened organized fire protection, but has extended it over a larger territory, and has helped to awaken public sentiment. The South with its extensive forest fires and its lack of adequate protection against them, offers a promising field for joint work under the Weeks law.

annual loss in such regions is appalling. We can not as a people rest content with such a showing. Such wholly unnecessary destruction must be stopped.

Federal-Aid Road Construction.

Ten thousand two hundred and forty-seven miles of road projects were brought to completion during the year through Federal aid to the States. Prior to the fiscal year 1922,

FIG. 14.—A Federal-aid road in Illinois surfaced with concrete.

7,469 miles had been completed. This brings the total completed up to the end of the fiscal year to 17,716 miles. The mileage completed during the year under the Federal-aid system is classified as follows:

	Miles.
Graded and drained	2,060
Sand-clay	1,210
Gravel	3,842
Waterbound macadam	265
Bituminous macadam	370
Bituminous concrete	400
Concrete	1,915
Brick	165
Bridges	20
Total	10,247

At the close of the year the projects under construction, amounting to approximately 14,500 miles, were estimated to be about 56 per cent complete.

The total apportionment of Federal funds to the States, up to and including the fiscal year 1922, amount to $339,875,000. Of this, $297,018,923 had been set aside for definite projects, many of which had been completed prior to the close of the year, others placed under construction, and still others which were more recently approved were awaiting construction. The amount of Federal aid paid or due on completed projects up to the end of the year was $132,079,204. The total cost of these projects, more than 50 per cent of which has been paid by the States, was $309,466,524.

On projects under construction at the end of the year Federal aid has been allotted to the amount of $109,989,757.

GROWTH OF FEDERAL-AID ROAD CONSTRUCTION.

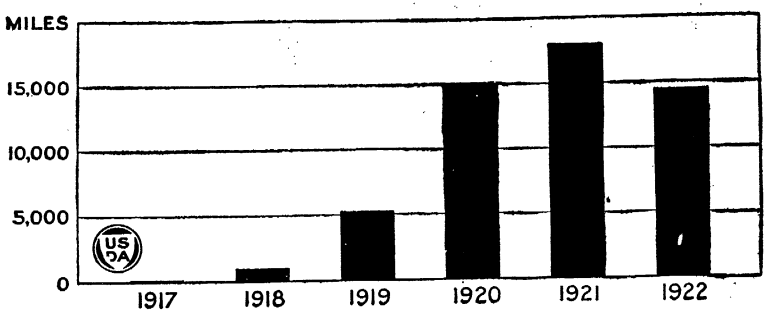


FIG. 15.—From a small beginning in 1917 the mileage of Federal-aid road projects has grown to large proportions, as shown by the projects under construction at the close of each fiscal year, 1917–1922.

The estimated total cost of these projects is $254,269,813. The total amount of Federal aid actually paid to the States on completed and uncompleted projects up to the end of the year was $166,911,552. During the fiscal year the total amount paid out of the Treasury was $88,216,122, which is greater by almost $10,000,000 than was paid during the five years previous. Of the appropriations made by the Federal Government there remained unobligated at the end of the fiscal year $42,856,079.

At the present rate of building not many years will be required to give the Nation a connected system of good highways in all directions. During the fiscal year 1922 Congress enacted legislation providing for the designation of a system

of Federal-aid roads in all States to consist of not more than 7 per cent of the total mileage of roads in the States and authorizing appropriations of Federal aid in the construction of this system in the amount of $50,000,000 for the fiscal year 1923, $65,000,000 for the fiscal year 1924, and $75,000,000 for the fiscal year 1925, thus determining and indicating to the States in advance of the actual appropriation of funds the amount of Federal aid to be extended, and consequently the rate at which the building of highways under this plan is to progress during the three ensuing years.

The department is pursuing its scientific studies of road construction, maintenance, and design. Out of these studies is coming much exceedingly valuable information, which should result in both greater efficiency and greater economy in our road-building enterprises.

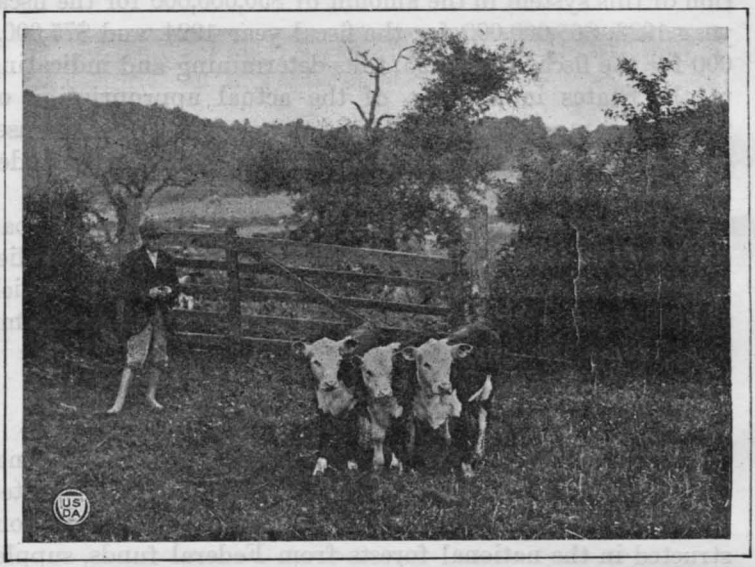
National Forest Road and Trail Construction.

During the fiscal year approximately 1,100 miles of national forest roads and 3,000 miles of trail were constructed by the department, bringing the total mileage of roads constructed in the national forests from Federal funds, supplemented at times by local cooperation, to nearly 5,000 miles and the total of the forest trails up to approximately 7,000 miles. The total expenditures to date for this type of work amounts to approximately $17,000,000.

Extension Activities.

In compliance with the mandate of the law which created the Department of Agriculture, to "diffuse among the people of the United States useful information on subjects connected with agriculture, in the most general and comprehensive sense of that word," the extension activities of the department take various forms. There are now about 4,000 persons employed in cooperation with the State agricultural colleges. Agricultural agents are employed in about 2,100 counties, home-demonstration agents in 800 counties, and club agents in 200 counties. In addition, there are 750 district agents and specialists in the preparation of subject matter who cooperate with the county extension workers. It is estimated that through the extension personnel the department comes in contact with about 2,500,000 farm homes.

The 491,000 boys and girls enrolled in club work report products valued at more than $7,000,000. Of the field agents, 272 are colored and work to aid negro farmers. About



ANTICIPATION.

FIG. 16.—The farm upon which these calves are being raised was one of the good farms of Virginia some forty years ago. The previous owner of the farm dispensed with livestock in his farming operations. The background of the picture, including the grown-up fence row, the sagging gate, and scraggy trees in the pasture, tells its own story. But there is new hope in the present generation. The boys have become interested in purebred calves. It is safe to say that in later years, with proper methods of livestock production, a decided improvement will be made in the general appearance of the farm.

$7,000,000 of Federal money was spent for extension work during the past year, to which was added about $9,700,000 of State money.

Publications.

Other agencies used in diffusing information to the people are bulletins, pamphlets, and periodicals, motion pictures, exhibits at State and district fairs, and mimeographed material distributed to the press. As indicated in my report for 1921, careful consideration has been given to our publications. A committee of editors was called in last year and asked to make a thorough study of the various publications

of the department and suggest such changes as they thought desirable to make such publications more helpful to the recipients. Most of the suggestions made by this committee have been acted upon favorably. The demand for the publications of the department is indicated by requests voluntarily made for them. During the past year not less than 650,000 requests for publications have been received, in addition to the 33,500 received from Members of Congress. Fifty-eight new Farmers' Bulletins were printed, aggregating 1,738,379 copies; 108 new Department Bulletins were produced, in the total number of 577,800 copies, while 525,000 copies of 43 new department circulars were printed. When to these new publications is added the number of old publications reprinted on demand, we find that during the fiscal year the printing of publications of the department reached a grand total of 36,026,334 copies.

The distribution is more efficient than for some time past. At our request, representatives of the Bureau of Efficiency have aided in a revision of the mailing lists, which has resulted in a considerable saving in mailing work. No names are kept on our distribution lists except upon special request, and there is no automatic distribution of all the department's bulletins except to libraries and other institutions which need them.

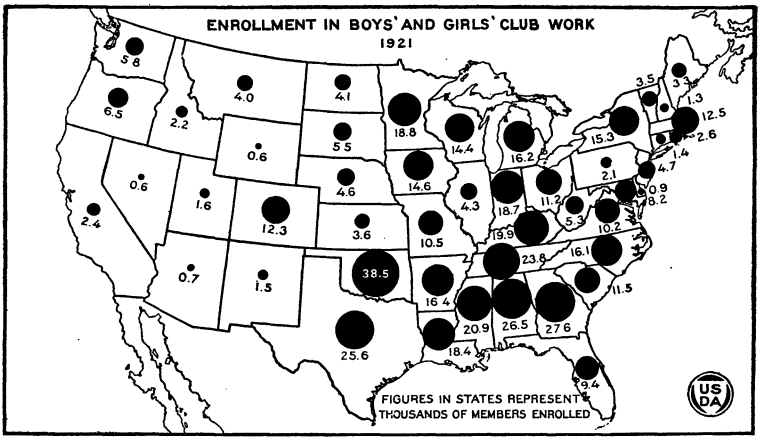


FIG. 17.—This map shows the extent and distribution of the enrollment of farm boys and girls in club work as a part of the extension work in agriculture and home economics carried on by the Department of Agriculture in cooperation with State agricultural colleges.

The educational motion pictures of the department are growing in favor; 33 new films were completed, and 21 old films revised. Work was begun on 28 new subjects. The department now has a total of 547 reels available for distribution. Pictures are circulated by extension workers and schools. It is estimated that the department films are seen each year by an audience of between four and five million persons.

The department exhibits were displayed at more than 60 fairs and expositions and special shows, at which the total attendance was more than 4,000,000. The form of presentation of these exhibits has been much improved. An attractive exhibit for the Brazilian International Centennial Exposition at Rio de Janeiro, depicting the agricultural resources and development of the United States, was designed, prepared, and shipped to Brazil.

Reorganization of Extension Work.

As a result of special study of extension activities of the department it seems desirable to reorganize this work to some extent. At the present time there is no one person who is charged with the responsibility of coordinating all of the extension work of the department. In the Budget for the ensuing year I have asked Congress to provide for a director of extension work, and in the meantime I am shaping our work with a view to such reorganization. It is the plan to bring under this directing head all of those offices which have to do entirely with extension work. These are the office of cooperative extension work now in the States Relations Service, the office of motion pictures in the Division of Publications, and the Office of Exhibits, temporarily attached to the Assistant Secretary's office. These offices, in addition to the editorial office, are the ones through which the bureaus find expression for the work which is ready for presentation to the public. The plan will make unnecessary the States Relations Service, the office of the director of information, and the Division of Publications, and when put into effect will do away with them as such. The other offices in these divisions will be placed under the supervision of the director of scientific work, the director of regulatory work, or within the Secretary's office proper.

I plan to attach the editorial and distribution work direct to the Secretary's office, and have asked Congress in this year's Budget to provide for a new position of an assistant in charge of the editorial office, with a salary sufficiently large to attract a capable man for this important work. It is the plan to place him in charge of all the editorial work. During the past year we have given particular attention to the statistical accuracy of the Department Bulletins. The duties of the assistant in charge of editorial office would include this supervision.

Packers and Stockyards Act.

The packers and stockyards act, which provides for Government supervision, through the Secretary of Agriculture, of meat packers, of stockyards, and of stockyards agencies, such as live-stock commission merchants, was enacted in August, 1921. The constitutionality of the act was attacked in the courts and the setting up of the organization necessary to carry out the provisions of the act was therefore delayed. Its constitutionality was fully upheld by the Supreme Court of the United States in May, 1922.

The packers were subject to the act immediately upon its passage, and no registration or other special formality was necessary. A survey of the stockyards resulted in finding 78 of such yards in 70 cities in 35 States to be subject to the jurisdiction of the Secretary of Agriculture, and these stockyards have been formally posted as required by law; 1,075 market agencies and 3,436 dealers at these markets are registered under the law, and the schedules of rates and charges of the stockyard companies and commission men have been published and filed. Resident market supervisors have been assigned to 19 of the stockyard markets, and these supervisors have been given jurisdiction over the remaining markets which were not considered sufficiently large to justify resident supervisors. General rules and regulations governing stockyards and market agencies and dealers have been adopted and put into effect.

The various agencies which come under the provisions of the act have shown a disposition to cooperate in its enforcement, and this has made it possible to correct many practices through conference and without formal proceedings. Through such conference the use of butter packages con-

taining less than pounds and even fractions of pounds has been discontinued and the principle of standardization of retail packages has been accepted by the packers. Audits of the books of commission merchants in some yards revealed conditions which clearly needed correction, and satisfactory progress in this direction has been made. An offensive boycott by one group of market agencies against another at one of the principal stockyards was promptly stopped and the principle of open, competitive marketing established. Certain arbitrary price discriminations working to the injury of live-stock owners are being brought to an end and actual market values substituted in the sale and purchase of live stock. Complaints against commission charges in one market and the announcement that formal hearings would be held resulted in bringing into conference representatives of the commission merchants and of the live-stock shippers tributary to that market. At this conference it was agreed that the matter of the reasonableness of commission charges should be informally submitted to representatives of the Department of Agriculture without the expense of a formal hearing, and that all parties would abide by the decision rendered after such informal hearing. Developments so far indicate that there is a growing spirit of understanding and willingness to cooperate between the traders on the various markets, the packers, and the stockyards agencies.

In the enforcement of this act the dominating thought is to bring about harmony and cooperation and remove cause for antagonisms, misunderstandings, and irritations, to the end that confidence in the manner in which live stock is marketed shall be established.

The Grain Futures Act.

In August, 1921, Congress enacted the futures trading act, which provided for governmental supervision through the Secretary of Agriculture over future trading on grain exchanges. An appeal was made to the courts, and in May, 1922, the Supreme Court of the United States rendered a decision which invalidated the regulatory portions of the act. The decision, however, pointed the way to the enactment of legislation that should accomplish the purposes of Congress, and such legislation has since been enacted under

the interstate power of Congress. The constitutionality of the new act has in turn been attacked, and pending the decision of the court little progress can be made in its enforcement.

The tax imposed by the act of August, 1921, on transactions known as "privileges," "bids," "offers," "puts and calls," etc., was upheld by the Supreme Court, and the result has been that these transactions have been discontinued. In addition, the Supreme Court expressly stated that its decision did not affect the duty placed on the Secretary of Agriculture by the futures trading act to investigate the facts about grain-marketing conditions. Representatives of the department have therefore been maintained at Chicago and Minneapolis, where they have kept close observation over the operations of the exchanges and have compiled a large amount of information as to the volume and course of transactions on the exchanges. This information will be helpful in carrying out the provisions of the new law.

The requirements of the new law, which becomes effective on November 1, 1922, are substantially the same as those of the one declared unconstitutional. There is no interference with "hedging" transactions on the boards of trade or with the ordinary speculation or buying and selling of contracts for future delivery. If there should be evidence of undue manipulation or attempts to corner the market, or of the dissemination of false or misleading information about crop or market conditions by members of the exchanges, such matters will be inquired into and promptly dealt with as required by the statute.

The Secretary of Agriculture is given authority to examine the books and records of the members of the exchanges and to require such reports as may be necessary to carry out the provisions of the act. There is thus an opportunity to make a thorough inquiry into prevailing systems of grain marketing and to secure information which has never heretofore been available, and which is urgently needed before important changes in marketing methods can safely be required.

A Building Program for the Department.

In my annual report last year I called attention to the fact that the offices and laboratories of the Department of

Agriculture in Washington are scattered in more than 40 buildings in various parts of the city. There has been no improvement in this situation and, due to the lack of centralized housing facilities, there continues to be a tremendous waste of Government time and money. A satisfactory and efficient administration of the work is impaired by difficulty of personal contact between the Secretary and the officers of the department, as well as between bureau chiefs and units of their own respective bureaus. One bureau of the department alone is housed in nine separate buildings, some of them widely scattered. It is impossible to overemphasize the need for a centralized housing of the department activities.

During the year we have been busy on this problem, and a housing committee, of which the Assistant Secretary is the chairman, in cooperation with the architects of the Treasury Department, has prepared with great care a proposed building program, which if carried out will house practically all branches of the department in Washington in buildings to be erected on or adjacent to the department reservation on the Mall. The proposed program contemplates: (1) The acquisition of ground south of the department's reservation and construction thereon of a plain office-type building of six or eight stories. The estimate of the cost of such a building, including the site and enlargement of the power plant of the department, is $4,350,000. This would do much to meet the most pressing housing need of the department, as it will provide a building of large capacity, and it can be constructed at this relatively low cost for the reason that it would not be located on the Mall and therefore can be erected as a plain office building without interference with the plans for the beautification and development of the Mall. (2) The next most pressing need is for the completion of the central section connecting the two existing marble structures now occupied by the department on the Mall, known as the east and west wings, at an estimated cost of $2,000,000. The two wings were completed in 1908 and have been used by the department since that date, but no funds have been available for the construction of the central portion of the building. (3) When these two projects have been completed, the construction is proposed on the northern end of the department's reservation

on the Mall of a portion of a building of suitable construction facing south with several wings extending toward the north, the approximate cost of which would be $6,000,000, and (4) the completion of the proposed building on the northern end of the reservation by the construction of a north façade, at an estimated cost of $3,000,000. While this program will involve an ultimate outlay of $15,350,000, it could be started with an initial expenditure of $3,000,000 for the first year and approximately the same amount during the second year, and the remainder could be extended over a period of years.

This is one of the fundamental needs of the department which has been recognized by all who have had any connection with the housing of the Government departments in recent years, and I earnestly recommend that it be provided for as soon as the state of the Nation's finances will permit. In the meantime, at my request, experts of the United States Bureau of Efficiency are making a survey of the present space arrangements in the department with a view to affording such relief, if any, as may be possible by regrouping of the space assignments pending the provision of suitable and adequate housing for the department.

New Seed-Grain Loans.

The act of March 20, 1922, authorized the making of seed-grain loans in crop-failure areas for the crop of 1922 and appropriated $1,500,000, to be expended under the direction of the department, for that purpose. Under the provisions of this act $1,463,812.69 was loaned to 11,968 borrowers in the States of Idaho, Montana, North Dakota, South Dakota, and Washington. The total expense of making the loans was less than $20,000.

Collection of Seed-Grain Loans.

During the spring of 1921, under the authority contained in the annual Agricultural appropriation act, approved March 3, 1921, a total of 13,935 seed-grain loans was made by the department in Montana, North Dakota, Idaho, and Washington, aggregating $1,954,929. These loans were made at a cost of approximately $16,000 for administrative expenses and $5,000 for recording fees for crop mortgages.

Crop conditions generally throughout the seed-loan territory were poor during the following season, and collections during the winter months and up to June 30, 1922, amounted to only $668,742 on the principal of the loans and $1,415 on

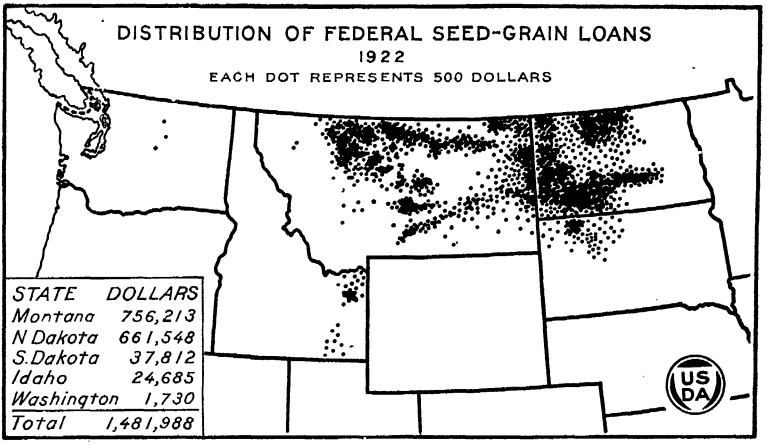


FIG. 18.—The seed loans in the Northern Great Plains amounted to about one and one-half million dollars in 1922, of which one-half was repaid by January 1, 1923.

the interest. The expense of making these collections was approximately $25,000. So far as practicable, borrowers who were unable to repay their loans were required to renew their promissory notes and execute new mortgages on their 1922 crop as security. At the close of the fiscal year 1922 there were outstanding unpaid seed-grain loans for the two years amounting to approximately $2,750,000. The urgent deficiency bill approved July 1, 1922, appropriated $50,000 to cover the expense of collecting the unpaid seed loans during the fiscal year 1923. Crop conditions in the seed-loan territory are now more favorable than for several years in the past, and the department is proceeding with collections.

Messenger Service.

Because of the widely scattered locations of the forty-odd buildings occupied by the department, it is necessary to employ a large number of messenger boys. Approximately 200 such employees are on the rolls in Washington. During the year the department has devoted especial attention to the

situation surrounding the employment of these boys. Under existing regulations the position of messenger boy is not regarded as in the apportioned service. It is virtually impossible, therefore, to promote these boys to higher clerical positions, regardless of how deserving or capable they may be. As the service promises no future for them, the department is unable to secure and retain the most desirable boys. Thus we have a situation altogether contrary to that which usually prevails in any well-managed private business. The experience in this department indicates that it probably would be advantageous to bring about a change in the existing regulations so that it would be possible to promote deserving messenger boys to clerical positions where they indicate a marked capacity for growth in the service. The department has felt considerable responsibility for the welfare of these employees and during the year has given especial attention to improving their general conditions. With the cooperation of the Public Library, reading courses in standard works have been prepared and made available to them. Meetings of these employees have been held and every effort made by the department executives to urge them to take advantage of the free evening schools. One hundred and twenty-eight, or 64 per cent of the total number employed in Washington, have registered for evening instruction.

After consultation with the agencies in Washington working with boys, arrangements have been made by which physical instruction and direction is given once each week in the Y. M. C. A. gymnasium. A simple supper follows the gymnasium hour, at which talks are made by Government and other people with the object of interesting the boys in self-improvement.

Economies Effected in the Department.

In the administration of the work during the fiscal year the urgent necessity for economy in governmental expenditures has at all times been kept in mind by the officers and employees of the department. In conformity with the plan established by the Bureau of the Budget, reserves amounting to $1,406,984 were set up against the various annual appropriations of the department. By the exercise of strict

economy at the close of the year the department was able to add further unused balances in the amount of $678,749, and this, together with the $1,406,984 reserved, made total savings of $2,085,733 turned back to the Treasury in the form of unexpended balances from the annual appropriations.

In addition to the foregoing a reserve of $559,569 was set up from the so-called continuing appropriations of the department, which are available until expended. While this money will eventually be expended, it was found possible under the necessities of the times to defer the expenditures beyond the present fiscal year, and thus for the present to save the withdrawal of the cash from the Treasury.

The efforts toward reduction in expenditures were not confined merely to keeping intact the reserves reported in the foregoing. The business administration of the department generally has been subjected to close scrutiny and specific economies inaugurated all along the line. The department has been actively represented on the various coordinating agencies created under the authority of the Bureau of the Budget. A traffic manager has been appointed to coordinate and handle the large volume of shipments and extensive passenger movements in connection with the work of the department. Careful attention has been given to economies which might be effected by changes in organization, and worth-while results have been achieved in this direction also, some of which will be mentioned later.

Particular attention has been given to the purchasing work of the department. After a survey of this work was made by an expert detailed from the Bureau of the Budget a director of purchases and sales was designated to coordinate the purchasing work and the disposition of surplus property. Changes have been made in former procedure. The work has been placed upon a more businesslike basis by a closer scrutiny of purchase requirements. By reorganization and extension of the powers of the department board of awards competition has been widened on supplies and equipment bought. By consulting with commodity experts in this and other departments prior to purchasing the department has kept informed on market conditions in various lines and has been able to place orders more advantageously.

The purchase of certain commodities has been centralized for Washington and near-by field stations, enabling the department to secure better prices by quantity orders.

Investigation is constantly being made into the availability of surplus property from other departments and its use wherever economical instead of the purchase of new equipment by the department. The stocks and equipment of the entire department itself have been gone over carefully, both in Washington and in the field, and under a system which has been established a large amount of surplus equipment for which the holding bureaus have no further use is furnished to other bureaus, thus avoiding additional purchases. Serviceable motor trucks have been secured at nominal costs from surplus stocks of other departments to replace worn-out trucks in the centralized trucking unit of the department, making better hauling service available to the bureaus at lower cost. The revenues from the sale of perishable products from the field stations of the department near Washington have been more than doubled by a special order issued during the year centralizing all such sales in the department's supply division.

To summarize, here as elsewhere in the service, "Economy with efficiency" has been the watchword. The constant aim during the year has been to develop a consciousness on the part of each officer and employee of the department of the necessity and personal responsibility on his part for the maximum efficiency and economy with respect to his own particular work and the items of expenditure with which he may have to do. Economies and increased efficiency effected in this way in connection with the routine business operation of the department can not be adequately measured by figures, but they are of fundamental importance as the sound foundation of the whole economy program. The record of the year includes gratifying reports of this type and reflected increases in the efficiency of the lines of work affected. A few typical instances are interesting.

Reduction in manufacturers' price of automobiles and tires and tubes for field use taking place after proposals had been submitted to the department have been secured by the board of awards calling for revised prices instead of accepting the bids as originally submitted.

A department shop for the repair of awnings has been established at a saving of approximately $3,000 a year. Facilities for the repair of typewriters and bicycles by the department itself are being established at material savings over the prices formerly paid to commercial concerns for these services. The installation of new equipment in the central power plant of the department made possible a reduction in force of six firemen and one engineer and reduced the annual consumption of coal by approximately 400 tons.

In the Fixed Nitrogen Research Laboratory of the department a change of grate bars in one of the heating plants saved $500 a year on the coal bill. By redesigning certain electrical equipment enough electrical energy has been saved to operate a battery of electrolytic cells to enable the laboratory to make its own hydrogen, effecting a saving of over $4,000 a year in the purchase of liquid ammonia. This branch also effected a saving of $13,000 during the year in reduction of personnel.

A revision of all of the mailing lists of the department conducted with the assistance of the United States Bureau of Efficiency resulted in the elimination from the lists of more than 100,000 names and addresses. One list of 8,000 names was discontinued altogether, saving 344,000 Government bulletins a year, or an annual expenditure of more than $7,000.

The addressing and duplicating work for all of the bureaus has been consolidated under the Division of Publications, resulting in a reduction in personnel and the release of $20,000 worth of machinery to the General Supply Committee for assignment to other departments. Better methods of management applied to the conduct of the duplicating work as a centralized activity have reduced the percentage of wastage of paper by 75 per cent.

Three separate periodical publications—The Market Reporter, The Monthly Crop Reporter, and the National Weather and Crop Bulletin—were combined during the year into one periodical, known as Weather, Crops, and Markets, and marked savings were thereby effected. Another periodical which duplicated much of the material sent out through the regular channels was discontinued altogether. A relatively expensive information service to the press was dis-

continued and in its place was substituted a more extensive service to newspaper syndicates at practically no expense to the Government. At the close of the year the department turned into the Treasury from the appropriation for printing and binding an unexpended balance of $183,848.

In the Forest Service, a bureau having extensive field operations, an estimated saving of 25 per cent in its annual telegraph bill of $10,000 is being accomplished through increased censorship. Through centralized purchase direct from producers, savings of not less than 15 per cent are being effected from an annual expenditure exceeding $300,000 on the purhase of smoked meats, canned goods, and dried fruits, and the quality of food used for the maintenance of field parties on road and trail work in the forests has at the same time been improved. Inspection and administrative trips are planned in accordance with carefully worked-out schedules in order to secure for the Government the advantage of specially reduced round-trip rates. By this means an average saving is made of $50 per person traveling out of Washington for western points during the year. In order that the maximum amount may be available for the purchase of essential supplies and equipment for the field operations of the service, the purchase of office furniture has been stopped altogether. Seven thousand dollars have been saved in this way during the year and applied to the more urgent needs of the service. The headquarters of the bureau at one western point has been removed to cheaper quarters at an annual saving of approximately $10,000.

In the Weather Bureau a demand for $11,320 additional funds required to meet increased rental charges on expiring leases was met by reducing the number of rooms occupied by the field offices of the bureau involved so as to keep within the existing allowance for rentals. The same situation arose July 1, 1921, and was met in a similar manner, notwithstanding the offices of the bureau have been crowded thereby.

The consolidation of the Bureau of Markets and the Bureau of Crop Estimates on July 1, 1921, resulted in savings of approximately $30,000 through the reduction of the personnel engaged on administrative work. A similar consolidation of administrative services was effected on July 1, 1922, when the Bureau of Markets and Crop Estimates was

further merged with the Office of Farm Management and Farm Economics to form the new Bureau of Agricultural Economics, in which the economic work of the department is now centralized. It is estimated that an additional $30,000 was saved in overhead expenditures by this consolidation. In addition the consolidation has made possible the coordination of the work of various technical divisions of the three former bureaus, thereby eliminating duplication and overlapping throughout the economic units.

In the Insecticide and Fungicide Board the field work has been redistricted, resulting in a saving of approximately $1,500 a year without loss of efficiency.

In the States Relations Service, by the consolidation of the two Washington offices engaged in directing the work of agricultural extension, salaries aggregating approximately $20,000 have been saved, and as the result of centralizing and rearranging the clerical work in the administrative offices of the same bureau salaries of clerks to the amount of $8,000 have been saved.

One field office of the Bureau of Animal Industry was discontinued during the year and the work of that office consolidated with another, resulting in a saving of approximately $4,000. Two divisions of the bureau in Washington were merged, resulting in the saving of the salary of one chief of division and one clerk, amounting to $5,070. By consolidating the work of an employee on the Canadian border with the duties of another inspector a saving of $1,500 was effected, and the recall of one inspector from overseas has resulted in a further saving of $3,300. In the meat-inspection service, by realignment of the force, the actual expenditure during 1922 was reduced several thousand dollars, notwithstanding the fact that nearly 1,000,000 more animals were slaughtered under inspection during the year and almost 300,000,000 more pounds of meat food products were reinspected, thus avoiding the necessity for additional appropriations. In the work of supervising the preparation of biological products a saving of approximately $4,000 was accomplished through reduced travel. During the year there were produced 3,037,771 more doses of tuberculin than in the fiscal year 1921, and this was accomplished at a saving of $20,885 over the amount expended during the

previous year. The manufacture and distribution of blackleg vaccine was also discontinued on July 1, resulting in a saving of $10,000 per annum.

In the Office of Exhibits the agricultural displays have been prepared in such manner that they can be used a number of times without replacement, whereas formerly the department exhibits frequently were suitable for use during one or two seasons only.

In the Bureau of Biological Survey it was possible during the year to use $20,000 of the money set aside as a reserve to enable the department in cooperation with one of the Western States to cope with a serious outbreak of rabies among coyotes, which threatened to spread into other stock producing States. As a result of the availability of the money previously reserved, the outbreak was brought under control. If the reserve had not been available it would have been necessary for the department to have asked the Congress for an additional appropriation in connection with this emergency.

The economies listed above are typical of the spirit in which the department has entered into the plan to conduct the business of the Government on the most economical and efficient basis possible.

While, as pointed out in the foregoing, we have been able to make a great many very substantial savings in money expended through the application of modern business methods, it is increasingly evident that the largest economies to be effected in the department are those which come as a result of efficient organization. Such economies can not be expressed in dollars and cents. They are measured rather by the larger effectiveness of the work and the amount of work done for the money expended. The reorganization which resulted in bringing three units into one in the Bureau of Agricultural Economics is a case in point. This reorganization effected considerable savings which can be measured in money, but altogether the larger savings have come through the increased efficiency and better administration of the work done in this particular field. I am quite sure that similar desired results will follow the reorganization of the extension work. This reorganization has had the

careful study of the Assistant Secretary for a year past, and the final plan submitted is the result of that study. When put into effect, as we hope it may be, it will result in considerable saving of money, but, what is far more important, will greatly increase the effectiveness of the extension workers and the quality of the extension work.

Respectfully,

HENRY C. WALLACE,
Secretary of Agriculture.

Funds of the Department.

The net cost to the Federal Government of the regular activities of the department during the fiscal year 1922 was approximately $34,000,000, as indicated by the following table:

Federal Funds for Regular Work of the Department.

Agricultural appropriation act, 1922 (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; appropriations for farmers' seed-grain loans, for the acquisition of lands by the National Forest Reservation Commission, and for a study of short-time rural credits by a congressional joint committee; and immediately available appropriations expended during 1921)	$30, 409, 643. 00
Agricultural appropriation act, 1923, immediately available funds expended during 1922	35, 982. 00
Deficiency appropriation acts (Aug. 24, 1921, Dec. 15, 1921, and Mar. 20, 1922)	1, 627, 875. 00
Permanent annual appropriation for meat inspection (act of June 30, 1906)	3, 000, 000. 00
Protection of lands involved in Oregon and California Railroad forfeiture suits (sundry civil appropriation act, 1922, and deficiency appropriation act of July 1, 1922)	30, 726. 00
Increase of compensation (legislative appropriation act, 1922)	3, 137, 882. 00
Printing and binding (sundry civil appropriation act, 1922)	725, 000. 00
Allotment for fixed-nitrogen research (transferred from appropriation placed at disposal of the President by the national defense act of June 3, 1916)	500, 000. 00
	39, 467, 108. 00
Excess of unexpended balances and surplus fund, fiscal year 1922, over balances of appropriations from prior years	14, 450. 00
Actual expenditures from Federal funds for regular work	39, 452, 658. 00
Less receipts, 1922, deposited in United States Treasury to credit of miscellaneous-receipts fund (see p. 64)	5, 209, 364. 81
Net cost of regular work	34, 243, 293. 19

Of the total expenditure of $39,000,000 for the regular work of the department, approximately $9,000,000, or 23 per

cent, was used for research; $3,000,000, or 8 per cent, for extension; $20,000,000, or 51 per cent, for service and regulatory activities; and $7,000,000, or 18 per cent, for campaigns for the eradication and control of various animal and plant diseases and pests.

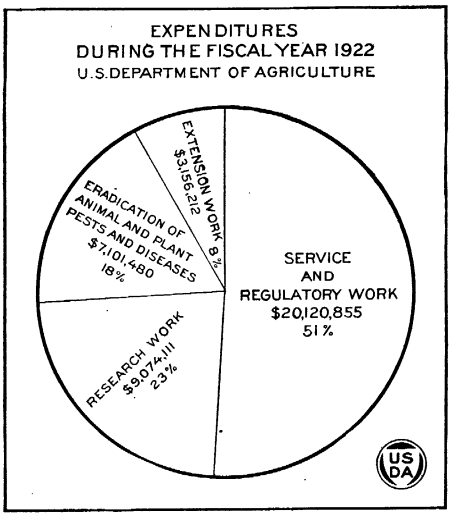


FIG. 19.—Over one-half of the expenditures of the Department of Agriculture are for service and regulatory work which are primarily for public protection rather than for the development of agriculture.

Special Funds from Receipts.

In addition to direct Federal appropriations, the following special funds from Forest Service receipts were available for work incident to the department's regular activities:

Roads and trails for States (construction and improvement of roads and trails within national forests):		
Amount available from deferred national-forest grazing-fee receipts for fiscal year 1921, collected in fiscal year 1922 (see p. 64)	$161,236.34	
Amount available from receipts for fiscal year 1921	247,997.19	
Balance from receipts in prior years	369,284.19	
		$778,517.72
Cooperative work, Forest Service (contributions from private sources):		
Receipts for fiscal year 1922 (see p. 64)	$1,378,374.84	
Balance from receipts in prior fiscal years	570,566.65	
		$1,948,941.49
Total available		2,727,459.21
Actual expenditures from special funds, 1922		2,045,415.38
Unexpended balance, June 30, 1922 (available for expenditure during fiscal year 1923)		682,043.83

Direct Income to Government in Connection with Work of Department of Agriculture, Fiscal Year 1922.

Incident to the department's work during the fiscal year 1922, direct receipts aggregating $8,403,394.05 were covered into the Treasury, and fines were imposed and judgments re-

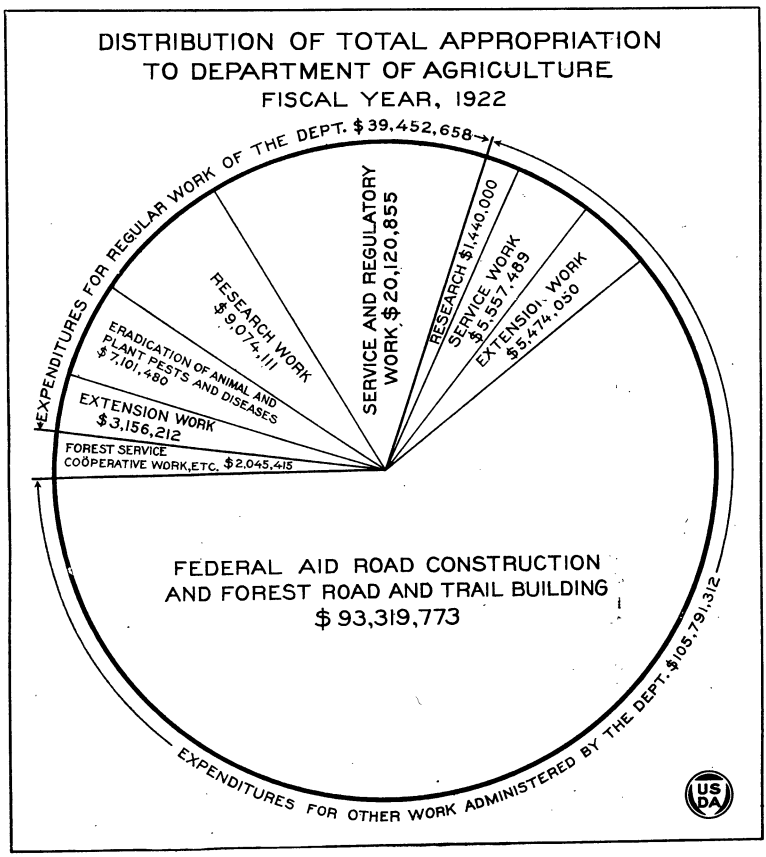


FIG. 20.—Distribution of the $147,289,385 expended during the fiscal year 1922 in carrying on the work of the Department.

covered by the courts amounting to $168,769.36 in connection with the enforcement by the department of the regulatory acts which devolve upon it for administration and execution, as shown on the following page:

Receipts:		
Deposited to credit of miscellaneous receipts fund—		
From business on the national forest	$4,628,462.42	
From other sources	580,902.39	
		$5,209,364.81
Deposited to credit of appropriation for regular work of department		324,081.48
Deposited to credit of appropriation administered 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	$323,015.85	
Repayments by farmers of seed-grain loans	668,742.77	
		991,759.62
Deposited to credit of special funds of Forest Service (from business on the national forests)		1,878,188.14
Total receipts		8,403,394.05
Fines imposed and judgments recovered by the courts in connection with violations of statutes intrusted to Department of Agriculture for enforcement		168,769.36
Total direct income to Government resulting from activities of Department of Agriculture		8,572,163.41

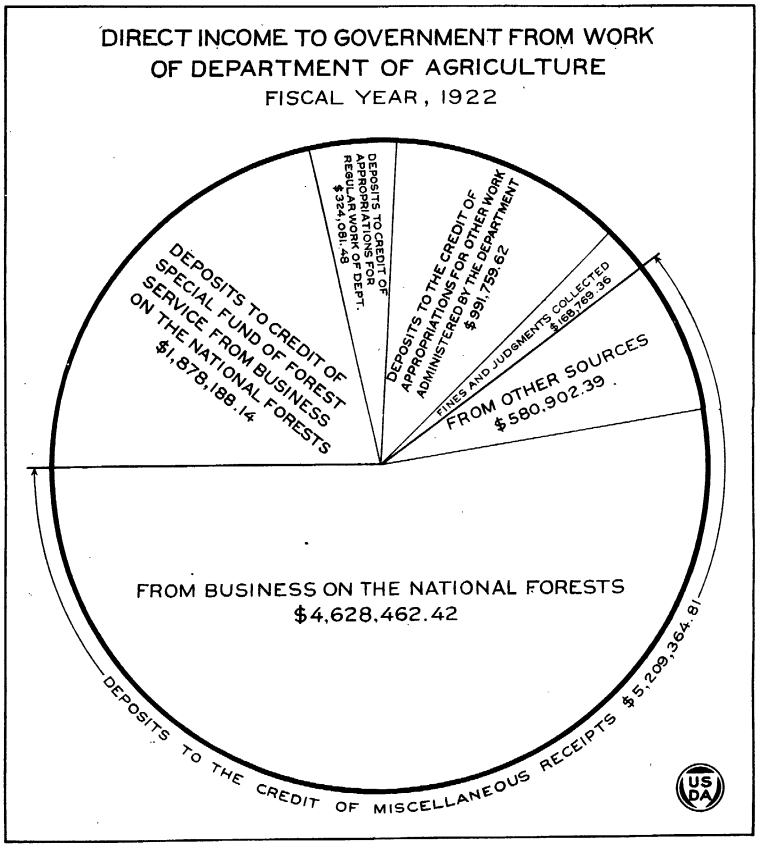


FIG. 21.—Direct income to the Government in connection with the work of the Department during the fiscal year 1922, amounting to $8,572,163.41.

Federal Appropriations Administered by Department, but Not Used for its Regular Work.

In addition to the $39,452,658 expended by the department for the conduct of its investigative, regulatory, and other routine activities, and the $2,045,415.38 applied to forest road and trail construction and cooperative work from special Forest Service receipt funds, $105,790,311.81 was expended during the fiscal year 1922 from appropriations administered by the department other than those used for the prosecution of its regular work. These funds were provided for the following purposes:

Items.	Appropriation available, fiscal year 1922.	Expenditure, fiscal year 1922.	Unexpended balance, June 30, 1922.
Extension work in agriculture and home economics:			
Provided by Smith-Lever Act of May 8, 1914	$4,080,000.00	.....	.....
Supplementary fund provided by agricultural appropriation act for 1922	1,500,000.00	.....	.....
	5,580,000.00	[1] $5,474,050.00	$105,950.00
Research work of State agricultural experiment stations (provided by agricultural appropriation act for 1922)	1,440,000.00	[1] 1,440,000.00	.....
Federal-aid road construction (provided by acts of July 11, 1916; Feb. 28, 1919; and Nov. 9, 1921):			
Rural post roads—			
Appropriated for fiscal year 1922	75,000,000.00	.....	.....
Balances from prior years	193,693,858.96	.....	.....
	268,693,858.96	[2] 89,990,337.53	[3] 178,703,521.43
Roads and trails within or adjacent to national forests—			
Appropriated for fiscal year 1922	6,000,000.00	.....	.....
Balances from prior years	3,437,473.96	.....	.....
	9,437,473.96	3,329,435.52	[3] 6,108,038.44
Farmers' seed-grain loans:			
Appropriation provided by special act of Mar. 20, 1922, for loans to farmers in spring of 1922	1,500,000.00	.....	.....
Appropriation provided by agricultural act of Mar. 3, 1921, for seed loans	2,000,000.00	.....	.....
	3,500,000.00	[4] 2,811,966.96	[5] 688,033.04

[1] Paid direct to States by Treasury Department.
[2] Including expenditures from $148,200 available for road-material investigations.
[3] Of these amounts approximately $160,000,000 was obligated through cooperative road-building agreements.
[4] $1,321,038.24 expended in spring of 1921.
[5] Includes $668,742.77 repaid by farmers during fiscal year 1922 (p. 64).

Item.	Appropriation available, fiscal year, 1922.	Expenditures, fiscal year 1922.	Unexpended balance, June 30, 1922.
Payment from national-forest receipts for benefit of county schools and roads	$1,082,679.99	$1,082,679.99	.....
Acquisition of lands by National Forest Reservation Commission for protection of forested watersheds of navigable streams:			
Provided by agricultural appropriation act for 1922	1,000,000.00	.....	.....
Balances from prior years	1,298,371.84	.....	.....
	2,298,371.84	839,916.37	$1,458,455.47
Expenses of National Forest Reservation Commission (provided by act of Mar. 1, 1911)	25,000.00	186.00	24,814.00
Refunds to users of national-forest resources of moneys deposited by them in excess of amounts required to secure purchase price of timber, use of lands, etc	71,086.82	71,086.82	.....
Study of short-time rural credits (provided by agricultural appropriation act of 1922 for use of a special congressional committee)	5,000.00	5,000.00	.....
Work done by Department of Agriculture for other departments at their request, under authority of sec. 7, fortifications act of May 21, 1920:			
Allotments from other departments, fiscal year 1922	74,800.00	.....	.....
Balance of allotment from fiscal year 1921	5,842.35	.....	.....
	80,642.35	18,167.67	62,474.68
Payments during 1922 from balances remaining available of outstanding accounts for expenses incurred in fiscal year 1921 and prior years	727,484.95	727,484.95	.....
Procuring and disposing of nitrate of soda to farmers (balance of war emergency revolving fund provided by acts of Aug. 10, 1917, Mar. 28, 1918, and Oct. 1, 1918)	9,936,328.00	.....	[6] 9,936,328.00
Stimulating agriculture and facilitating distribution of products—purchase of seed and sale to farmers (balance of war emergency revolving fund provided by acts of Aug. 10, 1917, and Mar. 28, 1918)	5,680,380.00	.....	[7] 5,680,380.00
Total Federal appropriations administered by department but not used for its regular work	308,558,306.87	105,790,311.81	202,767,995.06

[6] Including $9,500,000 turned into surplus fund Dec. 7, 1921.
[7] Turned into surplus fund Dec. 7, 1921.

Summary of all appropriations available to the Department of Agriculture for fiscal year 1922.

Title of appropriation.	Amount appropriated.	Expenditures to June 30, 1922.	Unexpended balance June 30, 1922.
Agricultural act for fiscal year 1922	$36,404,259.00		
Supplemental appropriations contained in deficiency acts of Aug. 24, 1921, Dec. 15, 1921, Mar. 20, 1922, sundry civil act, and legislative act of Mar. 3, 1921:			
Suppressing spread of pink bollworm of cotton	50,000.00	$32,002,869.00	$5,406,765.00
Fighting forest fires	341,000.00		
Tuberculosis indemnities, Bureau of Animal Industry	600,000.00		
Administration of warehouse act	9,015.00		
General expenses, Bureau of Soils	2,860.00		
Salaries and expenses, wool division	2,500.00		
Enforcement of packers and stockyards act	200,000.00	151,238.00	48,762.00
Operation of Center Market	75,000.00	30,448.00	44,552.00
Enforcement of future trading act	47,500.00	13,884.00	33,616.00
White-pine blister rust control	150,000.00	25,337.00	124,663.00
Farmers' seed grain loans	1,500,000.00	1,490,929.00	9,071.00
Printing and binding	725,000.00	725,000.00	.....
Increase of compensation	3,137,882.00	3,003,918.00	133,964.00
Insect infestation, Forest Service	150,000.00	40,815.00	109,185.00
Permanent specific appropriations:			
Meat inspection (act of June 30, 1906)	3,000,000.00	2,584,842.00	415,158.00
Cooperative agricultural extension work (act of May 8, 1914)	4,080,000.00	3,974,050.00	105,950.00
Cooperative construction of roads and trails, national forests (act of July 11, 1916)	1,000,000.00	.....	1,000,000.00
National Forest Reservation Commission (act of Mar. 1, 1911)	25,000.00	186.00	24,814.00
Continuing appropriations:			
Cooperative construction of rural post roads (act of Nov. 9, 1921)	75,000,000.00	.....	75,000,000.00
Forest highways (act of Nov. 9, 1921)	2,500,000.00	269,873.00	2,230,127.00
Forest road development (act of Nov. 9, 1921)	2,500,000.00	524,757.00	1,975,243.00
Indefinite appropriations:			
Refunds to depositors, national-forests fund	71,086.82	71,086.82	.....
Special funds:			
Roads and trails for States, national-forests fund	409,233.53	108,685.53	300,548.00
Payments to States and Territories, national-forests fund	1,023,083.81	1,023,083.81	.....
Payments to school funds, Arizona and New Mexico, national-forests fund	59,596.18	59,596.18	.....
Cooperative work, Forest Service	1,378,374.84	996,879.09	381,495.75

Summary of all appropriations available to the Department of Agriculture for fiscal year 1922—Continued.

Title of appropriation.	Amount appropriated.	Expenditures to June 30, 1922.	Unexpended balance June 30, 1922.
Allotments from other departments:			
Nitrate plant	$502,600.00	$226,697.00	$275,903.00
Protection of lands, California and Oregon Railroad suits	30,726.85	30,614.85	112.00
Air service, Army, 1922	15,000.00	14,740.00	260.00
Aviation, Navy, 1922	50,000.00	.....	50,000.00
Breeding experimental animals, Army, 1922	1,000.00	429.00	571.00
Investigations for Federal Power Commission	5,800.00	.....	5,800.00
Manufacture of arms	400.00	400.00	.....
Unexpended balances of appropriations for prior fiscal years remaining available for expenditure during fiscal year 1922:			
Appropriations for fiscal year 1920 and prior years	3,760,431.00	1,236,671.00	[1] 2,523,760.00
Appropriations in agricultural act and supplemental acts for fiscal year 1921	5,710,359.00	4,547,898.00	1,162,461.00
Cooperative work, Forest Service	570,567.00	570,567.00	.....
Acquisition of lands for protection of forested watersheds of navigable streams	1,298,371.84	609,149.84	689,222.00
Procuring and disposing of nitrate of soda	9,936,327.96	.....	[1] 9,936,327.96
Stimulating agriculture and facilitating distribution of products (seeds)	5,680,380.00	.....	[1] 5,680,380.00
Cooperative construction of rural post roads	193,693,858.96	89,990,337.96	103,703,521.00
Cooperative construction of roads and trails, national forests	1,003,175.14	866,446.14	136,729.00
Federal forest road construction	2,434,298.82	1,668,359.46	765,939.36
Roads and trails for States, national forests fund	369,284.19	369,284.19	.....
Other continuing appropriations	680,337.62	60,302.03	[1] 620,025.59
Total	360,184,309.00	147,289,385.00	[1] 212,894,924.00

Total expenditures, fiscal year 1922	$147,289,385.00
Revenues received and deposited to miscellaneous receipts during fiscal year	5,209,364.81
Net cost of all work done by department	142,080,020.19

[1] Of these balances $17,729,185 was turned into the surplus fund of the Treasury during the year.

Review of Agricultural Production and Exports.

Acreage of crops in the United States.

Crop.	1922 (preliminary estimate).	1921 [1]	1920	1919	1918	1917	1916	1915	1914	Annual average, 1910–1914.
CEREALS.										
Corn	103,234,000	103,850,000	101,699,000	97,170,000	104,467,000	116,730,000	105,296,000	106,197,000	103,435,000	105,240,000
Wheat	56,770,000	62,408,000	61,143,000	75,694,000	59,181,000	45,089,000	52,316,000	60,469,000	53,541,000	48,953,000
Oats	41,822,000	44,826,000	42,491,000	40,359,000	44,349,000	43,553,000	41,527,000	40,996,000	38,442,000	38,014,000
Barley	7,550,000	7,240,000	7,600,000	6,720,000	9,740,000	8,933,000	7,757,000	7,148,000	7,565,000	7,305,000
Rye	5,148,000	4,228,000	4,409,000	6,307,000	6,391,000	4,317,000	3,213,000	3,129,000	2,541,000	2,305,000
Buckwheat	707,000	671,000	701,000	700,000	1,027,000	924,000	828,000	769,000	792,000	826,000
Rice	1,009,000	911,000	1,336,000	1,063,000	1,118,550	980,900	869,000	803,000	694,000	733,000
Grain sorghums	4,374,000	4,652,000	5,120,000	5,060,000	6,036,000	5,153,000	3,944,000	4,154,000	.....	.....
Total	220,614,000	228,786,000	224,499,000	233,073,000	232,309,550	225,679,900	215,750,000	223,664,000	[2]207,010,000	[2]203,376,000
VEGETABLES.										
Potatoes	4,228,000	3,815,000	3,657,000	3,542,000	4,295,000	4,384,000	3,565,000	3,734,000	3,711,000	3,686,000
Sweet potatoes	1,128,000	1,066,000	992,000	941,000	940,000	919,000	774,000	731,000	603,000	611,000
Total	5,356,000	4,881,000	4,649,000	4,483,000	5,235,000	5,303,000	4,339,000	4,465,000	4,314,000	4,297,000
Tobacco	1,763,000	1,435,000	1,960,000	1,951,000	1,647,100	1,518,000	1,413,000	1,369,900	1,224,000	1,209,000
Cotton	34,852,000	30,509,000	35,878,000	33,566,000	36,008,000	33,841,000	34,985,000	31,412,000	36,832,000	35,330,000
Grand total	262,585,000	265,611,000	266,986,000	273,073,000	275,199,650	266,341,900	256,487,000	260,910,900	249,380,000	244,212,000

[1] Subject to revision in December, 1922.

[2] Excluding grain sorghums.

Exports of domestic foodstuffs and cotton from the United States.

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

Articles exported.	Annual average, 1910–1914.	Year ending June 30—								
		1915	1916	1917	1918	1919	1920	1921	1922	
									Amount.	Per cent of 1910–1914.
Wheat.....bushels..	56,913,228	259,642,533	173,274,015	149,831,427	34,118,853	178,582,673	122,430,724	293,267,637	208,321,091	366.0
Wheat flour.barrels..	10,678,635	16,182,765	15,520,669	11,942,778	21,879,951	24,181,979	21,651,961	16,179,956	15,796,819	147.9
Oats.....bushels..	8,304,203	96,809,551	95,918,884	88,944,401	105,837,309	96,360,974	33,944,740	4,302,346	15,767,264	189.9
Rye.....do....	854,765	12,544,880	14,532,437	13,260,015	11,990,123	27,540,188	37,463,285	45,735,052	29,903,602	3,498.5
Barley.....do....	7,895,521	26,754,522	27,473,160	16,381,077	26,285,378	20,457,781	26,571,284	20,457,198	22,400,393	283.7
Corn.....do....	39,809,690	48,786,291	38,217,012	64,720,842	40,997,827	16,687,538	14,467,926	66,911,093	176,409,614	443.1
Total, 5 cereals and flour .....pounds..	8,429,735,124	26,567,042,632	20,780,577,136	19,330,110,628	13,951,418,808	21,996,905,576	16,859,428,924	28,195,134,292	28,728,753,392	340.8
Sugar.....do....	70,976,908	549,007,411	1,630,150,863	1,248,908,286	576,483,050	1,115,865,161	1,444,030,665	582,698,488	2,002,038,450	2,820.7
Dairy products:										
Butter.....do....	4,277,955	9,850,704	13,487,481	26,835,092	17,735,966	33,739,960	27,155,834	7,829,255	7,511,997	175.6
Cheese.....do....	4,915,502	55,362,917	44,394,301	66,050,013	44,303,076	18,791,553	19,378,158	10,825,603	7,471,452	152.0
Milk (condensed) .....pounds..	15,773,900	37,235,627	159,577,620	259,141,231	528,759,232	728,740,509	710,533,270	266,506,031	288,628,398	1,829.9
Total dairy products .....pounds..	24,967,357	102,449,248	217,459,402	352,026,336	590,798,274	781,272,022	757,067,262	285,160,889	303,611,847	1,216.0

Meat and meat products:										
Canned beef .....pounds..	9,392,122	75,243,261	50,803,765	67,536,125	97,343,283	108,459,660	31,133,918	10,762,986	3,738,486	39.8
Fresh beef.do....	29,452,302	170,440,934	231,214,000	197,177,101	370,032,900	332,205,176	153,560,647	21,084,203	3,996,049	13.6
Pickled beef .....pounds..	32,893,172	31,874,743	38,114,682	58,053,667	54,467,910	45,065,641	32,383,501	23,312,856	26,792,124	81.5
Oleo oil....do....	280,224,505	80,481,946	102,645,914	67,110,111	56,603,388	59,292,122	74,529,494	106,414,800	117,174,260	41.8
Oleomargarine .....pounds..	3,268,279	5,252,183	5,426,221	5,651,267	6,309,896	18,570,400	20,952,180	6,219,165	1,989,421	60.9
Sterin.....do....	[1] 3,234,533	11,457,907	13,062,247	12,936,357	10,360,030	11,537,284	22,505,602	19,177,311	33,017,879	1,020.8
Tallow.....do....	29,008,749	20,239,988	16,288,743	15,209,369	5,014,964	16,172,111	32,937,026	16,843,868	27,658,097	95.3
Canned pork .....pounds..	4,227,086	4,644,418	9,610,732	5,896,126	5,194,468	5,273,329	3,261,967	1,118,967	2,263,102	53.5
Fresh pork.do....	2,023,911	3,908,193	63,005,524	50,435,615	21,390,288	19,644,388	27,224,941	57,075,446	25,921,083	1,280.7
Bacon.....do....	182,474,092	346,718,227	579,808,786	667,151,972	815,294,424	1,238,247,321	803,666,861	489,298,109	350,548,952	192.1
Hams and shoulders...pounds..	166,813,134	203,701,114	282,208,611	266,656,581	419,571,869	667,240,022	275,455,931	172,011,676	271,641,786	162.8
Pickled pork .....pounds..	48,274,929	45,655,574	63,460,713	46,992,721	33,221,502	31,503,997	41,643,119	33,286,062	33,516,746	69.4
Lard.....do....	474,354,914	475,531,908	427,011,338	444,769,540	392,506,355	724,771,383	587,224,549	746,157,246	812,379,396	171.3
Lard, neutral .....pounds..	[2] 43,571,550	26,021,054	34,426,590	17,576,240	4,258,529	17,395,388	23,202,027	22,544,303	19,572,940	44.9
Lard, compounds .....pounds..	67,318,857	69,980,614	52,843,311	56,359,493	31,278,382	128,157,327	44,195,842	42,155,971	30,328,176	45.1
Sausage, canned .....pounds..	6,369,268	1,821,958	6,823,085	6,294,950	5,787,108	8,503,580	7,034,150	4,429,723	1,963,548	30.8
Sausage, other..do....	.....	5,183,525	8,590,236	9,134,471	9,239,341	9,721,925	14,750,963	4,926,552	7,207,829	.....

[1] 2-year average.

[2] 4-year average.

Exports of domestic foodstuffs and cotton from the United States—Continued.

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

Articles exported.	Annual average, 1910–1914.	Year ending June 30—								
		1915	1916	1917	1918	1919	1920	1921	1922	
									Amount.	Per cent of 1910–1914.
Sausage casings.do....	33,644,928	30,818,551	14,708,893	6,118,060	6,173,578	13,524,093	24,379,414	29,894,681	27,768,795	82.5
Total 18 meat products .....pounds..	1,416,546,331	1,608,976,098	2,000,053,391	2,001,059,766	2,344,048,215	3,455,285,647	2,220,042,132	1,806,713,925	1,797,478,669	126.9
Total of food products mentioned above..... .....pounds..	9,942,225,720	28,827,475,389	24,628,240,792	22,932,105,016	17,462,748,347	27,349,328,406	21,280,568,983	30,869,707,594	32,831,882,358	330.2
Cotton.....do....	4,419,802,157	4,403,578,499	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	76.0
Grand total .....pounds..	14,362,027,877	33,231,053,888	27,712,310,917	26,020,185,802	19,783,260,012	30,112,275,160	24,824,312,470	33,681,096,304	36,190,761,106	252.0

Crop production in the United States.

[The figures are in round thousands—i. e., 000 omitted.]

	1922 preliminary estimate.	1921 [1]	1920	1919	1918	1917	1916	1915	1914	Annual average, 1910-1914.
CEREALS.										
Corn.....bushels..	2,896,108	3,080,372	3,208,584	2,811,302	2,502,665	3,065,233	2,566,927	2,994,793	2,672,804	2,732,457
Wheat.....do....	810,123	794,893	833,027	967,979	921,438	636,655	636,318	1,025,801	891,017	728,225
Oats.....do....	1,229,774	1,060,737	1,496,281	1,184,030	1,538,124	1,592,740	1,251,837	1,549,030	1,141,060	1,157,961
Barley.....do....	196,431	151,181	189,332	147,608	256,225	211,759	182,309	238,851	194,953	186,208
Rye.....do....	79,623	57,918	60,490	75,483	91,041	62,933	48,862	54,050	42,779	37,568
Buckwheat.....do....	13,643	14,079	13,142	14,399	16,905	16,022	11,662	15,056	16,881	17,022
Rice.....do....	39,159	36,515	52,066	41,985	38,606	34,739	40,861	28,947	23,649	24,378
Grain sorghums.....do....	81,488	115,110	137,408	130,734	73,241	61,409	53,858	114,460	.....	.....
	5,346,349	5,310,805	5,990,330	5,373,520	5,438,245	5,681,490	4,792,634	6,010,988	[2] 4,983,143	[2] 4,483,819
VEGETABLES.										
Potatoes.....bushels..	433,905	346,823	403,296	322,867	411,860	442,108	286,953	359,721	409,921	360,772
Sweet potatoes.....do....	110,359	98,660	103,925	97,126	87,924	83,822	70,955	75,639	56,574	57,117
Beans (commercial).....do....	13,013	9,118	9,077	13,349	17,397	16,045	10,715	10,321	11,585	.....
Onions (commercial).....do....	20,309	13,757	23,525	11,398	19,336	12,376	8,562	7,664	([3])	.....
Cabbage (commercial).....tons..	1,134	687	982	357	498	475	255	671	([3])	.....
FRUITS.										
Peaches.....bushels..	56,125	32,733	45,620	53,178	33,094	48,765	37,505	64,097	54,109	45,842
Pears.....do....	17,772	10,705	16,805	15,101	13,362	13,281	11,874	11,216	12,086	11,184
Apples.....do....	205,539	98,097	223,677	142,086	169,625	166,749	193,905	230,011	253,200	197,898
Cranberries (3 States).....barrels..	561	373	449	549	352	249	471	441	697	.....

[1] Subject to revision, December, 1922.

[2] Excludes grain sorghums.

[3] No estimate.

Crop production in the United States—Continued.

[The figures are in round thousands—i. e., 000 omitted.]

	1922 preliminary estimate.	1921	1920	1919	1918	1917	1916	1915	1914	Annual average, 1910–1914.
MISCELLANEOUS.										
Flaxseed.....bushels..	12,101	8,112	10,774	7,256	13,369	9,164	14,296	14,030	13,749	18,353
Sugar beets.....tons..	5,000	7,782	8,538	6,421	5,949	5,980	6,228	6,511	5,585	5,391
Tobacco.....pounds..	1,330,275	1,075,418	1,582,225	1,465,481	1,439,071	1,249,276	1,153,278	1,062,237	1,034,679	991,958
All hay.....tons..	108,736	96,802	105,315	104,760	91,139	98,439	110,992	107,263	88,686	81,640
Cotton.....bales..	10,135	7,954	13,440	11,421	12,041	11,302	11,450	11,192	16,135	14,259
Sorghum sirup.....gallons..	38,225	45,554	49,505	39,413	33,387	37,472	13,668	14,823	13,551	14,974
Peanuts.....pounds..	691,057	816,465	841,474	783,273	1,240,102	1,432,581	919,028	.....	.....	.....
Broom corn.....tons..	32	35	36	53	62	57	39	52	.....	.....
Clover seed.....bushels..	1,865	1,411	1,944	1,484	1,197	1,488	1,706	.....	.....	.....

Publications of Department.

During the fiscal year ending June 30, 1922, the department issued publications as summarized in the table below. Of the 33,734,779 copies of bulletins and statistical periodicals printed, 12,235,387 were new and 21,499,392 were reprints of those previously published.

There were 58 new Farmers' Bulletins, of which 1,738,379 copies were printed and of which four-fifths were available for distribution by Congressmen in accordance with law. Farmers' Bulletins contain concise specific statements in nontechnical style of recommendations and directions for procedure in modern agricultural practices. There were 108 new Department Bulletins, of which 577,800 copies were printed. These Bulletins contain technical discussions of facts or conditions of importance to agriculture, primarily the results of experimental work of the department. In the Department Circular series, 43 new titles were added to the list. These circulars contain information contributions of less technical nature than Department Bulletins and are designed for scientific and limited mailing lists.

Publications issued by the Department of Agriculture during the fiscal year ending June 30, 1922.

Name of publication.	New.		Reprinted.		New and reprinted.	
	Number of titles.	Number of copies printed.	Number of titles.	Number of copies printed.	Number of titles.	Number of copies printed.
Bulletins, circulars, and yearbook:						
Farmers' Bulletins	58	1,738,379	533	21,188,792	591	22,927,171
Department Bulletins	108	577,800	44	83,100	152	660,900
Department Circulars	43	525,000	19	227,500	62	752,500
Secretary's Annual Report	1	5,000	.....	.....	1	5,000
Soil Surveys	31	31,000	.....	.....	31	31,000
Yearbook, 1920	1	20,000	.....	.....	1	20,000
Miscellaneous [1]	.....	881,183	.....	2,291,555	.....	3,172,738
Total	[2] 242	3,778,362	596	23,790,947	[2] 838	27,569,309
Statistical and information publications:						
Experiment Station Record	.....	161,700	.....	.....	.....	161,700
Official Record [3]	.....	438,000	.....	.....	.....	438,000
Clip Sheet	.....	307,700	.....	.....	.....	307,700
Monthly Crop Reporter [4]	.....	671,700	.....	.....	.....	671,700
Market Reporter [4]	.....	766,000	.....	.....	.....	766,000
Monthly Weather Review [4]	.....	21,875	.....	.....	.....	21,875
Weather, Crops, and Markets [5]	.....	3,244,000	.....	.....	.....	3,244,000
Public Roads [4]	.....	23,000	.....	.....	.....	23,000
Weekly News Letter [4]	.....	2,666,500	.....	.....	.....	2,666,500
Special Information Service	.....	80,500	.....	.....	.....	80,500
Journal of Agricultural Research [4]	.....	34,000	.....	.....	.....	34,000
Separates, Journal of Agricultural Research	.....	42,750	.....	.....	.....	42,750
Total	.....	8,457,025	.....	.....	.....	8,457,025
Grand total	.....	12,235,387	.....	23,790,947	.....	36,026,334

[1] Includes administrative reports and notices and unnumbered pamphlets.
[2] Not including miscellaneous publications.
[3] Began Jan. 4, 1922.
[4] Discontinued.
[5] Began Jan. 7, 1922.

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

Following is a list of new Farmers' Bulletins, Department Bulletins, and Department Circulars classified by general subject matter. Farmers' Bulletins are indicated by F. B., Department Bulletins by D. B., and Department Circulars by D. C.

Alfalfa:

- Utilization of Alfalfa ..... F. B. 1229
- Garden Flea Hopper in Alfalfa and Its Control ..... D. B. 964

Animal pests:

- The Relative Toxicity of Strychnine to the Rat ..... D. B. 1023
- American Moles as Agricultural Pests and as Fur Producers ..... F. B. 1247

Apples:

- Northwestern Apple Packing Houses ..... F. B. 1204
- Accounting Records for Sampling Apples by Weight ..... D. B. 1006

Beef cattle:

- Beef Production in the Corn Belt ..... F. B. 1218
- Wintering and Summer Fattening of Steers in North Carolina ..... D. B. 954
- Relation of Land Tenure to the Use of the Arid Grazing Lands of the Southwestern States ..... D. B. 1001
- Feeding Experiment with Grade Beef Cows Raising Calves ..... D. B. 1024
- Range and Cattle Management during Drought ..... D. B. 1031
- Effects of Winter Rations on Pasture Gains of Calves ..... D. B. 1042
- The Alkali Disease of Live Stock in the Pecos Valley ..... D. C. 180

Bees:

- Swarm Control ..... F. B. 1198
- Beekeeping in the Clover Region ..... F. B. 1215
- Heat Production of Honey Bees in Winter ..... D. B. 988
- Occurrence of Diseases of Adult Bees ..... D. C. 218

Birds:

- Community Bird Refuges ..... F. B. 1239
- Instructions for Bird Banding ..... D. C. 170
- The Migratory Bird Treaty Act ..... D. C. 182
- The Migratory Bird Treaty Act ..... D. C. 202

Blueberries:

- Direction for Blueberry Culture ..... D. B. 974

Bottled foods:

- Volume Variations of Bottled Foods ..... D. B. 1009

Breeding live stock:

- Principles of Live Stock Breeding ..... D. B. 905

Cabbage:

- Seed Treatment and Rainfall in Relation to Control of Cabbage Blackleg ..... D. B. 1029

Canning:

- Relation of Initial Temperature to Pressure, Vacuum, and Temperature Changes in the Container during Canning Operations ..... D. B. 1022

Citrus fruit:
The Avocado: Its Insect Enemies and How to Control Them ---------- F. B. 1261
Control of the Argentine Ant in California Citrus Orchards ---------- D. B. 965
The Composition of California Lemons ---------- D. B. 993
The Red Spider of the Avocado ---------- D. B. 1035
Control of the Citrophilus Mealybug ---------- D. B. 1040
A New Feature of Bud Variation in Citrus ---------- D. C. 206
Commercial Control of Citrus Scab ---------- D. C. 215
Some Changes in the Composition of the California Avocado during Growth ---------- D. B. 1073

Corn:
The Corn Earworm as an Enemy of Vetch ---------- F. B. 1206
Inheritance of Ramose Inflorescence in Maize ---------- D. B. 971
Effects of Mutilating the Seeds on the Growth and Development of Corn ---------- D. B. 1011
Effects of Date of Seeding on Growth, Germination, and Development of Corn ---------- D. B. 1014
Marketing Broom Corn ---------- D. B. 1019
Relation of the Character of the Endosperm to the Susceptibility of Dent Corn to Root Rotting ---------- D. B. 1062

Corn oil:
Preparation of an Edible Oil from Crude Corn Oil ---------- D. B. 1010
Comparison of Corn Oils Obtained by Expeller and Benzol Extraction Methods ---------- D. B. 1054

Cotton:
The Boll-Weevil Problem: Methods of Reducing Damages ---------- F. B. 1262
Composition of Cotton Seed ---------- D. B. 948
A System of Accounting for Cotton Ginneries ---------- D. B. 985
Preliminary Manufacture Tests of the Official Standards of the United States for Color of Upland Tinged and Stained Cotton ---------- D. B. 990
Water Stress Behavior of Pima Cotton, Arizona ---------- D. B. 1018
Mead Cotton: An Upland Long-Staple Variety, Replacing the Sea-Island ---------- D. B. 1030
Marketing Cotton Seed for Planting Purposes ---------- D. B. 1056
Improvement in Cotton Production ---------- D. C. 200
The Mixing of Cotton Seed by Modern Gin Equipment ---------- D. C. 205
Dispersion of the Boll Weevil in 1921 ---------- D. C. 210

Cranberries:
The Relations of Water Raking to the Keeping Quality of Cranberries ---------- D. B. 960

Credit:
Buying Farms with Land-Bank Loans ---------- D. B. 968
Farm Mortgage Loans by Banks, Insurance Companies, and Other Agencies ---------- D. B. 1047
Bank Loans to Farmers on Personal and Collateral Security ---------- D. B. 1048

Credit—Continued.
The Credit Association as an Agency for Rural Short-Time Credits ---------- D. C. 197
Crop experiments:
Work of the Huntley Reclamation Experimental Farm in 1920 ---------- D. C. 204
Work of the San Antonio Experiment Farm in 1919 and 1920 ---------- D. C. 209
Crop insurance:
Crop Insurance: Risks, Losses, and Principles of Protection ---------- D. B. 1043
Crop planting and harvesting dates:
Seed Time and Harvest ---------- D. C. 183
Cucumbers:
Nicotine Dust for Control of the Striped Cucumber Beetle ---------- D. C. 224
Dairying:
Farm Dairy Houses ---------- F. B. 1214
Manufacture of Cow's Milk Roquefort Cheese ---------- D. B. 970
Unit Requirements for Producing Milk in Eastern Nebraska ---------- D. B. 972
Relation of Production to Income from Dairy Cows ---------- D. B. 1069
Drugs:
Drying Crude Drugs ---------- F. B. 1231
Explosives:
Use of Explosives in Blasting Stumps ---------- D. C. 191
Extension work:
Status and Results of Home Demonstration Work, North and West, 1920 ---------- D. C. 178
Status and Results of County Agent Work, North and West, 1920 ---------- D. C. 179
Extension Work among Negroes ---------- D. C. 190
Status and Results of Boys' and Girls' Club Work ---------- D. C. 192
Statistics of Cooperative Extension Work, 1921–22 ---------- D. C. 203
Farm equipment:
Manufacture and Sale of Farm Equipment ---------- D. C. 212
Flowers:
Sawflies Injurious to Rose Foliage ---------- F. B. 1252
The Production of the Easter Lily in Northern Climates ---------- D. B. 962
Foods:
Milk and Its Uses in the Home ---------- F. B. 1207
Home Canning of Fruits and Vegetables ---------- F. B. 1211
A Week's Food for an Average Family ---------- F. B. 1228
A Study of the Factors Affecting Temperature Changes in the Container during the Canning of Fruits and Vegetables ---------- D. B. 956
Food Values: How Foods Meet Body Needs ---------- D. B. 975
Manufacture of Potato Chips ---------- D. B. 1055
Studies in the Clarification of Unfermented Fruit Juices ---------- D. B. 1025

Forestry and trees:
Measuring and Marketing Farm Timber ..... F. B. 1210
Trees for Town and City Streets ..... F. B. 1208
Planting and Care of Street Trees ..... F. B. 1209
Insects Injurious to Deciduous Shade Trees and Their Control ..... F. B. 1169
Slash Pine ..... F. B. 1256
Investigations of the White-Pine Blister Rust ..... D. B. 957
The Manufacture of Ethyl Alcohol from Wood Waste ..... D. B. 983
Pine-Oil and Pine-Distillate Product Emulsions ..... D. B. 989
Walnut Husk Maggot ..... D. B. 992
The Distillation of Stumpwood and Logging Waste of Western Yellow Pine ..... D. B. 1003
Identification of True Mahogany ..... D. B. 1050
Studies of Certain Fungi of Economic Importance in the Decay of Building Timbers, with Special Reference to the Factors which Favor Their Development and Dissemination ..... D. B. 1053
The Chaulmoogra Tree and Some Related Species: A Survey Conducted in Siam, Burma, Assam, and Bengal ..... D. B. 1057
Research Methods in Study of the Forest Environment ..... D. B. 1059
Sitka Spruce ..... D. B. 1060
Curculios that Attack the Young Shoots and Fruits of the Walnut and the Hickory ..... D. B. 1066
Important Forest Trees of the Eastern United States ..... D. C. 223
Government Forest Work ..... D. C. 211
Government Forest Work in Utah ..... D. C. 198
Handbook for Campers in the National Forests in California ..... D. C. 185
Treatment of Ornamental White Pine Infected with Blister Rust ..... D. C. 177

Game:
Game Laws for 1921 ..... F. B. 1235
Game as a National Resource ..... D. B. 1049
Laws Relating to Fur-bearing Animals, 1921 ..... F. B. 1238
Directory of Officials and Organizations Concerned with the Protection of Birds and Game, 1921 ..... D. C. 196
Annual Report of the Governor of Alaska on the Alaska Game Law, 1921 ..... D. C. 225

Garden:
Permanent Fruit and Vegetable Gardens ..... F. B. 1242

Grain:
Crop Rotations and Cultural Methods at Ridgeley, N. Dak ..... D. B. 991
Experiments with Cereals on the Belle Fourche Experiment Farm ..... D. B. 1039
The Test Weight of Grain ..... D. B. 1065

Goats:
The Angora Goat ..... F. B. 1203

Grapes:
Insect and Fungous Enemies of the Grape ---------- F. B. 1220
Hay:
Marketing Hay at Country Points ---------- D. B. 997
The Weighing of Market Hay ---------- D. B. 978
Marketing Hay through Terminal Markets ---------- D. B. 979
Inspection and Grading of Hay ---------- D. B. 980
Home and community:
Floors and Floor Coverings ---------- F. B. 1219
Sewage and Sewerage of Farm Homes ---------- F. B. 1227
Chimneys and Fireplaces: How to Build Them ---------- F. B. 1230
Red Cedar Chests as Protection against Moths ---------- D. B. 1051
The Well-Planned Kitchen ---------- D. C. 189
The Paper Dress Form ---------- D. C. 207
National Influence of a Single Farm Community ---------- D. B. 984
Horse-radish:
The European Horse-Radish Worm ---------- D. B. 996
Horses:
Breeding Morgan Horses at the United States Morgan Horse Farm ---------- D. C. 199
Insects:
The Green Bug or Spring Grain Aphis ---------- F. B. 1217
The Chinch Bug and Its Control ---------- F. B. 1223
Insects Injurious to the Mango in Florida and How to Control Them ---------- F. B. 1257
Webworms Injurious to Cereal and Forage Crops and Their Control ---------- F. B. 1258
A Sawfly Injurious to Young Pines ---------- F. B. 1259
Stored-Grain Pests ---------- F. B. 1260
Life History of the Codling Moth in the Grand Valley of Colorado ---------- D. B. 932
Experiment and Suggestions for the Control of the Codling Moth in the Grand Valley of Colorado ---------- D. B. 959
Results of Work on Blister Beetles in Kansas ---------- D. B. 967
Studies on the Biology and Control of Chiggers ---------- D. B. 986
Rate of Multiplication of the Hessian Fly ---------- D. B. 1008
Bionomics of the Chinch Bug ---------- D. B. 1016
Poisonous Metals on Fruits and Vegetables Sprayed with Poisonous Spray ---------- D. B. 1027
Apanteles Melanoscelus, an Imported Parasite of the Gipsy Moth ---------- D. B. 1028
The Blackhead Fireworm of the Pacific Coast ---------- D. B. 1032
Irrigation and drainage:
The Border Method of Irrigation ---------- F. B. 1243
Report on Drainage and Prevention of Overflow in the Valley of the Red River of the North ---------- D. B. 1017
Irrigation in Northern Colorado ---------- D. B. 1026
Labor:
Standards of Labor on the Hill Farms of Louisiana ---------- D. B. 961
Labor and Material Requirements of Field Crops ---------- D. B. 1000
Harvest Labor Problems in the Wheat Belt, 1920 ---------- D. B. 1020

Marketing:
Seed Marketing Hints for the Farmer ---- F. B. 1232
Market Statistics ---- D. B. 982
Handbook of Foreign Agricultural Statistics ---- D. B. 987
Methods of Conducting Cost of Production and Farm Organizations Studies ---- D. B. 994
Prices of Farm Products in the United States ---- D. B. 999
Open Types of Public Markets ---- D. B. 1002
Self-Service in the Retailing of Food Products ---- D. B. 1044
Motor trucks:
Motor Trucks on Eastern Farms ---- F. B. 1201
Oats:
Sterility of Oats ---- D. B. 1058
Fulghum Oats ---- D. C. 193
Olives:
Olive Growing in the Southwestern United States ---- F. B. 1249
Peaches:
The Peach Borer: How to Prevent or Lessen Its Ravages ---- F. B. 1246
Preparation of Peaches for Market ---- F. B. 1266
Controlling the Curculio, Brown-Rot, and Scab in the Peach Belt of Georgia ---- D. C. 216
Pears:
The Handling, Shipping, and Cold Storage of Bartlett Pears in the Pacific Coast States ---- D. B. 1072
Peas:
Seed Peas for the Canner ---- F. B. 1253
The Production of Peas for Canning ---- F. B. 1255
Pigeons:
Eradication of Lice on Pigeons ---- D. C. 213
Pineapples:
Pineapple Culture in Florida ---- F. B. 1237
Potatoes:
The Potato Leafhopper and Its Control ---- F. B. 1225
Development of Tubers in the Potato ---- D. B. 958
Fusarium Tuber Rot of Potatoes ---- D. C. 214
Late-Blight Tuber Rot of Potato Tubers ---- D. C. 220
Pecan:
Pecan Rosette, Its Histology, Cytology, and Relation to Other Chlorotic Diseases ---- D. B. 1038
Poultry:
Tuberculosis of Fowls ---- F. B. 1200
Standard Varieties of Chickens. IV. The Ornamental Breeds and Varieties ---- F. B. 1221
Standard Varieties of Chickens. V. The Bantam Breeds and Varieties ---- F. B. 1251
Rations for Feeding Poultry in the Packing Houses ---- D. B. 1052
Rice:
Straighthead of Rice and Its Control ---- F. B. 1212
Roads:
Standard and Tentative Method of Sampling and Testing Highway Materials ---- D. B. 949

Sheep:
Judging Sheep ---------- F. B. 1199
Flushing and other Means of Increasing Lamb Yield -- D. B. 996
Soils:
Gullies: How to Control and Reclaim Them ---------- F. B. 1234
Green Manuring ---------- F. B. 1250
Soils of Eastern Virginia and Their Uses for Truck Crop Production ---------- D. B. 1005
Sorghum:
Cultural Experiments with Grain Sorghums in the Texas Panhandle ---------- D. B. 976
Sudan grass:
Sudan Grass and Related Plants ---------- D. B. 981
Sugar beets:
The Sugar Beet Nematode in the Western States ---------- F. B. 1248
Cost of Producing Sugar Beets in Utah and Idaho ---------- D. B. 963
The Beet Sugar Industry in the United States, 1920 ---------- D. B. 995
Sunflowers:
The Sunflower as a Silage Crop ---------- D. B. 1045
Sweet Clover:
Annual White Sweet Clover and Strains of the Biennial Form ---------- D. C. 169
Sweet potatoes:
Utilization of Flue-Heated Tobacco Barns for Sweet Potato Storage ---------- F. B. 1267
Sweet Potato Storage Studies ---------- D. B. 1063
Eradication of the Sweet Potato Weevil in Florida ---------- D. C. 201
Tick eradication:
State Laws and Court Decisions Relating to Cattle Tick Eradication ---------- D. C. 184
Tomatoes:
Tomatoes for Canning and Manufacturing ---------- F. B. 1233
Development of Wilt-Resistant Tomatoes ---------- D. B. 1015
Phoma Rot of Tomatoes ---------- D. C. 219
Tractors:
Cost and Utilization of Power on Farms Where Tractors are Owned ---------- D. B. 997
Weeds and poisonous plants:
Western Sneezeweed as a Poisonous Plant ---------- D. B. 947
The Mexican Whorled Milkweed as a Poisonous Plant ---------- D. B. 969
The Death Camas Species as Poisonous Plants ---------- D. B. 1012
Progress of Barberry Eradication ---------- D. C. 188
Wheat:
Wheat Scab and Its Control ---------- F. B. 1224
Take-All of Wheat and Its Control ---------- F. B. 1226
Influence of Relative Humidity and Moisture Content of Wheat on Milling Yields and the Moisture Content of Flour ---------- D. B. 1013
Rust Resistance in Winter Wheat Varieties ---------- D. B. 1046
Kanred Wheat ---------- D. C. 194

TIMBER

By W. B. Greeley, Earle H. Clapp, Herbert A. Smith, Raphael Zon, W. N. Sparhawk, Ward Shepard, and J. Kittredge, Jr., *Forest Service.*

Two National Problems: Land Use and Timber Supply.

NEARLY half the land area of the United States, some 822 million acres, was originally forested.[1] The extent of this forest and its principal regions are shown in Figure 1. The stand, mainly of high-grade material, probably far exceeded in volume the estimate of 5,200 billion feet board measure made some years ago.

American standards of living and much of our industry have been developed upon timber supplies so abundant and cheap that the United States to-day is the largest consumer of wood in the world. We now use nearly half the lumber, more than half the paper, and about two-fifths the wood in all forms. We produce from two-thirds to three-fourths of

[1] In the report on Senate Resolution 311, "Timber Depletion, Lumber Prices, Lumber Exports, and Concentration of Timber Ownership" (1920), the Forest Service reported the main facts then known concerning the original and present forest areas, stands, regional distribution and consumption of timber, and related matters. The present article is based on essentially the same data, in so far as forest areas and volume of standing timber are concerned, though some minor corrections have been made in the areas reported for certain regions. These corrections add, in all, 7 million acres to the area of forest land. No attempt has been made to obtain new figures which would show the effect of lumbering, fire, and other causes that reduce the virgin forest area or convert growing forests into idle forest lands. The figures now given other than those for areas and amounts of standing timber embody new data.

the naval stores. The timber to supply our demands has been mined from the forest much as coal has been mined from the ground.

Timber Mining.

Largely through timber mining the original stand has been reduced from more than 5,200 billion board feet to approximately 1,600 billion feet of virgin timber and 600 billion feet additional in culled and second-growth stands. Seventy-five per cent of the remaining virgin timber is west of the Great Plains, and more than 50 per cent of all our remaining saw timber is in the three Pacific Coast States, while nearly half of the lumber cut is consumed in the region east of the Mississippi and north of the Ohio and Potomac Rivers. Lumber producing and consuming centers are so far apart that we pay $250,000,000 annually in lumber freight. Seventy-five per cent of our lumber cut and fully 90 per cent of the product of high quality is still taken from virgin stands. Thirty-eight thousand four hundred forest fires, the invariable accompaniment of timber mining, burned over more than 8 million acres in 1921. Depletion and higher prices have reduced the drain on our forests, but the amount taken is still four times replacement by growth. The volume of the original and present forests in the East and West is shown in Figure 2 and the volume of our present forests by States in Figure 3.

Timber mining is, therefore, responsible for a great reduction in our timber supplies. With accompanying forest fires, it is also responsible in part for a great reduction in the area of our forest lands. The original forest of 822 million acres has been reduced to 138 million acres of virgin forest, 250 million acres additional of comparatively inferior culled and second growth, and 81 million acres of unproductive land, a total of slightly less than 470 million acres. Comparative areas of original and present virgin forests in the East and West are shown in Figure 4 and the present area of forest lands by States in Figure 5.

Land Clearing.

Another important factor in reducing our area of forest land has been the clearing of land for agriculture. The first necessity of the early settlers was to clear land to produce food. By 1880 about 150 million acres, or 22 per cent of

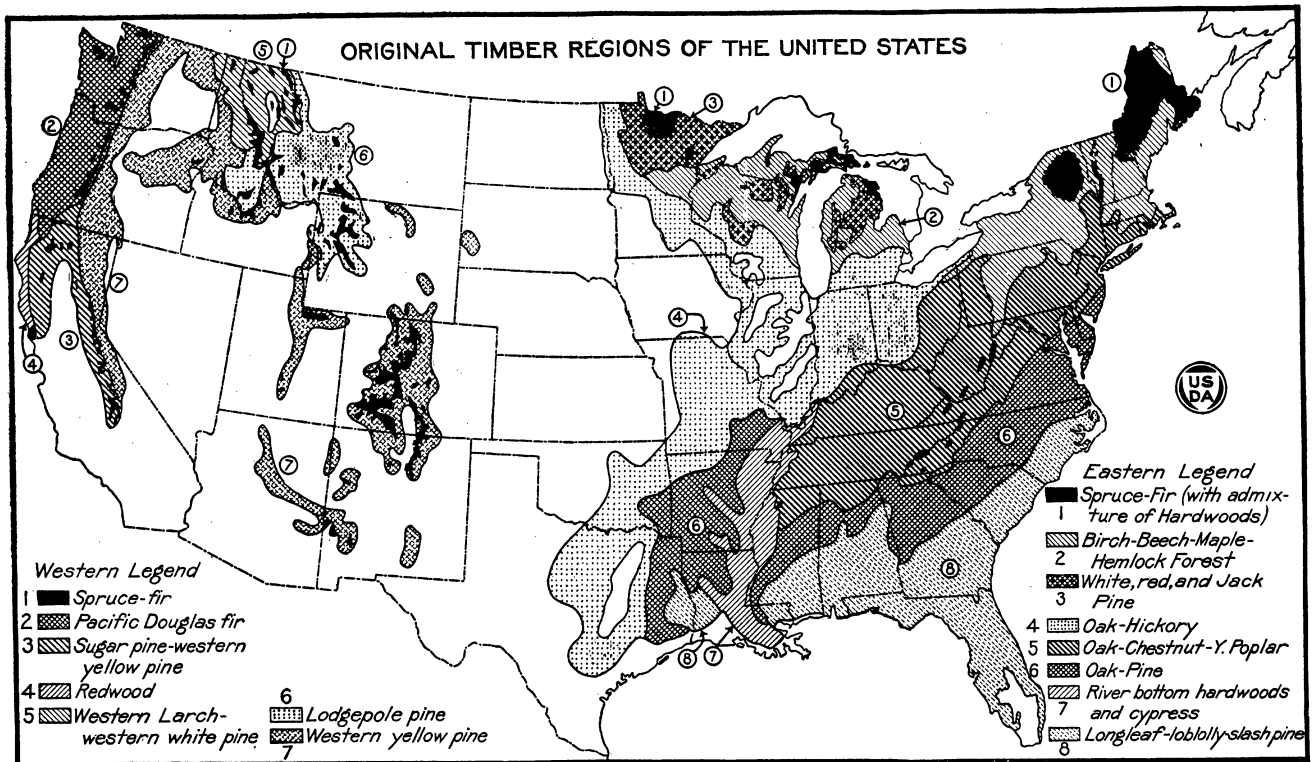


FIG. 1.—The original eastern forests formed 83 per cent and the western 17 per cent of the total. Of our present forest land the East has 75 per cent and the West 25 per cent. But the West now has 61 per cent of the remaining saw timber supply.

the original eastern forest, had been cleared for farms and the great bulk of the timber destroyed because there was no market. From then on destruction of timber in land clearing practically disappeared.

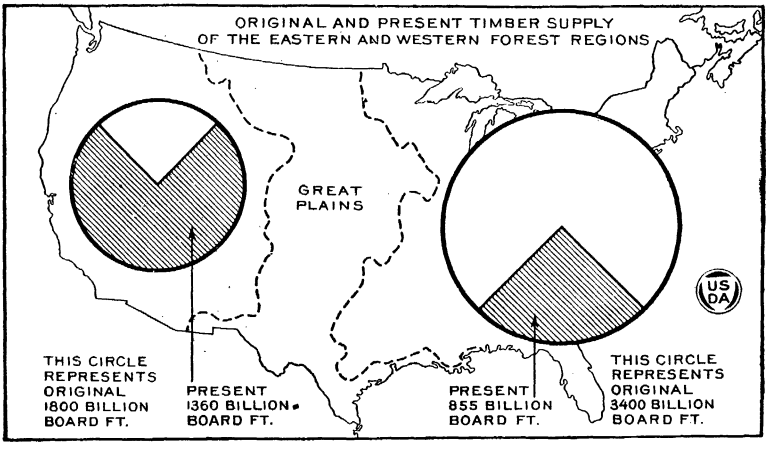


FIG. 2.—Our timber supply, in reality probably far greater originally than the 5,200 billion feet shown in this figure, is now reduced to about 2,200 billion feet.

In addition to the 150 million acres of timber cut and destroyed, about 50 million acres of forested land in the Eastern States have been cut over primarily to clear agricultural land but without wasting the timber. In the West little land has been cleared for farming ahead of the lumberman. Thus agriculture has been the primary motive for clearing about 200 million acres, or 24 per cent, of our original forest area.

Land Not Taken by Agriculture.

While before 1880 land clearing for agriculture outstripped lumbering, a greater and greater demand for timber has since caused land to be logged off much more rapidly than it was taken up by agriculture. Although many of these lands have been on the market and have been pressed for sale, settlement on them is practically at a standstill. Agricultural settlement in recent years has been almost wholly confined to the semiarid, nonforested lands in the Great Plains and Rocky Mountain regions. Thus Michigan, which has 15½ million acres of cut-over lands, showed the

insignificant increase in improved farm land of only 93,000 acres from 1910 to 1920; but the western open country, even though semiarid, added 29 million acres. The rate of land improvement fell off 62 per cent in Wisconsin between 1900 and 1920. Wisconsin now has more cut-over and idle land than ever before—some 13 million acres—more than all the improved farm land in the State. There are in the Lake States alone from 25 to 30 million acres of cut-over land, and the area is continually augmenting.

In Michigan, at the average rate of settlement for the last 20 years, 380 years would be required to settle the present area of cut-over land and the remaining timberland that will soon be cut over. In the Upper Peninsula 800 years would be required, in the northern part of the Lower Peninsula 200 years, and in the southern part of the Lower Peninsula 1,700 years. In Minnesota, at the rate of clearing and settlement of the past 40 years, it would take nearly a century to absorb into farms even the best part of the land now idle.

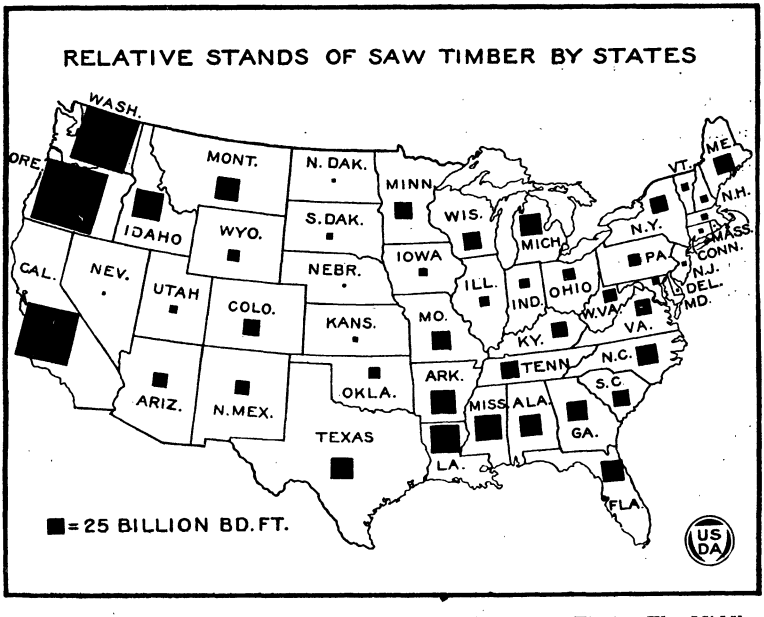


FIG. 3.—Most of our standing timber is in the South and West. The Middle Western and Northeastern States, though our largest consumers of timber, are far from producing the timber they use.

In the decade 1900–1910 improved farm land increased at the rate of 6.4 million acres annually, and cut-over land at the rate of 9.4 million acres; in the decade 1910–1920 the rates were 2.5 million and 10 million acres, respectively. At

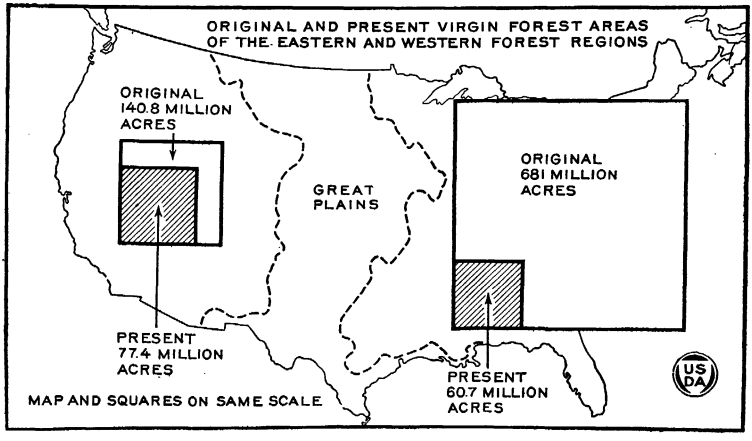


FIG. 4.—Only a remnant of the original Eastern forest remains, and nearly half of the virgin forests of the West have gone.

present approximately 1 million acres annually of improved land derived is from cut-over forest land.

This million acres is barely enough to offset the area of abandoned farm lands in the East that revert each year to forest. The forest area of New England is now 13 per cent larger than 60 years ago. Similarly in the southeastern pineries the area taken up for new agricultural use is probably offset by the abandoned fields that revert each year to forest. The 1920 census shows that the area of improved farm land in the eastern United States, where the bulk of the cut-over land is found, did not increase in the last decade. In some States not only the improved land but even the total farm land decreased.

The tradition that all cut or burned over forest land or even the greater part of it is being taken by agriculture is not borne out by the facts. The total area of forest lands already cut or burned over, exclusive of farm wood lots, that has not been taken for agricultural use, has already grown to 181 million acres. Furthermore, our forest land is being

cut over at the rate of about 10 million acres yearly, and probably more than half this area is in virgin forest.

The Problems of Land Use and Timber Supply.

The depletion of our timber supplies and the reduction of our forest area largely through timber mining has created one national problem, that of providing the timber necessary to meet our future requirements.

Inability to utilize cut or burned-over forest lands for agriculture has created a second and related national problem—that of land use.

The Land Use Problem.

The Problem Stated.

The American people have commonly believed that all our arable lands are agricultural, virtually regardless of soil, topography, location, or climate. We are only now beginning to understand what the facts in the preceding section indicate, that this belief rests on a serious misconception.

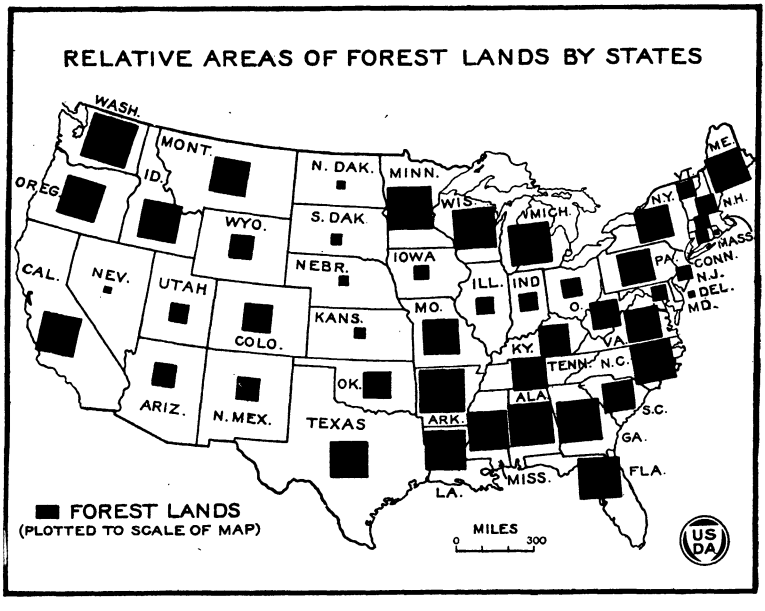


FIG. 5.—Though the original forests have largely disappeared, we still have plenty of forest land, if rightly used, to grow the timber we need; and the most of this land is in the East, where timber is most needed.

Agricultural economists are coming to the conviction that the future tendency in farming will be toward more and more intensive cultivation of the better lands, with higher production and relatively lower costs. The lands upon which the margin of profit will be very small or uncertain because of poor soil, climate, topography, or location will tend to pass out of cultivation. This will be all the more true of soils which can be made to yield materially higher returns from other forms of use.

American energy and resourcefulness during a period of 300 years of ceaseless effort have improved a little more than 500 million acres of farm land, less than 35 million acres in excess of our forest land, shrunken though it is.

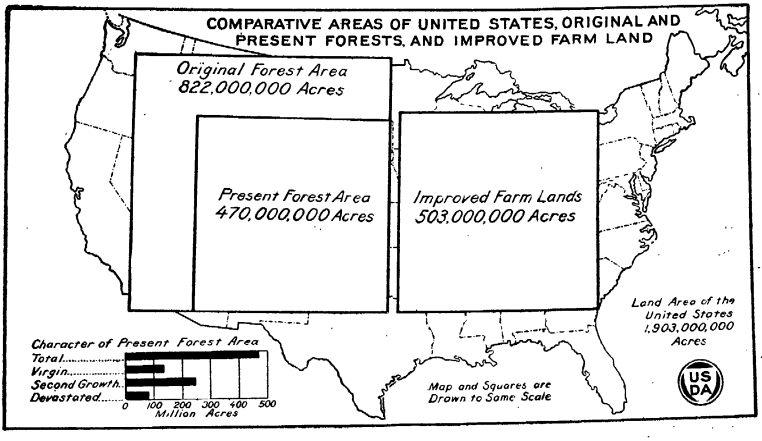


FIG. 6.—Forests once covered 43 per cent of our total land area of 1,903 million acres, but timber mining and land clearing have reduced them to 25 per cent of the total area. Our remaining forest land still nearly equals our improved farm land in extent.

(Fig. 6.) In comparison with the total area of 365 million acres used for all crops in 1919, the problem of utilizing continuously and effectively 470 million acres of forest land looms very large. The land problem is, therefore, to bring into use this area of forest land which is not being absorbed for agriculture.

The Land Available.

Our present 469.5 million acres of forest land is made up as follows:

		Acres.
Virgin forest		138, 100, 000
Cut-over and burned-over forest:		
Second growth of saw timber size	113, 800, 000	
Second growth of cordwood size	136, 400, 000	
Nonrestocking	81, 200, 000	
		331, 400, 000
Total		469, 500, 000

Will our future needs for agricultural land bring about a reduction of this forest area? In the Yearbook of the United States Department of Agriculture for 1921 ("A graphic summary of American agriculture," p. 430) a table is given showing the present and potential land utilization of the United States on the basis solely of the physical character of the land. This table classifies as potential improved land 800 million acres; as unimproved pasture and range land, 658 million acres;[2] and nonagricultural land,[3] 90 million acres.

The actual division at any given time, however, will be determined not only by the physical conditions but also, and very largely, by economic conditions. Dr. L. C. Gray, of the Bureau of Agricultural Economics, has furnished a prognostication that takes these conditions into account. He estimates that with crop yields at the present rate, a population of 150 million having a per capita consumption equal to the present in kind and quantity would require 102 million acres more under crops than at present, and 155 million more in pasture. This would bring the total improved farm land needed to feed our own population in 1950 close to the 800 million acres shown above as the limit of possible development.

Such an increase, however, is not forecast by Doctor Gray. Instead, he holds there will be a more intensive use of the better land—just as during the last 30 years. At the same time a readjustment of the national diet will lower per capita agricultural land requirements. Altogether, the

[2] Including piñon juniper, scrub oak, mesquite, and chaparral.

[3] Including desert land, cities and villages, public roads, and railroad rights of way. A small part of the desert may be irrigated and thus reduce the area of nonagricultural land. With the growth of population, however, the area under cities and villages, public roads, and railroad rights of way is bound to increase, with the result that the area of nonagricultural land will in the future become larger than at present.

mid-century population of 150 million will probably require an increase in improved farm area, according to Doctor Gray, of not more than about 58 million acres, comprising about 35 million acres in crop lands and 23 million acres in humid pasture.

Where will this increase come from? Some will come from desert land and semiarid pasture through irrigation, some from reclaiming wet lands, and some from forest land, either cut over or now in standing timber. Of the latter a considerable part will presumably come from the 168 million[4] acres now in farm wood lots. Three-fifths of this (100 million acres) is now being used also as pasture. It is only natural to expect that as additional agricultural land is needed, either for crops or for pasture, the proportion of such land on the farms will increase at the expense of the unimproved land. The census figures show a reduction in the area of wood lots in farms of nearly 22 million acres during the last decade. To a large extent this decrease is undoubtedly due to a general decrease in farm land, particularly in the Northeast, where most of the wood lots are found. Some of it is due to a change in the census specifications of the character of lands to be included under this designation. Partly, however, it is due also to the clearing of wood lots on the farms.

This decrease in farm wood lots is offset to some extent by the abandonment of old fields which revert to forest. Undoubtedly there will be further abandonment of the poorer farm lands, and some land will be added to the forest area by planting. On the whole, considering solely the agricultural needs of the country, the total potential forest area may be reduced at most to about 400 million acres.

There is room for doubt, however, whether there will be any considerable reduction from the present forest-land area. Agricultural crops will, of course, have undisputed claim to the more productive lands, and this will bring about the displacement of a good deal of forest now growing on fertile bottom and valley lands. On the other hand, the very

[4] This includes some piñon juniper and other woodland which is not included in the total area of farm land. Without such woodland the Forest Service estimates the area of wood lots in farm at 150 million acres.

addition of such lands to the cultivated area will tend to increase the reversion to forest of farm lands that yield relatively small returns on labor and capital investment. The great bulk of the present forest land of the United States, particularly that in the mountainous and hilly sections of the country, could be made to produce agricultural crops only at high or excessive costs. It would require the pressure of a very dense population living under severe conditions to bring this about.

Whether land of relatively low agricultural value will be devoted to agriculture will in general be determined by the relative need for food and timber. Unquestionably there will be a shifting of forest land into agricultural use in some regions and localities and the opposite tendency in others. The area under each form of use is gradually being determined by the play of economic forces operating to effect a rough classification by the method of trial and error. The final area may be slightly less or more than our present area of 470 million acres. This area, however, may be taken as a fairly close approximation of profitable use for idle lands.

The Menace of Idle Forest Lands.

The first and most obvious effect of declining timber supplies and of idle forest lands in any State is the effect on the lumber industry. Sawmills are dismantled, and labor lacks employment. In consequence population falls off and communities melt away. Lumber and other forest products must be brought into the State, frequently from distant regions, so that other industries suffer, and some follow the lumber industry to new sources of supply.

Pennsylvania and Michigan furnish striking examples. In 1860 Pennsylvania, then heavily timbered, stood first in lumber production. By 1870 the lead had passed to Michigan, but the production in Pennsylvania continued to increase until as late as 1900. Since then it has fallen rapidly; in 1921 it was less than one-fourth the maximum; and per capita production fell from 420 board feet in 1890 to less than 60 in 1921.

Lumber consumption in Pennsylvania exceeded the cut for the first time between 1890 and 1900, and has since held

substantially without change. The State now imports approximately 80 per cent of the lumber used. The southeastern portion of the State, including the highly developed manufacturing district of Philadelphia, now imports practically all of its lumber. Except for a small quantity of low-grade material this is also true of the Lehigh Valley. The western part of the State is a large importer, the city of Pittsburgh alone using more lumber than the entire State produces. The yearly freight bill on lumber imported into Pennsylvania is now not less than $20,000,000.

The Pennsylvania railroads have to bring in most of their lumber and more than half of their ties from the South and the far West. The two coal regions are practically destitute of usable wood, and form a part of the so-called "Pennsylvania desert" caused by logging and fires. The country far and near is combed for mine timber. One large company obtains its props from Virginia, Pennsylvania, Maryland, Delaware, and North Carolina, named in order of the quantities they supply; its construction timber from Louisiana, Alabama, and Mississippi; and its ties, lagging, and short oak timbers from Pennsylvania. Yellow pine from the South constituted 75 per cent of the total lumber consumption of this mine in 1920.

Pennsylvania, with 17 pulp mills, ranks fifth in the United States in pulp production. Only one of these mills operates entirely on Pennsylvania wood, and all but two more import all of their wood. Seventy-four per cent of the pulp wood used in the State is brought from Ontario, Quebec, West Virginia, Maryland, Virginia, North Carolina, and Michigan. One company is relogging old hemlock operations for tops, stumps, and old logs. Because of their much heavier plant investment pulp and paper mills can not be shifted as readily as sawmills to follow the retreating forests; but rising transportation costs make competition with outside mills increasingly difficult.

In this respect the Pennsylvania situation is paralleled throughout the Northeast. Even Maine, New Hampshire, New York, and Michigan have to get part of their pulp wood from Canada, whence now comes one-fifth of all the pulp wood used in this country. In addition, one-fifth of

the wood pulp and large quantities of paper are imported. Transportation costs on Canadian pulp wood imported in 1921 were nearly $11,000,000. The average cost of wood at the mills has quadrupled in 20 years. The pulp and paper industry of the northeastern United States represents an investment of nearly $1,000,000,000. Its permanence is jeopardized by retreating supplies, due to idle lands.

Pennsylvania formerly had an important hemlock tanning industry. In 1871 Wayne County, with 19 tanneries, exceeded any other county in the United States in the value of its tanning products ($3,000,000). In 1885 but five tan-

MICHIGAN'S LUMBER CUT AND CONSUMPTION.

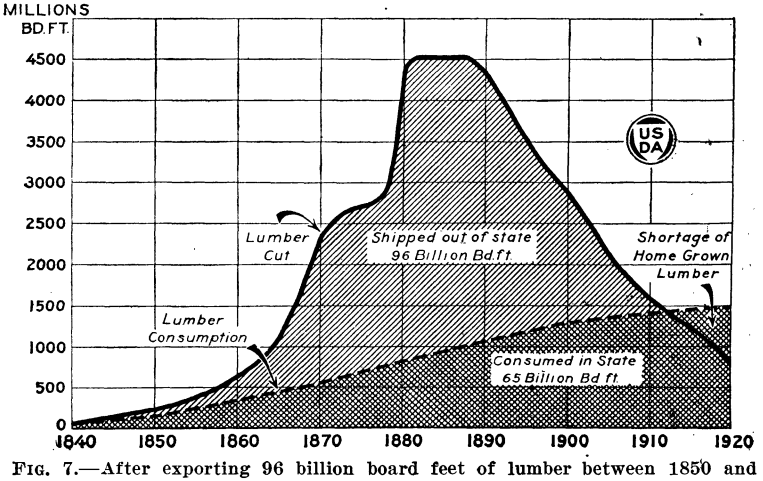


FIG. 7.—After exporting 96 billion board feet of lumber between 1850 and 1912, Michigan can no longer supply its own needs.

neries were in operation, and about 1905 the last of these closed down. Of the few hemlock tanneries left in the entire State, none, it is said, can operate more than five years.

The history of Michigan's lumber industry parallels that of Pennsylvania. The relation of cut and consumption is shown in Figure 7. Michigan exported nearly 100 billion board feet of lumber between 1850 and 1910, but in 1920 imported 1 billion board feet. The sources of these imports, on which the people and industries of the State paid a freight bill of approximately $15,000,000, are shown in Figure 8. There has been a constant shifting of local forest industries as the forests have been cut.

Hardwood timber in Michigan seems to have been first exploited by the cooperage plants. Woodenware plants followed as early as 1885. The handle industry developed later, and utilized the raw material more closely than either cooperage or woodenware plants. Twenty to thirty years ago cooperage, woodenware, and handle plants were scattered pretty generally over the southern peninsula. When the sawmills had cut out they moved on to new locations. Wood-distillation plants often cleaned up the smaller timber and the tops and limbs. Forest fires did as much as if not more than all other agencies combined to make the destruction complete.

A few specific examples will illustrate the menace of short-lived, shifting industries. A large woodenware plant was

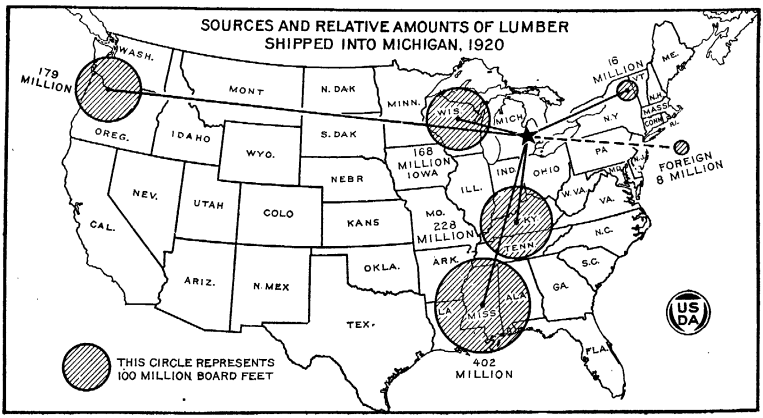


FIG. 8.—The "inexhaustible" forests of Michigan, mined during the 70's, 80's, and 90's, are now so depleted that the imports from the East, South, and far West are over a billion board feet of lumber a year. On this imported lumber the State pays an annual freight bill of $15,000,000. (Center of circle represents center of general region drawn on for timber.)

established in a Michigan county in 1885 because of its excellent hardwood. It employed about 100 men, who had permanent residence in the town where the plant was located. Although it used about a million feet of timber annually, it had never safeguarded its timber supplies, and the tributary timber was purchased about 1900 for manufacture into lumber. The sawmill, which employed 25 men, cut the timber in 13 years and moved on. The remaining small timber and woods waste was sold to a distillation plant. Forest fires destroyed young growth over large areas, and the water-

supply system of the town is said to have been seriously impaired because of the destruction of the forest cover. The population was 1,157 in 1900, but in 1920 had fallen to 624. Another town was established between 20 and 30 years ago around a woodenware plant, a handle plant, a cooperage industry, and a sawmill. All have gone with the exhaustion of the timber and have taken with them for investment elsewhere profits estimated by a local banker at about $500,000.

The furniture industry became of first importance in a Michigan city as early as 1867, because of the large stands of excellent hardwood in the vicinity. As cutting progressed the furniture plants were compelled to ship their lumber from increasingly distant points in the northern portion of the State, and in later years from still greater distances in the South. Factories turning out high-grade and therefore expensive furniture have been able to absorb the increased cost of raw material by adding it to the price of the furniture. Higher-priced raw material was, however, a more serious matter to factories turning out low-priced furniture, and a number have moved to the southern hardwood region.

The departure of local industries such as those described takes much in addition to the enterprises themselves. It removes opportunity for the employment of labor, cuts heavily into local markets for the farmer, and likewise cuts down the trade of local merchants. In the long run, shifting and temporary industries result in the economic and social demoralization of the communities and regions which they once made prosperous.

Naturally the leaders in such communities and towns struggle against the inevitable. This has happened in many towns in Michigan as elsewhere. One of them was formerly surrounded by one of the finest stands of pine and hardwood in Michigan. During the last 15 or 20 years the board of trade has made strenuous efforts to secure other industries, as one wood-using plant after another has had to suspend. A building large enough to house several factories was erected and free space offered as an inducement. The principal industry secured was a woodenware plant. This in a few years had used all the remaining accessible timber and was forced to migrate. The factory building put up at the expense of local business men remained empty; the effort to

attract permanent industries had failed. It failed because no one had recognized the menace of idle forest lands.

The forest and wood using industries of many other States are suffering similar effects from idle forest lands. Twenty-eight States, of which 22 were largely or altogether forested, import from 10 to more than 95 per cent of the lumber they consume, while of the 20 States whose production exceeds consumption the excess is in only 4 greater than 1 billion board feet a year and in only 5 between 500 million and 1 billion feet. More than half of all the lumber cut in the United States in 1920 came from the three Pacific Coast States and the three that fringe the Gulf of Mexico west of Alabama. In 1920 the per capita consumption of lumber in Massachusetts was 225 board feet, the cut 36 feet, and the growth 17 feet. Connecticut consumed 208 feet, cut 52, and grew less than 40. New York cut 425 board feet per capita in 1850, but only 40 in 1920, when consumption was five times the cut and the replacement was only 30 feet. Ohio grows less than 25 feet, but the 1920 cut was 43 feet and the consumption 245. Illinois, the second largest consuming State, cut 10 board feet, but consumed 375; and growth is little if any more than the cut.

Idle forest lands seriously affect transportation facilities. In Michigan a branch of an important railway system was built primarily for timber traffic. The timber was cut in a few years and passenger service on the branch was discontinued. The total incoming freight carried in 1914 on the 14-mile stretch at the far end of the branch was 99 tons, and the outgoing 3,363. The State railroad commission authorized the railroad to take up its rails the following year, citing in effect the following reasons: Former settlements and industries no longer exist; no one except farmers living in specified districts are being served; there is no reasonable prospect of future increase in traffic sufficient to produce revenue to pay expenses. The population of the township at the end of the branch was 47 per cent less in 1920 than in 1900 and 6 per cent less than in 1890, before the road was built.

This condition is by no means confined to a single road. On another in 1900, about a decade after its incorporation,

98 per cent of the freight of more than 230,000 tons originating on its line consisted of forest products. In 1915 they furnished less than 40,000 tons out of a total of about 165,000 tons originating on the line. Fairly good agricultural development seemed to be taking place in some localities. But after passing through several reorganizations the road ceased to operate in 1919 or 1920. The petition to the court to dismantle the road states, in part:

> The country tributary thereto is wholly unable to sustain a railway, * * * for many years the principal revenues of the road were derived from the hauling of logs and lumber. The timber along the line of the road has been almost entirely cut, and the revenues from this source have grown much smaller and are now of comparatively little consequence. * * * The lands adjacent to the line of the road are agriculturally poor and unproductive, the quantities of grain, hay, and other agricultural products to be drawn over the railway being insufficient to make the road sustaining. * * * No prospects that the conditions or volume of business * * * will improve.

These are merely a few examples of what is happening in a part of Michigan from which the virgin forests have been mined. When because of falling traffic railroad service is reduced or discontinued entirely, all other industries, all trade, all the inhabitants of the region, whether in the country districts or the towns, suffer from the effect. Idle forest lands also result in a reduction of property available for taxation and an increased burden of taxation on other property. The effect of timber depletion upon assessed valuations in Michigan is partly obscured by the very low valuations of timber while it remained and by the rapidly rising assessments of all taxable property throughout the State. But in the agricultural portions of the State the rise in total assessed property valuations has been considerably more rapid than in the portions containing large areas of denuded timberland.

Considerable good hardwood timber still remains in three townships of a county with tax rates of $31.85, $27.83, and $34.62, respectively. Four of the most completely denuded towns had tax rates in 1920 of $45.14, $47.58, $45.45, and $41.76. High tax rates, together with the loss of markets, have undoubtedly had much to do with the fact that in 1921 this county had 322 abandoned farms. The

population of the county decreased over 30 per cent between 1900 and 1920. Eight agricultural counties without large cities or manufacturing industries had in 1892 tax rates ranging from $8.16 to $16.47, and averaging $12.02, while eight other counties originally timbered but then partly cut over had tax rates ranging from $21.04 to $69.51, and averaging $28.74. In 1901 the average rates were $14.08 for the agricultural counties and $35.40 for the nonagricultural counties, which had then been largely denuded; in 1910, $15.86 and $34.55; and in 1919, $22.13 and $35.41, respectively. The heavier burden of taxation rests upon the population and industries of the depleted regions, which are much less able to carry it.

The drag of idle lands extends beyond the country districts. Six representative cities in the rich agricultural portions of southern Michigan had tax rates in 1919 ranging from $22.88 to $28.90 and averaging $25.85. Nineteen representative cities in the depleted territory for the same year had tax rates ranging from $31.79 to $78.59 and averaging $48.21. The excessive taxation burden for the towns in the cut-over territory was due, in part at least, to obligations undertaken while they were thriving centers of forest industries.

Idle land increases the tax obligations throughout the State. The State tax levied in 1919–20 on nine Michigan counties, all of which are cut over and largely denuded, was $256,793. Some of the counties failed to pay a considerable part of their quota, but the nine counties drew from the State school fund alone $295,020, or $38,227 more than the entire levy for State expenditures. Nine other counties, all cut over, got back within 10 per cent as much school money as they paid in State taxes. The deforested counties received additional amounts from the State in road funds.

That depopulation follows timber mining and constitutes another form of the idle-land menace is fairly obvious in the light of what has already been brought out. In all forest regions scattered areas of truly agricultural land ordinarily occur. Higher tax rates, poor transportation, dwindling markets, all handicap the farmer who has located on this land, and many farms are abandoned in consequence. There is a striking contrast between the popula-

tion changes that are taking place in the southern counties of Michigan and those taking place farther north.

For various reasons, one of which is that through increased efficiency fewer people are required to produce the same crops, many agricultural districts in the United States have decreased slightly in population during recent decades. In most of these regions, however, the increase in population in the towns more than offsets the loss in the country. Seventeen out of 37 of the southern counties of Michigan, for example, lost population between 1910 and 1920, but the region as a whole gained 900,000 people, including 255,000 outside of Wayne County, in which Detroit is situated.

Counties within the cut-over portion of the Lower Peninsula, however, are losing population in both the rural districts and the towns. Of 31 counties 25 had less population in 1920 than in 1910, and the whole region lost 50,000 people, or 12 per cent. The only places of 5,000 or more in northern Michigan to gain during the decade were two depending upon mining and one a forest industry town whose plants still have a few years' operation left. Every place with over 5,000 population in the southern agricultural and industrial portion of the State, 27 in all, gained during the decade.

Some of the most striking examples, however, of the menace of idle forest lands as measured by depopulation are found in the rural townships. A few examples will be given in addition to those already mentioned. None of those selected have towns exceeding 5,000. Losses in population have followed the decline of forest industries operated upon the plan of timber mining rather than the production of timber crops.

One township had 177 people in 1890. Between 1890 and 1910 its extensive pine forests were cut and sawed at a thriving town with several sawmills. In 1900 it had 1,927 inhabitants; in 1920, 568. The only railroad was taken out after the pine was gone. The township can not hope to retain even its present population if its lands remain idle.

Another township had 2,042 people in 1900. It had a very large hardwood chemical plant, besides a smelting plant for charcoal and iron. The plants closed after the hardwood supplies were exhausted, and in 1920 the population had

fallen to 780. Two townships with hardwood lumbering operations supported in 1910 a population of 1,064. Except for a few scattered forties, the hardwood is now gone; and the population in 1920 was 588.

Pennsylvania forest towns have had the same history. One, the State forest commissioner reports, grew up about a sawmill and a large tannery which began operations about 1890. At its heyday, about 1910, the town contained over 100 houses, also stores, town hall, church, and school. A logging spur and well-kept county road afforded an outlet to a main-line railroad. The State forestry department was forced to build a station in 1914 for a forest ranger because there was no vacant house in town. The tannery ceased operations and the sawmill, the only other industry, followed in 1920. The town site, houses, stores, school, and church were then sold for about $5,000. Buildings are being torn down and in a short time only the forest ranger will be left, whose purpose will be to replace the forests which created the town and were its sole support.

Examples could be multiplied, but enough have been given to show beyond the shadow of a doubt the menace upon population of both towns and country districts of idle forest lands. Many of the people who left would, with any future hope, have preferred to stay, because leaving undoubtedly meant hardships and beginning life anew. To many leaving meant little short of disaster.

To stay meant disaster, too—slow disaster of the kind that has overtaken many thousands in every forest region from which the timber resource has been exhausted. Those who cling to their homes are left to struggle impotently against rural decadence. The chief support of the economic life of their communities removed, social life also disintegrates. Capital and industry have flown away, and with them paying work. Stores close, farm products lack a local market, neighbors leave, churches and schools are emptied, property values shrink, roads are no longer kept up. Even with heavy taxation the public expenditures necessary to maintain the life of the community on a high level can no longer be made. Isolated, poor, and without much hope or incentive to effort, the scattered remnant of population sinks backward from all that makes life worth living. Such con-

ditions breed illiteracy and thriftlessness, and furnish insane asylums and penal institutions with an undue proportion of their inmates.

Idle forest lands, far from being neutral, therefore aggravate our problem of land use by their evil effects upon the forest and wood-using industries, upon transportation, upon taxation, and upon population. No region or State, much less the country, can afford to let them remain idle if a profitable use for them can be found.

Continuous Use of Forest Land Necessary to Permanent Prosperity.

In contrast with the menace of idle forest lands, continuous use will afford permanent development and prosperity for local communities and regions. Not least among the benefits which standing forests and forest industries afford to any State or region is wealth for taxation. The present system of timber taxation is unquestionably imperfect, but any future modifications must recognize the basic need for a fair contribution to the public revenue.

In the State of Washington the best data obtainable indicate an assessed valuation on timberlands of about $100,000,000, and on the lumber industry, aside from timber, of about $50,000,000, a total of $150,000,000 out of a grand total for all property in 1920 of about $1,195,000,000. The total for timber and the lumber industry was under the total amount for improved agricultural land in the State by about one-fourth. The taxes on timberland alone made up about 8 per cent of the total levied for 1921 for all purposes, and on other property invested in lumber manufacture about 3 per cent, making a total of approximately 11 per cent, or in excess of $7,000,000. In some of the heavily timbered western counties the contribution of timberlands alone reaches 50 per cent of the total taxes. Additional taxes are paid by dependent wood-using industries and by the large number of people whose livelihood depends directly and indirectly upon the forests.

Similar conditions obtain in Oregon, where the remaining timber stand is even larger. The assessed valuation of taxable forest lands is about $141,000,000, and that of other

property used in the lumber industry about $40,000,000, making a total of approximately $180,000,000. Timberland pays a tax of approximately $5,640,000, and other property used in the lumber industry $1,600,000, a total of $7,240,000, or in the neighborhood of 18 per cent of the total taxes of $41,117,367 levied in 1921 for all purposes. Outside of cities and towns it is estimated that the lumber industry pays a third of the taxes in the State. In some of the more heavily timbered counties the percentage runs even higher, and in Clatsop County, for example, the lumber industry pays over 60 per cent of the county taxes. In several other counties standing timber pays approximately half their taxes.

In 1920 the lumber industry in Washington and Oregon paid in taxes about $1.60 for each thousand feet board measure of lumber cut. The cut was nearly 9 billion board feet, but under intensive forestry it would be possible to grow and harvest 16 billion board feet or more per year, or nearly twice the 1920 cut. This means an enormous taxable resource which can be made permanent.

A few examples from widely separated regions serve to illustrate the contrast from the standpoint of public revenues between timbered lands and near-by denuded lands of similar character. The average assessment in the western part of the State of Washington on standing timber is in the neighborhood of $26 per acre, on logged-off lands $9.32. One timbered section assessed at approximately $80 per acre adjoins a cut-over section assessed at $2.50 per acre. In New Jersey the State forest park commissioner estimated that a forest area of 2,000,000 acres was assessed at $4,000,000, but under timber-crop production might be made to return taxes on an assessed valuation of $200,000,000. The average assessed value of standing pine timber in Louisiana in 1920 was estimated at about $42.50 per acre; of cut-over lands, at $5.25. In Mississippi it is reported that cut-over land is assessed at $3 to $4 an acre, while standing pine timber is assessed at $6 to $8 per thousand feet, with stands running from 6,000 to 10,000 feet per acre—an equivalent to from $36 to $80 per acre assessed value.

In New Hampshire the contrast is between the tax value of denuded land and second growth. Cut-over timberland, if fairly well located, is generally assessed at about $4 an acre; on the sides of mountains assessments go as low as $1

an acre. A 40-acre tract of second-growth pine saw timber about 50 years old, containing 750,000 feet board measure, is assessed at $6,000. On a $4 valuation this land would pay a little under 10 cents per acre in taxes if cut over; it now pays $3.66, or over 36 times as much. In central New Hampshire softwood stands generally vary from 10,000 to 60,000 or even 70,000 feet to the acre, worth, if within 3 or 4 miles of railroad or water transportation, from $8 to $10 or more a thousand feet. At these amounts the taxable values of the timber would be anywhere from $80 to $700 per acre. In one of the unorganized towns in New Hampshire there are 6,000 acres of spruce and 11,000 acres of cut-over land. The latter pays about 8 cents per acre taxes, the former about $1.40, or 17½ times as much.

Again, abundant standing timber affords large employment to labor. In 1919 the Industrial Insurance Commission of Washington reported that the lumber industry paid 40 per cent of the total pay roll of the State for hazardous occupations, aggregating $227,995,862.25. It is estimated that in excess of 15,000 men were required by the railroads to handle the lumber output of Washington and Oregon. It is also estimated that upward of 10,000 sailors, longshoremen, stevedores, and others were employed in the water transportation of lumber. A total of 60,088 additional persons are engaged in the lumber industry. A large percentage of the State's total population of about 1,350,000 was directly dependent in 1919 upon the forests for a livelihood.

Timber is also an important source of railroad traffic. The annual reports of the Northern Pacific, Great Northern, Oregon & Washington, and Chicago, Milwaukee & St. Paul Railroads for the year 1920, on file with the public service commission at Olympia, show that of the slightly less than 21 million tons of traffic originating in Washington nearly 13½ million were products of the forests. Under intensive timber cropping Washington could grow on its present forest area from 1 to 2 billion board feet per year more than its sawmills cut in 1920.

The Georgia State Board of Forestry, in a report to the general assembly of 1922, estimated that the returns to the State from timber and forest products had during the past 25 years amounted to more than $1,500,000,000.

A comparison of regions with virgin timber stands and regions such as New England, where 95 per cent or more of the cut is second-growth timber, is illuminating. The present forest area of the New England States is 25.7 million acres, as compared with 17.5 million acres in the State of Washington. Stumpage returns to the owners in Washington for the lumber cut, as indicated by the 1919 census, were about $15,250,000, while those to New England owners were nearly $12,500,000. Washington farmers utilized from their own lands timber worth a little more than $1,750,000, while New England farmers used timber worth approximately $10,750,000. The value of the products of the lumber industry in New England, as a whole, was reported by the 1919 census as nearly $120,250,000, as compared with a value of nearly $235,000,000 in Washington. In the most heavily timbered State in New England, Maine, the pulp and paper industry has largely replaced the lumber industry, and its consumption of domestic pulp wood in 1920 had a value delivered at the mills of approximately $26,000,000. The census reports 76,154 persons in the combined lumber and pulp and paper industries of New England in 1919, as against the 60,088 in the lumber industry of Washington. The New England industry is being supported by second-growth timber crops, largely voluntary, while that of Washington is supported wholly by virgin forests.

It is necessary to go abroad, however, to appreciate the full significance of continuous use of forest land to permanent local development and prosperity. No better example can be found than that of the French Landes. Three-quarters of a century ago the southern part of the west coast of France, including the Landes and Gironde Departments, was largely an unhealthy waste of sand and swamp. There were no roads, and the chief industry was sheep and goat raising. The region was seriously threatened by shifting sands blown in from the coast. Land could be bought at almost any price.

Out of this area of swamps and shifting sand dunes, with a malarial, scanty, and poverty-stricken population, the French Government, through reclamation and the planting of maritime pine, has made one of the most prosperous and salubrious regions of France. An area of slightly less than

2 million acres supports a population of about 1,400,000, and as a health resort is visited by about 200,000 people each year. The reclamation and reforestation of something over 1½ million acres cost on the average only $6.41 per acre. The estimated net forest revenue of the Landes district is $2,702,000 per year, or about $2.22 per acre. The naval stores industry is second only to that of the United States. About 81 per cent of all the workmen employed in lumbering and turpentining operations are small holders of land within and adjacent to the forests. The returns from timber and turpentining make it possible to cultivate profitably the scattered areas of agricultural land which otherwise would be valueless. The principal crop in the Landes became turpentine and timber, not sheep or goats; and important incidental uses and benefits have swelled the value of these forests to the region and to France. Europe affords many similar examples.

The United States can show some examples of permanent communities built up around continuous forest land use. Some 75 years ago a wood-turning establishment, employing about 50 men, was located at Forestdale, Vt. The establishment has gradually been enlarged and toys added to its output. The company has built up an 8,000-acre tract which is gradually being brought under intensive forest management, and when this is done it will practically support the wood requirements of the company on the present scale of production. The number of employees of this company has gradually been increased from 50 to 200. A permanent industry makes possible permanent residence on the part of the employees, many of whom own their own homes, and some of whom have been constantly on the pay roll from 35 to 40 years. The labor turnover is less than 5 per cent a year.

Continuous use of forest land insures permanent lumbering operations, permanent sawmills, permanent transportation, permanent secondary wood-using industries, better opportunity for the individual ownership of homes by employees, permanent schools with necessarily higher educational standards—the kind of citizenship which every region and State welcomes. Permanent forest industries mean sustained local markets for the products of scattered areas

of agricultural land characteristic of most forest regions. They afford opportunities for part-time employment to supplement farm incomes. They prevent the isolation of the sparse population which inevitably follows forest denudation.

The Timber-Supply Problem.

The second serious problem which has grown out of timber mining is how to obtain the timber necessary to meet our requirements. The best understanding of what these requirements are may be secured from an analysis of our present timber consumption.

WOOD CONSUMPTION—UNITED STATES AND REST OF WORLD.

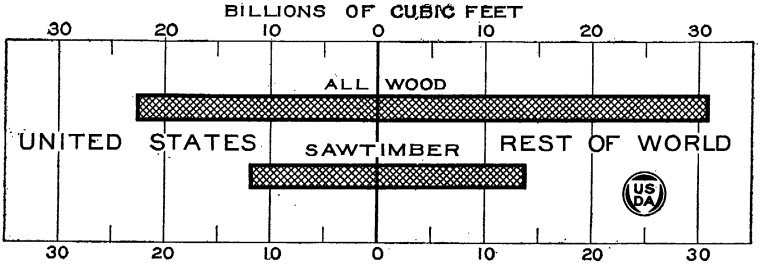


FIG. 9.—The United States consumes nearly as much wood as all the rest of the world.

Present Timber Consumption.

The United States uses more wood than any other country, and about two-fifths—22½ billion cubic feet in round numbers—of the total world consumption. Of saw-log timber the United States uses about 12 billion cubic feet, or nearly half the world's consumption of 26 billion feet, and of firewood 9½ billion feet, or nearly one-third the world's consumption of 30 billion feet. (Fig. 9.) Its per capita consumption is 212 cubic feet, of which 110 cubic feet (502 board feet), or 52 per cent, is saw-log timber, and 102 cubic feet, or 48 per cent, cordwood.

The exports of forest products are so nearly balanced by imports that cut and consumption are practically equal. The cut of 22½ billion cubic feet, however, does not repre-

sent the entire drain upon the forests of the country. Forest fires, windfalls, insects, and diseases exact every year a toll of usable timber estimated at nearly 2½ billion cubic feet. This does not include the normal loss which occurs in virgin forests through the death and decay of individual trees, but only the large-scale ravages, assuming, in the case of insects and fungi, the character of epidemics such as the chestnut-blight disease or the spruce bud worm. The loss of individual trees in virgin forests is probably offset by growth. Much of the loss caused by fire and also by insects and disease is preventable, but, under present conditions of inadequate fire protection and a lack of close management in most of our forests, constitutes as regular an annual drain as the cut itself. The total annual drain upon the forests is therefore close to 25 billion cubic feet. Its make-up is shown in the following table:

Timber removed each year from forests of the United States.[1]

Form of material.	Equivalent in standing timber.	Possible lumber production from same material.
	Cubic feet.	*Board feet.*
Fuel wood	9,500,000,000	5,000,000,000
Lumber, dimension material, and sawed ties	8,256,300,000	37,700,000,000
Fencing	1,800,000,000	825,000,000
Ties, hewed	840,000,000	2,100,000,000
Pulp wood	585,000,000	2,340,000,000
Mine timbers	395,550,000	879,000,000
Cooperage	314,820,000	1,426,500,000
Veneer logs	105,980,000	691,200,000
Vehicle stock, handles, woodenware, furniture, etc	45,800,000	200,000,000
Shingles	198,000,000	900,000,000
All other classes	364,050,000	882,000,000
Total	22,405,500,000	52,943,700,000
Destroyed by fire, insects, disease, and windfall	2,380,000,000	7,250,000,000
Grand total	24,785,500,000	60,193,700,000
The cut may be grouped as:	*Cubic feet.*	*Per cent.*
Fuel wood	9,500,000,000	42.4
Sawed lumber	8,256,300,000	36.8
Other forest products	4,649,200,000	20.8
	22,405,500,000	100.0

[1] One thousand feet of seasoned, unplaned lumber has been considered the equivalent of 219 cubic feet of standing timber, including stumps and tops, but excluding branches. For other items different ratios, depending upon the character of the material, have been used.

Of this total cut, 11,615,430,000 cubic feet, or 52 per cent, is derived from trees that could be sawed into lumber (or "saw timber"), and 10,790,070,000 cubic feet, or 48 per cent, from trees below saw-log size, tops, and limbs (or "cordwood material"). The following table shows the percentage of the total cut of saw timber, and also the percentage of the total cut of saw timber and cordwood material combined, accounted for by the various forest products:

Class of product.	Per cent of saw timber.	Per cent of saw timber and cordwood.
Fuel wood	9.4	42.4
Lumber, dimension material, and sawed ties	71.2	36.9
Fencing	1.6	8.0
Ties, hewed	4.0	3.7
Pulp wood	4.4	2.6
Mine timbers	1.7	1.8
Cooperage	2.7	1.4
Veneer logs	1.3	.5
Vehicle stock, handles, woodenware, furniture, etc	.4	.2
Shingles	1.7	.9
All other classes	1.6	1.6
	100.0	100.0

Firewood, with 42.4 per cent of the total cut, forms the largest single item. Even this is probably an underestimate, as of all the items this is the one concerning which there is least information. In most of the European countries firewood is derived from thinnings, tops, and other material unsuitable for saw timber, and is largely a by-product of the growing of saw logs. In the United States also some of the firewood is derived from logging waste, dead trees, and scattered trees not in the forest; but, on the other hand, a considerable part (9.4 per cent of the total cut) is derived from saw timber; also young trees which should be left to grow into saw timber are very often cut.

Firewood is the only product that is now being grown plentifully in the forests of the United States. Under rational forest practice its production could be made a means of improving the stand, through thinnings and utilization of inferior species and poorly formed or unthrifty trees.

The next largest item is sawed lumber, which forms about 37 per cent of the total cut of wood and 71 per cent of the cut of saw timber. Fencing, hewed ties, pulp wood, mine timbers, and other forest products make up about 19.4 per cent, or 10¼ billion board feet, of the 53 billion board feet of saw timber cut in the United States. Many of these forest products, such as fencing, mine props, pulp wood, and even hewed ties, could be obtained, just as in the case of firewood, from thinnings, tops of trees, and other low-grade material. At present they come mostly from high-grade saw timber or from young, thrifty trees which are cut prematurely, thereby contributing to the depletion of high-grade saw timber. Even much of our eastern boxboards, which form nearly 16 per cent of the total amount of sawed lumber, could come from thinnings instead of young, thrifty, promising trees, as at present. We are using, therefore, a large percentage of high-grade saw timber for low-grade products for many of which low-grade timber would be just as suitable.

The percentages shown in the table do not always bring out the actual relation of the cut to the available forest resources. Thus, while the cut of pulp wood constitutes only 2.6 per cent of the total cut, pulp wood derived from conifers forms 4.5 per cent of the total softwood cut. And in the Northeastern States, where the pulp and paper industry is at present centered chiefly, the consumption of pulp wood (spruce and balsam) equals 76 per cent of the entire cut of spruce. In New York the ratio is 94 per cent. The pulp mills, because of the closer utilization and the higher value of their manufactured product, can almost invariably outbid the lumbermen for spruce, which has now become almost exclusively pulp-wood material. The same is true with regard to other forest products, such as shingles. Shingles are derived from large trees of a few species, such as cypress, western red cedar, and eastern white cedar, the supply of which is becoming limited.

By species the cut also presents significant features. Softwoods (pine, spruce, fir, etc.) represent slightly more than half of the total production, or 53 per cent, and hardwoods (oak, poplar, birch, beech, maple, etc.) 47 per cent. For firewood the hardwood species are used in greater quan-

tities than the softwoods, while in the cut of material for all other purposes the softwoods predominate. They comprise about two-thirds of the total cut of saw-log material and three-fourths of the cut of sawed lumber.

Conifers supply the bulk of the timber consumption other than fuel not only in the United States but in the entire world. Of the present consumption of wood in the world, three-fourths is from coniferous forests and about one-fifth from temperate hardwood forests. Abundant coniferous forests have materially aided in the development of this country. They must also be looked upon as our chief future source of saw timber. The temperate hardwoods are on

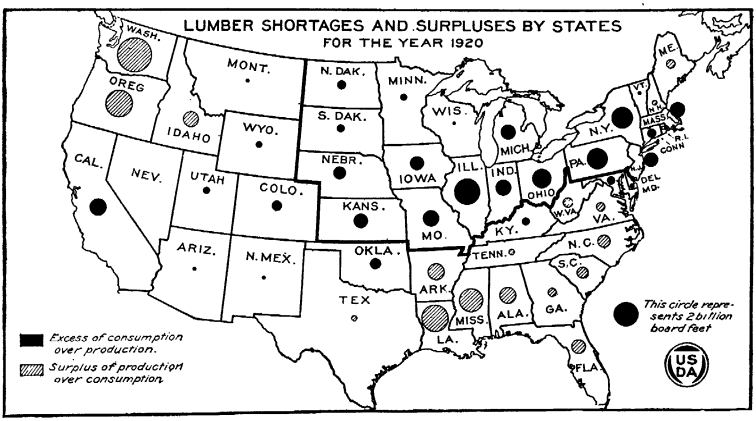


FIG. 10.—Our greatest industrial and food-producing regions—the area north and east of the heavy line—cut only 23 per cent of the lumber they use, and must ship in 77 per cent, chiefly from the South and far West.

better soil than the conifers, for the most part, and are chiefly in the more densely populated region, where the pressure for agricultural land is strongest and most persistent. Moreover, the second-growth hardwood stands are cut freely for firewood and various minor products before they reach saw-timber size, so that relatively little saw timber could be obtained from them for some time even if their lumber could replace that of conifers. The crux of the timber situation in this country, as everywhere else during the next two or three generations, at least, lies in finding a sufficient supply of coniferous saw timber.

A further analysis of our present requirements discloses a discrepancy between the centers of the greatest lumber cut

and consumption. Only three regions—the South Atlantic and Eastern Gulf States, the lower Mississippi States, and the Pacific coast—have an excess of production over consumption. In all others lumber consumption is far in excess of the cut. Of the 48 States, 28 fall short of meeting their own requirements.

The principal food-growing region, comprising the States of North Dakota, South Dakota, Minnesota, Iowa, Nebraska, Kansas, and Missouri, imports 77 per cent of the lumber it consumes. Similarly, the principal manufacturing region, comprising the States of Wisconsin, Illinois, Michigan, Indiana, Ohio, New York, Pennsylvania, New Jersey, and the New England States, produces only 32 per cent of the total lumber consumed. (Fig. 10.)

The present cut, if taken wholly from the actual growing forest area of 250 million acres, would be 90 cubic feet per acre. The average production per acre on this growing area is estimated at 24 cubic feet. The present annual growth is estimated at 6 billion cubic feet of wood of all sizes and qualities. This represents less than one-fourth of the total drain upon the forest, including loss through insects, diseases, and windfall. The total drain upon the forest of saw-log material, in round figures, is 60 billion feet board measure. The annual growth of saw-log timber is only 10 billion board feet; hence the drain upon the forest is over six times as great as the replacement of saw-log material through growth. The actual cut is 53 billion board feet. This is shown graphically in Figure 16. As a matter of fact, little of the very old, high-grade timber which now occurs in virgin forests is being replaced, and it is unlikely that such material will ever be grown again, except in public forests.

A comparison of the annual drain upon the forests and the annual growth, separately for hardwoods and softwoods, is given in the table below:

Species.	Total drain [1] on the forests.	Annual growth.	Ratio of drain to growth.	Total drain [1] of saw timber.	Annual growth of saw timber.	Ratio of drain to growth.
	Million cu. ft.	*Million cu. ft.*		*Million bd. ft.*	*Million bd. ft.*	
Hardwoods	11,260	3,236	3.5	19,136	5,104	3.7
Softwoods	13,526	2,803	4.8	41,058	4,770	8.6

[1] Cut and destroyed.

Coniferous saw timber is being removed from our forests $8\frac{1}{2}$ times as fast as it grows, hardwoods only 4 times. A great part of the hardwood cut is for fuel wood. Since the softwood timber is the best of all woods for general purposes and is most in demand all over the world, its depletion at such a rate is particularly serious. The only reason that the present cut can be maintained for the time being is that the virgin timber from which the bulk of the cut is now derived represents, like coal deposits, an accumulated growth of centuries.

Not a single region, even the regions of the largest forests, are balancing their own present consumption of timber through growth. In the New England States only about one-third of the actual consumption of lumber is supplied by annual growth; in the Middle Atlantic States one-seventh; in the Lake States, less than one-third; and in the Central States, one-sixth. In the South Atlantic and Eastern Gulf States, a region of low consumption, four-fifths of the requirements are covered by annual growth; in the lower Mississippi States, a little over half; and in the Rocky Mountain and the Pacific Coast States only about one-fourth. The small present timber growth in the Rocky Mountain and Pacific Coast States is due, however, to large areas of virgin timber in which growth is offset by decay. As the virgin timber is cut the growing area and the amount of growth should increase. The regions which at present have an excess of lumber cut over consumption comprise largely States which are developing rapidly both in agriculture and manufactures. Their consumption is in excess of the amount of wood produced by growth, and their cut is still more so. As their own resources become depleted and their own local requirements increase, they will need most of their present lumber cut for home consumption.

The outstanding facts regarding our present consumption are: Its enormous size; the large extent to which, particularly in the case of saw timber, it is being cut from virgin forests; the extent to which high-grade material is used for purposes for which smaller material would be satisfactory; and its excess over growth.

Transportation and Lumber Prices.

Another serious phase of the timber-supply problem is the high prices of forest products. They increase the

amount which the consumer has to pay and reduce the quantity which he can purchase. High lumber prices increase the cost of a vast number of other commodities. High lumber prices have as one of their chief contributing causes the increasing distance between the centers of lumber production and consumption as the timber is mined from more and more distant regions.

One of the cumulative results of 300 years of timber mining was in 1920 a lumber freight bill on the American railroads of approximately $230,000,000, and water freights aggregating an additional $20,000,000. This total of $250,000,000 is, however, but a small part of the price which the American consumer paid. High freight is an added charge on which the lumber dealer pyramids his distributing costs and profits. Long-distance transportation from manufacturer to dealer makes necessary the holding of large stocks, hence large investments which also must pay profits, so that added investments, costs, and profits built up upon the freight bill add to the final price which the consumer pays for lumber. Furthermore, increased lumber prices are multiplied in the prices of all other commodities in the manufacture of which lumber is necessarily used.

Though the lumber cut has fallen in the last decade, the consumer's lumber freight bill has increased—more must be paid for less. Longer hauls and higher freight rates much more than offset the decline in production. In 1910, 1913, and 1914 lumber freights averaged nearly $100,000,000 less than in 1920. The average per thousand feet on rail shipments for the three years first named varied between $3.75 and $3.85; in 1920 it was approximately $7.30. The average rail haul in 1914 was about 350 miles, but in 1920 more than 480 miles. These averages include short reshipments by lumber dealers and are therefore understatements of both the distance and the cost of transportation from producer to consumer. The water haul also has increased.

The lumber cut is gradually shifting from the South to the far West. In 1920, 34 per cent of the cut was in the South and 31 per cent on the Pacific coast. Of the total cut 45 per cent was consumed in the territory east of the Mississippi and north of the Ohio and Potomac Rivers. The center of consumption of this region is approximately at

Erie, Pa., distant 1,200 miles by rail from the approximate center of southern-pine production at Hattiesburg, Miss., but 2,750 miles from Portland, Oreg., which is roughly the center of Douglas-fir production on the west coast. (Fig. 11.) An increasing length of haul is therefore certain.

New York's rail freight bill on imported lumber for 1920 was approximately $22,500,000, and that of Pennsylvania at least $20,000,000. Massachusetts and New Jersey each paid a freight bill of about $8,000,000, and Connecticut $3,000,000. Michigan's bill probably exceeded $15,000,000. The bill for the New England States as a whole was between $13,000,000 and $15,000,000, while that for the three Lake States, for three decades or more the largest lumber exporting region in the United States, probably exceeded $30,000,000. In 1920 freight cost Ohio in the neighborhood of $13,500,000, and Illinois more than $28,000,000.

A short, cheap lumber haul was characteristic of our early forest history. Maine to Boston, the upper Hudson to New York City, and the Pennsylvania river traffic to Philadelphia and Pittsburgh illustrate the long hauls by which lumber moved in volume up to the time of the Civil War. The distance from Bangor to Boston is about 225 miles and from the upper Hudson to New York less than 200 miles. The rafting of the Pennsylvania rivers rarely covered more than 400 miles. Early transportation costs are lacking, but in later days the Bangor-Boston haul cost about $2 a thousand feet. Apparently much of the "Albany" pine reached New York with a transportation charge of $1 a thousand, and even the Buffalo-Tonawanda shipments were largely made for less than $3.

Likewise the early rail shipments were relatively short. The rates at first were excessive as compared with present standards, but lumber did not move in volume until transportation was well developed and the rates had fallen. The Bangor-Boston rate, for example, until the last few years averaged about $3 a thousand feet. That from Williamsport to Philadelphia, less than 200 miles and fairly representative of Pennsylvania hauls, ranged from $2.25 to $3.

The cutting of the Lake States pine ushered in a new era in transportation distances and costs. While prior to 1860 a lumber haul of 500 miles was exceptional, and even half

this distance much above the average, a large part of the Lake States cut, even to middle western markets, moved more than 500 miles; and New York is 1,000 miles by water from Saginaw, one of the nearest points of manufacture in the Lake States territory. Water transportation on the Great Lakes, the Erie Canal, and the Mississippi helped amazingly to keep down costs. Rafting both logs and lumber on the Mississippi after it was well organized frequently cost less than $1 a thousand feet. Millions of feet of cork

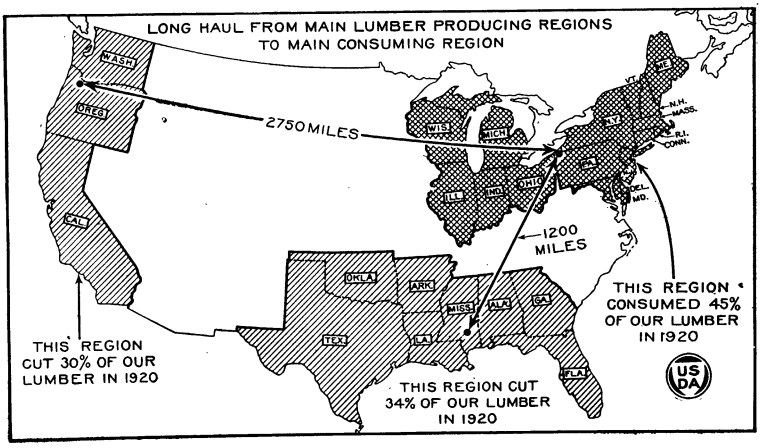


FIG. 11.—The average rail haul for lumber is increasing with the shift of the cut from the South to the Pacific Coast. The Pacific Coast States cut 30 per cent of our lumber in 1920 and the Southern States cut 34 per cent. Forty-five per cent of our lumber was consumed in the region east of the Mississippi and north of the Ohio and Potomac Rivers.

pine cost for transportation on the New York wharves less than $5 a thousand, and at times not more than $3. Chicago for many years received hundreds of cargoes of lumber at a freight of $1 a thousand or less, and $2.50 or $3 represented about the maximum. Rail transportation, bringing many advantages, was responsible also for increased costs. After an era of high levels with little movement, rates settled down during a period of fierce cutting and rebating to much lower levels, but it still cost $6 or $7 to carry lumber from Saginaw to New York. Apparently much of the Lake States cut cost the consumer in transportation $5 or less per thousand feet, and relatively little carried a charge exceeding $10.

When the timber mines of the Lake States were approaching exhaustion, southern pine shipments began over

much longer distances and at higher rates. Beginning on the Atlantic coast after the Civil War, they were small in volume by rail to the interior until after 1890. Water distances ranged from a minimum of 300 miles from Norfolk to Philadelphia to 2,000 or more from Gulf ports to Boston. Aside from purely local markets, the distances by rail were ordinarily in excess of 750 miles and frequently exceeded 1,000, as illustrated by the distance from Hattiesburg, Miss., to Boston of more than 1,500 miles, or to Pittsburgh of 1,100 miles. On the average, water-haul transportation costs from the southern-pine regions were mostly above $5 and sometimes reached $8. Rail freights ranged from $7.50 to $13. Postwar rail rates, under which lumber is still moving in large amounts, are much higher, averaging from $12.50 to $15 or more per thousand feet. The water movement is now relatively small.

But even these distances and costs are small as compared with those from the Pacific coast. By water Puget Sound is nearly 7,000 miles from New York. By rail Omaha is nearly 2,000 miles from Portland, Chicago is 2,300, and New York is 3,200 miles. The pre-war water rates of $12 to $16 per thousand feet from Puget Sound to Atlantic coast points are now approximately 25 per cent higher, and the pre-war rail rates of $12 to the Middle West and $20 to New York have jumped to $17.50 to the Middle West and $25 to the Atlantic coast.

Increasing distances between producer and consumer have inevitably resulted in higher lumber prices. Growing inaccessibility of the standing timber even within the same regions has had exactly the same effect, though smaller in degree. The scattered data on lumber prices which have come down from colonial New England show that from the installment of the first sawmills until as late as 1736 pine lumber prices were commonly around $5. The cutting of this period took only the most accessible timber, investments were exceedingly small, and carrying charges on stumpage were practically nil. Hauls were very short, with a maximum of 250 miles, and costs were low. Between 1748 and 1775 prices show a slightly higher level, averaging about $8.50 per thousand feet, due in part to cutting out the most accessible timber.

Merchantable pine sold on the Boston markets between 1799 and 1834 for $10 to $14 per thousand feet. This was relatively accessible material from the Kennebec and Machias regions of Maine. With the cutting out of this material and the beginning of operations in the more remote Penobscot timber, prices rose to a new level of $16 or $20 per thousand, which was maintained from 1835 until about 1852. The latter year, however, marks the beginning of the end of the Maine pine. Only the more remote timber remained for cutting. Spruce began to come into the Boston market and Maine pine rose to a new level, which it held, barring the period of inflation of the Civil War, until it disappeared from the market shortly after 1880.

The wholesale price of round-edge 1-inch white-pine box boards in the New England markets carries with it a lesson of importance, particularly in relation to the stumpage prices of the second-growth pine from which this material is cut. The prices of this material ranged between $10 and $13.50 per thousand feet between 1890 and 1907. They then rose gradually until during the war inflation they exceeded $30, but have since fallen off to $24.50. These are wholesale prices which the New England manufacturer pays for box boards in his immediate vicinity. The hauling cost is very low. At these prices native pine box boards exclude, in competition, box boards of all other species from all other regions. These prices, however, plus the increased returns made possible by a relatively small cut of higher-grade material, have, as will be shown in a subsequent section of this article, permitted stumpage prices on second-growth New England pine as high as or higher than on any other softwoods in the United States, virgin or second growth.

In western markets the change in price levels with failing local supplies and increasing transportation costs is as definite and clear-cut as in the East. The cheap local haul from the Lake States to Chicago held cargo prices on white-pine boards, from 1859 until 1902, between $7 and $16 per thousand feet, and it was not until southern pine entered this market in volume, when white pine could no longer meet requirements and became more and more a specialty wood, that prices reached a new level of from $22 to $25. This level held between 1905 and 1911, after which quotations are no longer available. Similarly, retail prices in the

Chicago market between 1849 and 1898 on rough white-pine boards varied mostly between $10 and $13. A period of transition followed the introduction of yellow pine, and a new price level of from $30 to $33.50 was established which held from 1906 until 1916.

The relation between increasing transportation costs and the rising price of lumber is shown very specifically by the records of a group of retail yards in Minnesota. In 1905 nearly 91 per cent of the lumber sold consisted of northern pine and Wisconsin hemlock, and the remainder was made up about equally of Douglas fir and western white pine and southern yellow pine. The average freight cost on the lumber sold was $3.25 per thousand feet, and the average retail selling price was $26.03. In 1913 pine and hemlock production had fallen so far that they formed less than 60 per cent of the sales, while west-coast shipments had increased to make up more than 37 per cent. The average freight cost had risen to $6.75, and the retail selling price to $32.28. In 1921 Wisconsin hemlock no longer appeared in the sales and northern pine made up less than 8 per cent of the volume. In excess of 92 per cent of the sales consisted of Pacific-coast timber. The average transportation cost had risen to $18.12 and the selling price to $53.58. In short, a transportation cost in 1905 of $3.25 made possible a retail selling price in southern Minnesota of $26.03, but a transportation cost of $18.12 in 1921 had been instrumental in no small part in more than doubling the retail selling price. Furthermore, the transportation cost increased from 12½ to nearly 34 per cent of the total retail price.

The report on Senate Resolution 311 shows that under the abnormal conditions of 1920 the difference in retail prices between producing and consuming regions for the same species and grades of timber were very much greater than the cost of transportation alone. This condition still holds true. An average of retail prices in Portland, Seattle, and Bellingham, Wash., on Douglas fir vertical-grain flooring during the month of August, 1922, was $60 per thousand feet. The freight rate on this grade to Minneapolis was $12.50, but the retail price was higher than that in the producing region by $28. A freight rate to Boston of $18 made a difference in retail prices of $40, or approximately

two-thirds of the retail price of the grade in the region of its manufacture. Similarly, a water rate of from $15 to $16 to New York City has resulted in a price increase of $26 in the case of Douglas fir No. 1 common dimension, selling for $19 on the west coast. Similar relationships hold also in the case of southern yellow-pine grades.

It is still possible to buy common lumber and dimension at retail in the Douglas fir region for less than $20 a thousand feet, while the same material in the middle-western markets is selling for approximately $50. Likewise No. 2 common boards and No. 1 common dimension can be bought at retail in the parts of the South in which lumber is still being manufactured for as low as $22, and on the average for $30 or less, while the same grades cost $50 or more in the consuming regions of the Middle West and the East. The explanation of the difference is transportation and the additional costs, investments, and profits and reduced competitive facilities which this transportation necessarily involves.

RELATION OF SOFTWOOD-LUMBER TO ALL-COMMODITY PRICES, 1840–1921.

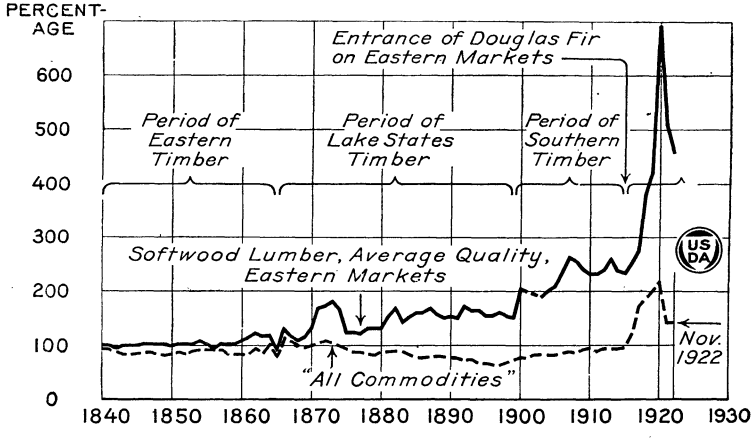


FIG. 12.—Before 1860 lumber came from nearby forests, with a short haul. As the East, after 1860, became dependent on the Lake States forests, lumber prices moved to a higher level. A further rise about 1900 marked the approaching exhaustion of the Lake States timber and the beginning of large-scale operations in the South. The recent sharp divergence between the two curves coincides with the appearance of Douglas fir in substantial quantities in eastern markets. This movement of prices illustrates the effect of local forest depletion, resulting in long hauls, high freight charges, and consequent price increases. Lumber that cost $100 in 1840 cost $510 in 1921, whereas $100 worth of all commodities in 1840 cost only $143 in 1921. In the graph 1840 equals 100.

Local timber depletion, which greatly increased hauling distances, was a material factor in the abnormal lumber prices of 1920. It greatly accentuated the effects of abnormal demands, disorganization of the lumber industry, adverse weather conditions, and the inability of the railroads to handle lumber traffic. It is to be hoped that we shall never again have this combination of adverse conditions, but it must be remembered that the average distance between producer and consumer is rapidly increasing and that in a relatively few years the fulfillment of demands from a large part of the entire United States will be dependent upon one lumber-producing region with transportation facilities much more limited than was the case in 1920, when it was still possible to draw upon two large producing regions.

The relation between local depletion, the long haul, and lumber prices, as compared with the prices on all commodities as shown by index numbers, tells the same story in another way. (Fig. 12.) To bring out most clearly the effect of the long lumber haul, 1840 has been taken as 100 because this represents the period of local production and short hauls in the eastern lumber markets. All commodity index numbers are those of the Bureau of Labor Statistics, Department of Labor. The lumber index represents eastern markets and various species of softwood lumber of average grades. The lumber and all commodity curves kept near together between 1840 and 1865, a period of local lumber production. Since 1865, when Michigan pine began to come in, the trend of the curves is steadily apart, and this is particularly noticeable during the years immediately prior to 1900, when Lake States pine could no longer meet the demands of the eastern markets and southern pine had to be brought in from longer distances. All commodity costs taken at 100 in 1840 had reached 143 in 1921, but it would have required $510 in 1921 to buy the same quantity of a poorer grade of lumber than $100 would have bought in 1840.

That there is a close relationship between total lumber production and retail prices is strikingly shown in Figure 13. The upper curve represents lumber production, which in the United States is essentially the same as lumber consumption. Several retail price curves, which are closely similar,

indicate the trends in prices in one of the largest lumber-consuming regions of the country. Lumber production in-

RELATION OF RETAIL LUMBER PRICES TO PRODUCTION AND CONSUMPTION.

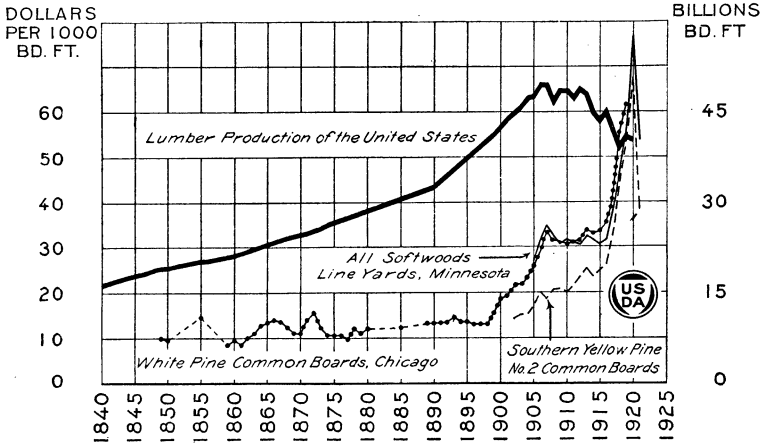


FIG. 13.—The United States still has mills and timber capable of producing a cut equal to that of 1907; but prices are now so high and transportation so costly that the consumer can not afford to buy as much lumber as he once did.

creased during a long series of years, with relatively low retail lumber prices. It reached its crest during a period of rising prices. It substantially held its own between 1906 and 1913, a period of relatively stable lumber prices, and has since fallen off during a period of prices much higher than those of any previous time.

A consequence of local timber shortages is, therefore, long and expensive hauls, higher prices for forest products, and enforced reduction in consumption. This affects standards of living through prices and consumption of forest products and other materials in the making of which forest products are used.

Future Timber Requirements.

Though many of us may never buy so much as a single piece of lumber, every man, woman, and child in the country uses wood every day of his life. Forest products are consumed in obtaining nearly every raw material, and again in virtually every process of manufacture, movement

of commerce, and activity of trade. Every ton of steel requires the consumption of wood in mining the iron ore and in mining the coal used to make the steel. The coal mines of the country consume annually from 250 to 300 million cubic feet of wood. To manufacture cement, coal must be used, and therefore wood; and large amounts of wood are used for forms in concrete construction. Copper can not be made without consuming wood. All food is produced with the aid of wood in some form, and most of it is shipped in containers made from wood. The farmer who raises our foods and the hides and textiles from which our clothing is made is the largest consumer of wood in the country. In short, the general public pays a large part of its bill for wood in the disguised form of the cost of food, clothing, and other articles that contain no wood at all.

Any increase in the cost of producing these articles is pyramided in the successive steps necessary to reach the consumer. Our American living standards are therefore essentially tied in with adequate wood supplies. Wood scarcity carries a universal menace. For example, the requirements of our railroads, essential to our economic life, are enormous. They use wood for buildings, cars, bridges, fences, tanks, and many other purposes, but especially for ties. The increased cost of ties alone since 15 years ago has added $1,300 per mile to the cost of construction of new lines, and $135 per mile to the annual cost of maintenance. With a present yearly consumption of ties only about two-thirds of the pre-war total, this means an added outlay equal to 10 per cent of their total net revenues in 1913. Our paper requirements furnish another example. At least 90 per cent of the paper used in printing is made of wood. The high prices of pulp wood in the past few years have helped send up the cost of paper, and, in consequence, of books, periodicals, and advertising, and to a less extent newspapers.

Ninety-eight per cent of our rural dwellings are of wood. For urban dwellings the percentage is from 59 to 98, varying from State to State. Wooden houses are the easiest, quickest, and ordinarily the cheapest to construct. This has put decent homes within the reach of millions of people, many

of whom could not have afforded brick, stone, or concrete structures. The present shortage of dwellings has been estimated at more than a million. This in itself means cramped quarters, overcrowding, high rentals, lowered living standards in every direction, and a train of social dangers and evils. It is not merely the poor, nor merely those living in cities, who suffer when the cost of home construction increases; and the effect is not fully measured in terms of the number of dwellings needed but not built. The more it costs to build a house, whether in the city or in the country, the smaller will be the space with which the occupant, even though relatively well to do, must be content. Rooms are smaller, and there are fewer of them; and, in the cities at least, children create serious problems. Cheap housing and ample living space are very real blessings. Without abundant timber supplies they would never have been possible. The lumber and other forest products going into building construction in 1922 cost the consumer at least $750,000,000 more than was paid for similar material in 1909, although the quantity used in the earlier year was some 30 per cent larger.

The United States is just beginning to feel the effects of timber scarcity, and its full consequences have not yet become evident. Both their extent and their duration will depend very largely upon what measures may be adopted to supply our future requirements. Some light on what these requirements may be expected to be is thrown by the requirements of the past.

The per capita consumption of the country rose steadily and rapidly during the industrial development that marked the second half of the nineteenth century; but since 1906 it has been declining. The 1920 average per capita consumption was less than that in 1870, 50 years before. It is true that the World War was largely responsible for the more recent and abrupt part of the decline, and it would be unsafe to predict that this downward trend in per capita consumption will not shortly be reversed to some extent; but there can be no question as to what, on the whole, the decline signifies. The normal increase that was taking place in the per capita consumption of lumber with other primary

industrial materials was checked by rising prices, which again were closely related to timber depletion. The decline in the per capita consumption, even before the war, was sufficiently great to more than offset the increase in population. The annual rate of decline between 1906 and 1913 was 2.2 per cent. Between 1913 and 1920 it was 3.9 per cent, and for the entire 14 years, 1906–1920, it was 2.8 per cent. The upward course of per capita consumption prior to 1906 was in response to national growth in agriculture, manufactures, and living standards. The subsequent downward course represents in part increasing inability to satisfy our real needs.

The tendency of requirements for timber to increase instead of diminish is world-wide, in spite of the greater use of substitutes for wood. This is illustrated by the growth in consumption of the nations which are advancing industrially, but which are restricted to a moderate use of wood by inadequate home supplies. Great Britain affords reliable figures which show a growing consumption of wood during the greater part of a century. Great Britain has depended for a long time on imports for 95 per cent of its entire consumption. The per capita timber imports into Great Britain nearly quadrupled in the 60 years from 1851 to 1913, and the total consumption increased more than five times in the same period. That the requirements for timber have increased more rapidly than the population is very signifiicant. It is only reasonable to anticipate that the demand will increase still further in the future.

Though Germany's forest production doubled in volume within the past century, her imports of lumber from other countries steadily increased in amount. France, whose population is stationary, shows very little increase in the total amount of wood used. During the last few decades the total consumption of saw timber has increased in France at the rate of about 0.1 per cent a year, in Germany 1.4 per cent, in Great Britain 1.8 per cent, in Belgium and Italy 2 per cent, and in the United States, in spite of the recent decrease, 1.6 per cent. These countries use nearly two-thirds of the saw timber consumed in the world. The weighted average of these figures gives an annual increase for the world of

1.45 per cent. At this rate of increase, lumber consumption has doubled about every 50 years.

The consumption of other forms of material than lumber must also be considered. There is little basis for determining whether the consumption of most forest products other than lumber is increasing or decreasing. In the case of pulp wood, reliable data show a large growth in consumption. From 1899 to 1920 the consumption of pulp wood in the United States rose at the rate of 5.5 per cent annually, with a total increase during the period from 1,986,310 cords to 6,114,072 cords. The consumption of mine timbers, poles, and piling, has probably increased. In the case of various other products, such as distillation wood, cooperage, and shingles, there have been no noticeable changes.

Considering all the factors that determine the amount of timber a country uses, it is improbable, on the whole, that any considerable decrease in national requirements can be looked for. If present living standards and industrial uses are maintained, any reduction in the quantity of wood taken from the forest must be sought either through lessening waste, through substitutes, or through imports. On the other hand, other things being equal, our timber requirements must be expected to increase with increase in population.

The Timber Requirements of a Growing Population.

From 1810 to 1860 the population of the United States increased at a nearly uniform rate of approximately 35 per cent each decade, and from 1870 to 1890 at 25 per cent each decade. During the last three decades, however, the rate has been 20.7, 21, and 14:9 per cent.

Economists are generally agreed that a gradually lessening rate of increase is to be expected. The best authorities hold that by, if not before, the end of the present century the population of the country will have become nearly stationary, at from 175,000,000 to 200,000,000, but that the 150,000,000 mark will be reached about the middle of the century.

At the current per capita consumption, a population of 150,000,000 in 1950 would require not quite 32 billion cubic

feet, of which saw timber would approximate 16.6 billion cubic feet, or 76 billion board feet.

Imports to Meet Future Timber Requirements.

Will the United States be able to meet a part of its timber needs by imports from other countries? Our present exports and imports of timber and other forest products nearly balance. It may be expected that as local shortages develop within the next few years, as has already been the case with pulp wood in the Northeast, they will be covered in some part by importations, particularly from Canada. Our imports will probably soon exceed our exports. Any hope, however, that we may depend upon importations from abroad when our timber resources are exhausted must be abandoned.

Two-thirds of all the timber consumed in the United States is softwood—pine, fir, spruce, and hemlock. There are only three great bodies of comparable coniferous timber in the world. One is in northern America; a second extends from Scandinavia eastward through Finland and European and Asiatic Russia to the Pacific; and the third, of relatively minor importance, is in central and southeastern Europe, chiefly in pre-war Austria-Hungary.

Although Canada still possesses a vast softwood forest area, much is in the Arctic region and will be of doubtful availability for export trade. The more accessible forests are rapidly being developed to their capacity for the needs of the British Empire. The greater part of the Alaskan forests are better adapted to pulpwood than to lumber.

In Europe the few countries still having large coniferous forests can not supply the needs of the rest of the European nations. The area formerly embraced in Austria-Hungary was overcutting its forests prior to the war in order to export about 322 million cubic feet a year. To maintain their exports at the former amounts these countries will have to limit their own consumption to very low levels or seriously deplete their forests. They will probably do both for the next decade or two in order to rehabilitate their economic status, with the result that eventually domestic needs will absorb all that their forests can produce.

Scandinavia has but a small surplus of structural timber. Her exports consist mainly of pulpwood and pulp. Finland and Russia are therefore the only countries in Europe which can be counted on as important sources of structural timber to meet the large needs of their nearby neighbors.

Siberia, with her billion acres of forest fully developed, could export large quantities of timber. The forests of Siberia, however, are still undeveloped and a great part of them lie, like those of Canada, within the Arctic and interior regions and may never be available for a large export trade. The forests lying close to the Pacific Ocean are partly surrounded by nations which will be the first bidders as export trade increases. China, with her hundreds of millions of people, is likely to develop industrially and much of her timber needs must be supplied from the Siberian forests. Japan, although still an exporter of certain species of timber, already imports large quantities from Siberia. Even if all the Siberian timber were at the undisputed call of the United States and lumber could stand the cost of transportation from Siberia to the interior and Eastern States, the quantity available for annual export would amount to but a small part of our present consumption. The timber needs of the United States are so enormous, amounting to nearly half of the consumption of the world, that it is inconceivable that they can be supplied, except in small part or at excessive prices, by importations from other countries.

Although the hardwood outlook is more promising, the difficulties in securing the amounts necessary are no less serious. The tropical forests of South America and Africa contain vast areas of hardwood timber, some of which can doubtless take the place of our own hardwoods when they are gone. These tropical forests, however, will probably remain undeveloped on any large scale for a number of decades. The great variety of species on each acre makes it expensive and difficult to log the scattered merchantable trees, and the little-known properties of the various woods, the difficulty in seasoning them, their heavy weight, and the high cost of transportation, may prevent their use in large quantities to replace our own hardwoods. It is doubt-

ful whether the exploitation of tropical hardwoods can come soon and fast enough to meet our pending shortage of sawlog material short of prohibitive costs.

Reduction in Waste to Meet Future Requirements.

No analysis of our future timber requirements is complete without a consideration of the possible reduction in the waste which has been so large a factor in swelling the drain on our forests to its present volume. Many forces unite to determine how much of the volume of the tree is put to use. Some are purely economic, like the freight rates which make it unprofitable to ship low-grade material to its nearest market and consequently throw it into the sawmill burner. Some represent inertia in methods of manufacture and use, based upon the economic situation of 20 years ago. Others reflect the prejudices and habits of the consumer who will not use intrinsically valuable trees because he has been accustomed to other species. Still others grow out of the lack of technical knowledge of the properties of wood on the part of manufacturers and wood consumers alike.

During the timber mining stage of our forest history, with its reliance upon "inexhaustible" timber resources, there has been too little incentive to make the utilization of the raw material complete; in many cases it has indeed been more profitable to skim off the cream. The time has now come, however, when, from both the public and industrial standpoints, unnecessary waste of forest products, particularly of high-grade timber, must be placed in the same category as failure to keep forest land productive.

Waste, as the term is here used, includes the part of the tree not utilized, regardless of whether utilization is possible under present knowledge and economic conditions. It occurs during primary manufacture from the standing tree into such products as rough seasoned lumber; in remanufacture, as in making furniture from lumber; and finally, through the avoidable destruction of the final products such as ties, posts, mine timbers, and even buildings by decay or fire. Limbs are excluded, so that waste in manufacture or remanufacture refers to the portions of the bole of the tree lost in such forms as tops, stumps, bark, slabs, edgings,

trimmings, saw kerf, resawing, etc., together with the low-grade logs which often are left in the woods.

The serious phase of the waste question is that nearly 80 per cent of the total (see table below) is in high-grade timber. The cutting up and reworking of such material explains this high percentage. It is the most valuable timber, however, which will require the longest time to grow and of which our shortage will be most acute. More important than the amount of waste, however, is the part which can be saved. This is the phase of the question which bears most directly upon our timber-supply problem.

Annual cut, waste, and possible savings, billions of feet.

Class of material and process.	Equivalent in standing timber.[1]	Total cut.[1]	Total waste.	Possible saving.	
	Cubic feet.	*Board feet.*	*Cubic feet.*	*Cubic feet.*	*Board feet.*
1. Lumber, primary manufacture	8.26	37.7	5.13	0.3	3.6
2. Lumber, remanufacture	.....	.....	.56	.19	2.28
3. Lumber, fire and decay	.....	.....	.11	.06	.72
4. Total lumber	8.26	37.7	5.8	.55	6.6
5. Saw timber other than lumber, primary manufacture	3.36	[2] 15.24	1.2	.....	.....
6. Saw timber other than lumber, fire and decay	.....	.....	.22	.11	[2] .6
7. Total saw timber including lumber, all processes	11.62	[2] 52.94	7.22	.66	[2] 7.2
8. All timber below saw timber size	10.79	.....	1.98	.49	.....
9. All wood, all processes	22.41	.....	9.2	1.15	[2] 7.2

[1] The ratios between cubic feet and board feet, in columns 1 and 2, are the same as those used in table on p. 109. The ratios between cubic feet and board feet, in columns 4 and 5, are 12 board feet to the cubic foot, except in item 6, where the ratio is 5 board feet to the cubic foot, and in items 7 and 9, which include item 6. It should be recognized that thoroughly reliable data on many forms of waste and possible savings can be obtained only through much more extensive and detailed investigations than it has been possible to make.

[2] Approximate equivalents.

From approximately 8¼ billion cubic feet of standing timber, we manufacture under present practice 37.7 billion board feet of lumber, in the ratio of 219 cubic feet to 1,000 board feet. A considerable part of the loss in sawdust, slabs, etc., is unavoidable. But remedial waste occurs in unnecessarily high stumps, in unnecessarily large tops left in the woods, in thick saw kerfs, in excessive slabs, edgings, and trim-

mings, and in the exclusive use of even lengths and widths. Inefficient methods of manufacture and seasoning are also responsible for large losses.

Under the best European practice, it is possible to secure 1,000 board feet of lumber from 150 cubic feet in the standing tree. This, however, occurs only in a few countries and species, such as spruce, which can be cut very closely. If we could cut our material on a ratio of 175 cubic feet to the thousand board feet, which is much nearer the average European standard, 8¼ billion cubic feet of stumpage would yield 9½ billion board feet more lumber than at present. In order, however, to make the estimates of possible savings fall well within actual possibilities under the conditions which we shall have to meet, it has been assumed that 1,000 board feet of lumber could be cut on the average from 200 cubic feet of tree trunks. This is probably below the present average European utilization, and it is now being secured in parts of New England. On this basis, we should be able to cut from the same trees over 3½ billion board feet more lumber than is now obtained.

Our remanufacture and use of lumber are still wasteful processes. Approximately half of the lumber cut is remanufactured into such products as sash and doors, boxes and crates, furniture, vehicles, tanks, silos, and agricultural implements. An extensive survey of the 50 or more important wood-using industries and an intensive study of a limited number of them disclose a large additional waste, much of which could be saved by selecting raw material especially suited to the manufacture of the finished product and by more efficient methods of seasoning and manufacture. In the production of bent, irregular, and clear stock in chair and furniture making, for example, waste not uncommonly exceeds 50 per cent of the lumber purchased. Hickory handle manufacture sometimes requires 2 tons of lumber to produce 400 pounds of handles, a loss of 90 per cent. Detailed investigations have shown that a large percentage of the boxes and crates now used could be made stronger and more durable with less material.

There is waste, also, in the utilization of the half of the lumber cut which goes into general construction. The con-

suming public still demands clear stock for purposes where lower grades would be entirely suitable, or even lengths and widths where odd lengths and widths would serve as well. Structural timbers are frequently used in larger sizes and of better quality than the conditions demand because of ignorance of their strength and serviceability. On a conservative basis, an additional 2¼ billion board feet of the lumber waste which occurs in remanufacture, building, etc., could be saved each year by the methods indicated.

Unfortunately, waste does not stop with the completion of the final product. Large additional losses each year, some unavoidable and others unnecessary, result from failure properly to protect structures and such products as ties and poles from fire or decay. These are losses which increase the drain both upon high-grade saw timber and lower-grade material.

The annual loss of buildings in the United States from fire in 1920 was estimated at $330,854,000. This loss includes a large amount of wood, and a very considerable part is due to carelessness or to forms of construction which increase fire risks. The development of fire retardants will help materially to reduce such losses.

Decay of finished wood products takes each year a very large and partly unnecessary toll. While the treatment of wood to prevent decay has grown rapidly, from nearly 76 million cubic feet in 1909 to slightly more than 200 million in 1921, only a beginning has been made. It is possible to decrease materially the drain upon our timber supply by much wider use of timber preservatives. A long series of tests show, for example, that it is possible to extend to 10 or even 20 years the life of ties and poles of various kinds of wood which without treatment last only 2 to 8 years.

Possible savings of high-grade material now lost from fire and decay, including that cut into lumber, poles, piling, and similar products, amount to approximately 1¼ billion board feet, of which nearly 750 million represent lumber alone.

Out of the total loss of high-grade material in primary manufacture, remanufacture, and from fire and decay, it is possible to save in excess of 7 billion board feet a year. It should be possible to save in lumber alone more than 6½ billion board feet out of the material we are now taking

from the forest. This is more than half the present growth of saw-timber material on all forest lands.

The prevention of decay through preservative treatment or better methods of handling offers the chief opportunity to reduce the waste of the smaller low-grade material. Very little of the nearly 300 million cubic feet of mine timber, largely below saw-timber size, or the 900 million fence posts now used annually are treated. Where feasible, treatment of both materials would, as in the case of ties and poles, increase their life several times. Improper methods of storage sometimes result in the decay of a considerable amount of such material as pulp wood. In exceptional cases this loss has been known to reach from 40 to 50 per cent. The possible saving through preservative treatment and improved methods of storage to prevent decay could probably save about 500 million cubic feet each year.

While the total waste figures as shown by the table on page 131 are very large, they do not include all forms of loss under present methods of manufacture and use. Lumbering operations of to-day still continue, although to a much less degree than in the past, to leave inferior trees in the woods, many of which are lost as a result. In naval stores operations there is a very considerable loss of timber which is never salvaged. There is a large aggregate loss through the cutting of large-sized material for pulp and paper manufacture, for fuel, and similar purposes when small sizes and waste material could frequently be used. The use of mill waste for pulp and paper manufacture, in spite of the present shortage of raw material in this industry, is decreasing rather than increasing. These are examples of forms of waste which have not been included in the totals.

On the other hand, there is a very considerable use of material for fuel at sawmills, planing mills, and furniture and other factories, which is designated as waste under the preceding classification. Slabs are sold in greater or less quantity for fuel in a considerable number of sawmill towns, and indeed much material suitable for more valuable uses is consumed in this way.

Not all of the possible means of reducing waste have been considered. Present developments indicate the possibility

of making pulp board from material now wasted in the manufacture of lumber and extending the practice which has grown to such large proportions of substituting fiber for lumber boxes. With greater knowledge of the chemistry of woods in relation to the manufacture of pulp and other products, there promises to be an increasing utilization of waste far beyond anything which we now contemplate.

Better utilization of waste material is a question of first importance in the commercial growing of timber crops. At current pre-war prices, the gross returns from cutting lumber alone would have been $288 per acre in a mixed hemlock and hardwood stand in Pennsylvania. But additional utilization of hemlock bark for tannin, of mill waste for lath, kindling, or pulpwood, of hemlock tops, of hardwood for staves, and of hardwood mill and woods refuse for distillation, increased the gross receipts to $569 per acre. The doubling of gross returns in the case given illustrates the way in which close utilization may be made to influence financial returns from timber growing.

The preventable waste of 6½ or 7 billion board feet of lumber each year under present processes is the amount which we are now growing on 170 million acres of forest land.

While, therefore, the waste of wood has an important influence on the returns from the use of land and upon the area required to meet our timber requirements, it bears primarily on the question of timber supply. By eliminating unnecessary waste we can meet our requirements with a smaller drain on the forest, or with the same drain we can secure a considerably larger amount of timber for use.

Substitution to Meet Future Timber Requirements.

Substitutes for wood are gaining ground, and it is often assumed that a large part of our future timber needs can thus be satisfactorily met. In some former uses of wood substitution is now practically complete. The rate at which the use of substitutes for wood is increasing is conservatively placed at 300 million cubic feet a year. Of this, however, one-half is in the form of firewood. Substitutes have tended more to take up the normal expansion in demand for timber due to growth in population and industrial prog-

ress than to lessen the actual volume of wood consumption. If there had not been other materials to take the place of wood, its consumption would have increased at a much more rapid rate. The introduction of substitutes has often been directly due to the growing scarcity of the kinds of wood needed for particular purposes or to the rising cost of lumber. In other cases it has been due to the inherent superiority of the substitute for a specific service, or to a cheapened cost of production which enables it to supplant wood even at its old price.

Obviously, substitutes that replace one material with another inherently superior are economically advantageous; those compelled by shortages and high prices are an economic hardship. It is also true that in the very process of displacing wood from its former use for construction purposes the substitutes have involved new or enlarged uses of wood incidental to their employment. For many purposes wood is intrinsically so well fitted that to supplant it, so long as it can be secured at a price within reason, would be entirely impracticable. On the whole, wood in large quantities is an economic necessity and extensive curtailment of its use would mean a great economic loss and hardship.

Furthermore, as wood is being replaced by other materials in one field, new uses of wood constantly arise in other fields. The extending use of pulp wood not only for paper products of various kinds but also for fiber containers, wallboard, and similar forms of material, and recently even for making actual artificial boards, is one example. The chemical utilization of wood for the production of various by-products is still in its infancy; the next few years may see the use of wood for the production of alcohol on a large scale to take the place of gasoline. Wood is already used for the manufacture of artificial silk, rope, and of carpets and other fabrics. Chemical research is revealing new uses for wood that were not dreamed of a few years ago. The age of wood has not been left behind us—it may well lie ahead of us.

According to computations made by the Division of Building and Housing of the Department of Commerce in 11 States for which reports have been compiled, wooden dwellings range from 59 to 97 per cent of all dwellings in towns with a population of over 2,500 inhabitants. In the rural

sections, which include towns of less than 2,500 inhabitants, dwellings built of wood constitute about 98 per cent. No figures are available as to the percentage of wooden buildings that are now being constructed in the same localities. There is probably some decrease in the number in the urban sections, but not enough to reduce perceptibly the amount of timber used. Even if brick is used, a six-room house, according to the investigations of the Division of Building and Housing, takes three-fifths the amount of lumber required for frame construction. Furthermore, in building with brick, concrete, and steel, much wood goes into scaffolding and frames. Some systems of concrete construction require more wood than would be the case if wood were the permanent material, and require larger timbers to support the concrete in the process of construction than would the building itself if it were all of wood. It is estimated that 15 per cent of the cost of concrete construction is lumber.

The annual normal building in the United States is about 400,000 structures, of which 320,000 are new buildings and 80,000 are old dwellings replaced by new ones. With such a normal annual increase in the number of dwellings, with a present shortage of at least 1 million dwellings, with half of the population still living in rural districts where 98 per cent of all buildings are and will probably continue to be made of wood, with but a very small part of the farms in the United States fully equipped with buildings and the average farm capable of using at once 25,000 feet of lumber for construction, any decline in the use of lumber will be due to inability to obtain it at a reasonably low price. It would take 150 billion feet of lumber, or our present annual cut for four years, to equip fully the farms in the United States.

In the future, just as at present, substitutes will keep down the rate of increase in the consumption of wood by taking its place where wood is less suitable or less economical. On the other hand, new uses of wood that are constantly arising with the industrial development of the country will tend to increase its consumption. In this competition between wood and other materials the price of wood will play a decisive part.

The replacement of firewood by coal, oil, and gas is likely to be large. It is characteristic of many European countries

that the consumption of fuelwood decreases as the country develops industrially. The industrial development of a country presupposes available supplies of coal, oil, and water power—concentrated forms for generating energy—and therefore a lessened use of fuel wood for similar purposes. The use of saw timber, however, increases with industrial development, as has been demonstrated strikingly in the history of the United States. In countries weakly developed industrially firewood may constitute from 75 to 90 per cent of all the wood consumed, while in countries like the United Kingdom saw timber constitutes 98 per cent of the entire consumption.

We shall not in the future be able to maintain even our present standards of living without abundant timber. Growth in population will tend to increase requirements for wood. Substitution and the reduction of waste will, on the other hand, tend to decrease requirements, but it is improbable that they can more than equal the increase in normal demand, if they can do that. Any material lessening of our present drain on the forests of 25 billion cubic feet annually will be under the compulsion of forced economies disadvantageous to the public welfare.

Timber Crops the Solution of Land Use and Timber Supply.

Despite past methods of cutting timber which have largely disregarded the production of future timber crops and despite forest fires which ordinarily have run over the areas from which the timber has been removed, an aggregate of some 250 million acres now bears second-growth stumpage. These stands, largely volunteer though they are, furnish in themselves the key to the solution of our problem of forest land use. The solution is all the more clear because of the failure for one reason or another to use these lands for agriculture. The growing of timber crops will apparently, therefore, solve our problem of forest land use. Can it be made also to solve the problem of timber supply?

Productive Capacity of the Land—Timber Growth.

On a total growing area of 250 million acres of forest land the United States is now producing 6 billion cubic feet

of wood annually, equivalent to an average of 24 cubic feet per acre annually. At this rate the area necessary to meet our present timber needs would be over 937 million acres, or nearly half of the entire area of the continental United States. This is considerably more than our entire area capable of growing trees, including all farm land. But the present growth is far below the possible productivity of our forest land. It mainly represents chance, natural growth which, without definite provision for its establishment and with limited protection against fire or none at all, has succeeded in establishing itself. Much of this land has too few trees, and the trees are seldom producing wood as rapidly as they might with proper care.

All the data available on the growth of American trees and forest types, checked by European experience, lead to the conclusion that, under intensive forestry, our entire area of 470 million acres could ultimately produce an average of about 58 cubic feet per year to the acre, or a total for the country of 27 billion cubic feet.[5] Included in this would be 70 billion board feet, or 15 billion cubic feet, of saw timber, seven times the present growth of such material. The total 27 billion cubic feet would exceed our present consumption by 4½ billion cubic feet, but it would exceed the present drain on our forests by the relatively narrow margin of approximately 2 billion cubic feet.

This production, however, can not be brought about in a short time. To make the practice of intensive forestry universal or even the rule throughout the United States will be possible only through gradual progress. It will require the development of scientific knowledge and technical methods of timber growing comparable with what has slowly and at large cost been obtained for agricultural crops. It will require effective protection against fires. It will require methods of cutting the mature timber that assure

[5] Detailed tables showing by timber regions present and prospective annual growth under crude and intensive forest management of the forests of the United States are given in Table 507, Forest Statistics section of Yearbook. It should be recognized that thoroughly reliable data on growth can be obtained only through much more extensive and detailed investigations than it has ever been possible to make. It is believed, however, that the data used give a fairly accurate indication of both present conditions and future possibilities.

prompt and complete reforestation. It will require the selection and concentration of growth on the best species in each region. It will require cultural operations, such as thinnings, which in European countries yield, and in this country may be expected to yield, a revenue from forest land before the main crop reaches maturity. It will require a cut so regulated that only the mature timber will be taken, and no more than the total growth of the whole forest.

Even if intensive forest management could be applied instantly to the entire area of forest land in the United States, it would take a generation or two to bring about forest conditions as favorable to high production as those now to be found on small areas in this country or over large areas under forest management in Europe. Further, since the timber crop requires several decades to grow to maturity, though a full stand of the right kinds of trees could be started on all our forest land by some magic overnight, it would be 30 years at least before new growth would, under average conditions, attain sufficient size to furnish even low-grade material. In short, with the utmost that can be done many years must pass before we can make our forests produce through growth as much timber as is now yearly taken from them, and a period of shortage is inescapable.

The eight forest regions[6] of the United States which have the largest productive capacity (Fig. 14) are, except the Douglas fir region, overwhelmingly in private ownership. In addition, the eastern spruce-fir and the redwood regions are largely in private ownership. Under intensive forest management these regions could produce about 24¼ billion cubic feet per year. The Douglas fir and other regions primarily in public ownership would produce only about 6 billion cubic feet. A land area which supplies three-quarters (21 billion cubic feet) of our possible wood-growing capacity is now in private ownership and subject to denudation or serious deterioration.

---

[6] Fifteen timber regions have been distinguished on the basis of similarity in the character of the forest and its rate of growth in each. They have been named in accordance with the predominant timber species of which they are composed. In certain cases where the rates of growth differ, geographic subdivisions of the regions have been recognized. For example, figures for the Northeast and Lake States are given separately for each kind of forest. The location of the regions is indicated on the map, Figure 1.

The first important step in a necessarily slow process is to put into practice everywhere the simplest measures which will start regrowth on cut-over land. On much of our forest land effective protection against fire will be all that is necessary for this purpose. If so protected a considerable part of the 81 million acres of denuded land will gradually restock with trees. On lands where protection alone is not sufficient to assure a new crop of timber, such additional measures as the reservation of seed trees or small material at the time of cutting will be necessary. These are simple, practical, and inexpensive measures. They constitute a

POSSIBLE INCREASE IN ANNUAL FOREST GROWTH BY IMPROVED PRACTICE.

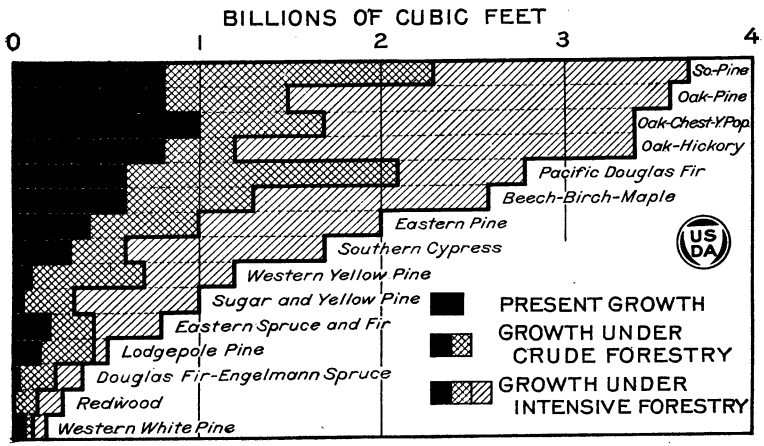


FIG. 14.—The present forest growth is insignificant compared with that possible if timber were treated as a crop. The four largest producing regions are in the southern and central States. (Compare with map of Original Timber Regions, p. 85.)

crude kind of forestry, in that they would provide for at least partial growth on our forest lands. What increased timber production can be expected by 1950 if this crude kind of forestry is immediately put into effect? First, large portions of the present denuded land will seed naturally to forest growth within 30 years. Second, most of the remaining areas of virgin timber will be converted, as they are cut, into young growing stands, and the total growing area can be increased 100 million acres. Many of these areas, however, will have only incomplete growth upon them

by 1950. Third, many of the present second-growth forests would produce wood faster than they are doing now with their vigor and density reduced by periodic fires. On the other hand, considerable areas of rapidly growing second-growth will have been cut, thus tending to reduce the average growth rate.

The net result of the application of a system of crude forestry, consisting chiefly of protection from fire, may thus be put as an approximate increase of 4 billion cubic feet in the current production of wood, or a total annual growth by 1950 of 10 billion cubic feet on 353 million acres. The increase in saw-timber growth under these conditions would be relatively less by 1950 than the total increase. It might amount to 1½ billion board feet, making the total saw-timber growth a little over 11 billion board feet a year. The net wood crop resulting from these primitive measures would still be less than half of our present requirements.

If this inadequate system should be continued indefinitely as the general forest practice of the country, we might expect ultimately a total annual growth of about 14 billion cubic feet, including 26 billion board feet of saw timber. In other words, protection against fire and such first steps as the reservation of seed trees in certain regions, offer only a beginning of the solution of our forest problem. They can be considered as partial expedients and short steps in advance. Intensive timber growing is the only measure which promises to supply our national requirements for forest products.

Figures 15 and 16 compare the present productive capacity of the land with that obtainable under crude and also under intensive forest management.

The growing conditions in the United States are more favorable, on the whole, than those in France, yet French timberland owners have found it profitable to grow timber crops. Private owners who are practicing forestry in France are realizing profits on land which is producing all the way from 10 to 100 cubic feet per acre per year. In the United States the redwood forests will grow well over 200 cubic feet; and the white pine, Pacific coast Douglas fir, and California sugar and yellow pine forests as much as 170 feet. In other words, the forests of the United States can be made fully as productive in timber yields per acre as

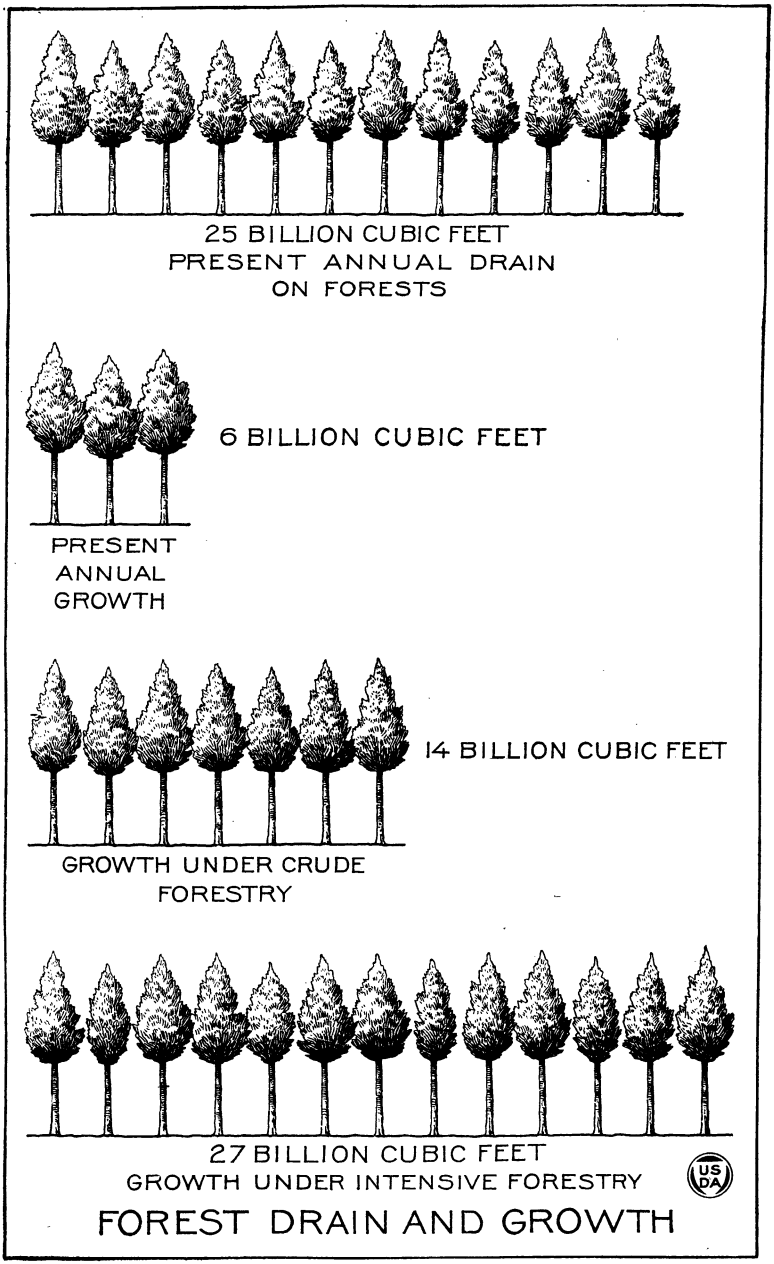


FIG. 15.—The annual drain on our forests is four times as great as the amount of wood grown by them each year, nearly twice as great as we could grow under crude forestry, and almost as great as what we can expect to grow under the most intensive methods on our present forest area of about 470 million acres.

the forests of Europe, where private forestry is considered a profitable business.

The universal experience in other countries indicates that, by comparison with the timber obtained from our present virgin forests, that which will be grown by private owners in the future will be cut when relatively young and small, like the second growth now found on much cut-over land. Under intensive management, however, these forests will make up for the small size of the trees by their greater density, their more rapid growth, and their consequent high yields of timber in comparatively short periods. Young forests under intensive management may often yield at least as much timber as did the original virgin forests.

The high productive capacity of forest lands in the United States is therefore an asset to the private owner. For the country it offers the possibility of meeting or even exceeding our present requirements through intensive methods of forest management.

Productive Capacity of the Land—Financial Returns.

Public agencies such as the Federal Government and the States may, because of indirect benefits, find it profitable to grow timber regardless of whether the balance sheet shows in black or red. But to the private owner the question of profit must always remain a primary consideration. Profitable timber-growing obviously depends, first, upon the quantity and quality of the timber that can be grown, and second, upon the price which can be secured for the product.

A common method of selling timber in the United States is in the standing tree, and the price received for the timber or stumpage in this form is convenient and fairly satisfactory for measuring and comparing returns.[7] For a broad view of the entire country, census reports afford a valuable source of information by giving an average value for all timber manufactured into lumber. Such reports are available for the last four censuses. Average values for all spe-

[7] Stumpage prices vary with the size and quality of the timber, the stand per acre, the size of the tract and its relation to others in the vicinity, the ease or difficulty of logging, distance to market, transportation facilities, and the bargaining ability and financial exigencies of both buyer and seller. While average stumpage prices are of the greatest importance in indicating the trend of values, and hence whether timber cropping is generally profitable, they can not be directly applied in the appraisal of individual tracts.

cies and all regions rose from $1.89 per thousand board feet in 1889 to $2.18 in 1899, $2.59 in 1904, and $5.02 in 1919. The total increase was 166 per cent.

Of greater significance are the census reports by States. In Washington, for example, where the bulk of the stumpage is Douglas fir, an average price of 92 cents in 1889 had become $3.07 in 1919. In Oregon, for the corresponding 30 years, the average price had more than quadrupled, rising from 62 cents to $2.69. Present stumpage values of south-

SAW-TIMBER CUT, CONSUMPTION, AND GROWTH.

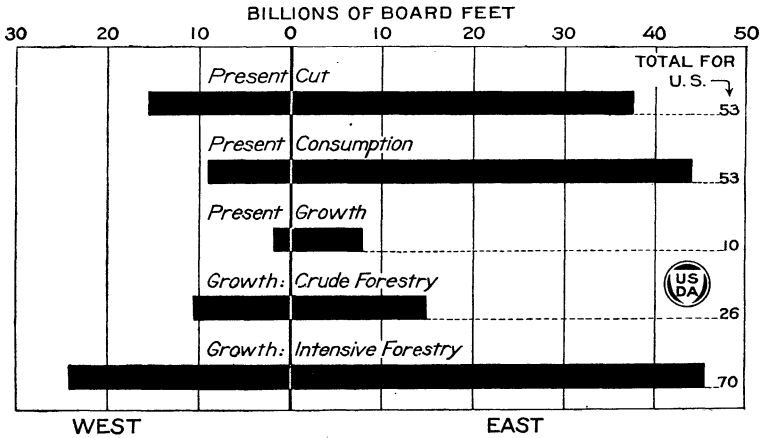


FIG. 16.—Although we are going to the West for more and more of our lumber and other products cut from saw timber, the bulk of the consumption is in the East; and the East should, in the future, grow two-thirds of our saw-timber supply.

ern pine, in an older operating region nearer to the large centers of consumption, run higher. Considering first the southern pine States in which the cut is still largely from virgin timber, the Louisiana average of 94 cents per thousand feet in 1889 had in 1919 reached $5.95, an increase of more than six times in 30 years. The Mississippi price increased nearly nine times, from 61 cents to $5.41, and the Texas average from 87 cents to $5.46.

Second-growth stumpage values in the older southern pine States are, however, most significant, since they are the values placed upon material of the size and quality which we shall grow in the future. Virginia prices in 1919 had

reached $5.63; North Carolina, $5.64; and Maryland, where hardwoods as well as second-growth pine are involved, $7.42. The pine values in all three States are higher than for either Mississippi or Texas.

Minnesota prices, dominated by remaining virgin white and Norway pine stands, had reached $10.08 in 1919, but New Hampshire and Massachusetts prices, dominated largely by second-growth white pine less than 50 years old, had reached $10.36 and $8.33, respectively. Indiana hardwoods tripled in the 30-year period, with values increasing from $5.03 to $15.59 per thousand board feet.

The census averages are made up from reports of individual operators who estimate the value of the timber which they cut. A more satisfactory check on values is perhaps afforded by the prices actually paid for standing timber in sales. The Forest Service has therefore secured data on as many individual timber transfers as possible in several important virgin and second-growth regions. It is obvious that averages thus obtained may not be the same as the census figures and are not exactly comparable with them. These sale averages are shown in Figure 17.

PRICES OF SECOND-GROWTH AND VIRGIN STUMPAGE.

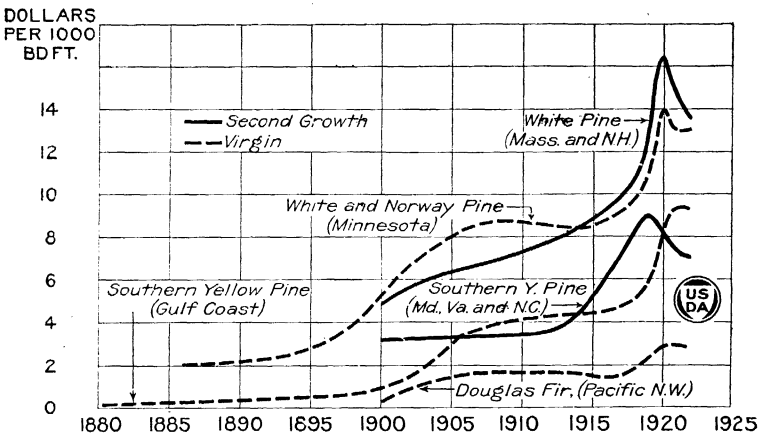


FIG. 17.—The high price of second-growth timber is making timber growing on private land profitable in many places. Second growth, though usually smaller and of lower quality than virgin timber, when nearer to markets often brings a higher price. Small second-growth white pine in Massachusetts and New Hampshire since 1900 has brought on the average five times as much on the stump as the very large and high-quality Douglas fir of the Pacific Northwest.

The value of Douglas fir, with more remaining timber than any other species, with many inaccessible stands and in a region far removed from the large centers of consumption, is still relatively low. As late as 1900 its value ranged between 25 and 50 cents per thousand board feet, and even lower. Values rose steadily until about 1907, when they had reached an average of from $1.25 to $1.75. During the ensuing depression in the lumber industry, stumpage values held substantially without change until the influence of the war increased all prices. The pronounced increase beginning in 1916 had in 1921 reached a level between $2.75 and $3 per thousand feet.

Virgin southern yellow pine in the Gulf States sold in 1900 for 75 cents to $1 per thousand feet. Even this low value followed a slow but steady increase from 1880, when timber was ordinarily sold by the acre and stumpage values were little if any more than 10 cents a thousand. Pine values, however, have for obvious reasons climbed much more rapidly than fir. In 1915 they ranged from $1 to $6 and averaged approximately $4.50, but in 1920 they had reached an average of $9.50, with a range from $3.50 to $11.50. At present relatively little stumpage is being sold, or higher values might obtain for the better timber.

White and Norway pine in Minnesota command the highest values for virgin softwood stumpage disclosed in this investigation. The averages are based on sales made by the State of Minnesota and by the General Land Office from Chippewa Indian lands. Values in 1886 averaged $2, with a range from $1 to $3. There was a steady but slow increase up to 1893, when white pine production in the Lake States began to fall off. From that time until 1919, with the possible exception of less than a decade between 1908 and 1915, values climbed steadily and rapidly. In 1920 the average was about $14, with a range of from $10 to $17; in an extreme case $25.30 per thousand feet was paid. Since 1920 prices have dropped slightly, but have again started to rise. Not too much dependence, however, can be placed on minor fluctuations during the last two or three years because of the relatively small volume of material sold.

Compared with the prices of 20 or even 10 years ago, current values for virgin fir of $2.75, for southern yellow pine in the Gulf States of $9.25, and for white and Norway pine of $13.25 seem high, but when compared with the rise in the values of second-growth stumpage in some of the older timber-producing regions, the increase is not so striking. It is to the second-growth prices that we must turn for the best indication of returns in timber growing, for the second-growth stands are the forests of the future.

The portion of the southern yellow-pine region first extensively cut extends from Maryland through North Carolina. Naturally this younger second-growth timber occurs in smaller sizes than the virgin stands of the Gulf States, but it has the advantage of being nearer the large consuming markets of the North. The values are based largely upon small sales, chiefly from farmers' woodlots. The average value of this second-growth pine in 1900 exceeded $3. It ranged from $1.25 to nearly $5. Values held substantially on a level, with minor fluctuations, until 1913. Then they climbed rapily under the stimulus of war demand until 1919, when the average was around $9. The range in 1919 was from $4 to $12; in extreme cases sales at $14 were reported, and rumors of even higher prices are prevalent. Stumpage values in this region, possibly because of the smaller amount of data available, seem to be subject to rather violent fluctuations, and in 1921 average values had apparently dropped to about $7 with a range of from $2.50 to $12. The increased demands of the last year, however, have again started values upward. The significant fact from the standpoint of growing timber crops is that second-growth stumpage, mostly stands less than 60 years old, in the Maryland-North Carolina region sells in the open market for surprisingly little less, and at times has sold for more, than the virgin timber of the Gulf States.

It was possible also to secure data on spruce saw timber in Maine. This timber averaged between $2 and $2.50 per thousand feet from 1866 to nearly 1900, ranging between $1.25 and $4. Since 1900 there has been a steady and remarkable increase, until now spruce ranges in the majority of the sales between $6.50 and $11, and averages about $8.25.

Sales as high as $12 per thousand feet are reported. In the last two decades values have tripled.

Second-growth pine stumpage in Maine tells the same story, but prices have not reached the same levels as in Massachusetts and New Hampshire. In the latter States white pine sold in 1900 for around $4. With slight breaks the curve of average values climbed steadily until in 1920 the average value of second-growth stumpage in this region reached about $16.25 a thousand feet. The range was from $11 to $22 and prices in extreme cases were as high as $25. It is clear, therefore, that in central New England we have second-growth stands, largely accidental, of uncultivated timber crops, selling through periods of several years for the highest stumpage prices actually paid for softwoods anywhere in the United States. Furthermore, these prices are paid on a degree of use as complete as in many parts of Europe, and the footages secured per acre frequently exceed all except the heaviest virgin white pine stands. The State forester of New Hampshire reports that 50 per cent of the stands in that State for which these prices are being paid do not exceed 30 years of age.

No one can predict future values with certainty, but the past history of stumpage prices of all species and all regions, European and American alike, has been one of almost uninterrupted rise, and we have ahead of us increasing timber shortages as compared with the certain demand for forest products. The pronounced rise in stumpage values for practically all regions and all species has occurred since about 1900, coincidently with the falling off of Lake States production and the growing realization that our virgin timber stands were not inexhaustible. The private owner who hesitated to start growing white pine in New England when stumpage values were $4 per thousand feet need hesitate much less in 1922 when values for the same material have reached $12 to $16.

The stumpage prices paid for hardwoods in Indiana, Ohio, and southern Michigan have been even more remarkable. The relatively few records of sales do not warrant any statement of averages. The prices are for timber from culled stands, including also strictly second-growth material of such species as hickory and ash. Values in a few sales

of the pre-war period indicate flat stumpage prices for stands of the common hardwood species such as poplar, white and red oak, basswood, ash, elm, beech, etc., running from approximately $16 to $18 per thousand feet. Selected trees of oak and poplar brought between $34 and $35 per thousand feet. War and postwar prices have been much higher. War prices for ash ranged from $80 up to even $200 a thousand in an extreme case. Log prices f. o. b. mill were as high as $120 a thousand in 1920. Offers of $20 a thousand on the stump for ash 12 to 16 inches in diameter and $50 for a small quantity of ash were refused in 1921. Ash logs in 1921 brought $75 per thousand f. o. b. mill. Oak veneer logs f. o. b. mill in 1919 and 1920 brought from $100 to $200 per thousand. Lumbering and transportation costs to the mill averaging probably $15 per thousand must, of course, be deducted from these log prices to secure stumpage values.

High second-growth stumpage prices result largely from the growing scarcity of local timber supplies in regions of large consumption and from the freight which lumber from regions still cutting virgin stumpage must pay. Southern pine from the Gulf States, for example, now pays a rail freight of $16 per thousand into New England, and Pacific coast fir pays a rail freight of $25. With such freight, a $14 white pine stumpage is not surprising, even though it cuts only relatively low-grade timber; neither is $7 stumpage for North Carolina pine with approximately $7 lower freight on lumber than from the Gulf States to such important consuming markets as Philadelphia and New York.

A further indication of the real significance of current stumpage prices in the United States in relation to profitable timber growing may be secured from a comparison with the stumpage prices in Europe under which timber crops have been grown for the last century or more by both public and private owners. Although open to obvious objections, it is necessary to cite pre-war European prices. It is obviously out of the question to compare present or pre-war American with present German prices. It would be difficult also because of fluctuating exchange and inflated currency to make any satisfactory comparison with present French prices. At best a comparison between American and

European values is difficult because of the difference in utilization.

Prior to 1912 good saw timber in the Pyrennees was sold by the French communes at a stumpage of 67 cents per thousand board feet. Difficult logging and transportation explains this exceptionally low price. Pre-war stumpage prices in France averaged from $11 to $15 per thousand feet for spruce and fir; $9 to $10 for maritime pine; $12 to $13 for Scotch pine; $24 to $55 for oak. Cordwood in the Vosges sold for less than $4 per cord.

Pre-war stumpage prices in Prussia were about $18 per thousand feet for oak, $10.50 for beech, $12.50 for spruce, and about $10 for pine. In Wurttemburg the stumpage price of oak was $31.50 and for conifers $17.50. On the average for Germany as a whole stumpage prices were not essentially different from those prevailing in France before the war.

Of perhaps greater interest because of greater similarity in economic and forest conditions are the stumpage prices of the Baltic countries, particularly Sweden. Pre-war spruce and pine stumpage was $9 per thousand feet on the basis of Swedish utilization, which is 150 cubic feet per thousand board feet.

It is clear, therefore, that present stumpage prices of both conifers and hardwoods in several sections of the United States, particularly on second-growth, have already reached or passed the pre-war stumpage prices of France, Germany, and Sweden. American prices, barring the period of inflated European currency, have increased much more rapidly than European prices. This is particularly true since 1900. There is little reason to expect that the dwindling cut of southern pine can have any effect on stumpage price levels different from that of the falling cut of northern pine 20 years ago, and any further increases which this may bring will establish still more firmly the possibility of profitable timber growing.

Probably more is to be learned in New England of the possibilities of profitable forestry than in any other region of the United States, because there cutting began earliest and through the play of economic forces, favorable climatic conditions, and prolific tree species the nearest ap-

proach to the growing of timber crops has been made. But unqestionably in a number of other forest regions in the United States economic conditions even now are almost equally ripe for timber growing. These regions include much of the southern pine belt, parts of the Lake States, and even sections of the West. It would not be surprising if the redwood belt, with its wonderful rapidity of growth, were to prove the most profitable timber-growing region of the United States.

A few examples, selected more or less at random from a variety of sources, illustrate concretely the profitable white pine forestry of to-day in New England. Second-growth pine stands in large part naturally seeded, in a much smaller part planted, have occupied many abandoned fields in central New England. These pine lots surround the manufacturing towns with which New England is filled and supply ideal box material for the shipment of its factory products. No attempt has been made to secure average figures, but New England abounds in examples.

The first case illustrates a measure of forestry. A pine lot in southern New Hampshire was cut over in 1887 to an 8-inch diameter limit, yielding 100,000 feet of pine, which at $4 or $5 stumpage, or about $56.25 per acre, was sufficient to clear the cost of the land and accrued taxes and yield a good profit. A careful cruise last year shows a stand of 75,000 feet to the acre, which will cut a large percentage of high-grade material, and for which offers of $20 per thousand, or $1,500 per acre, have been refused. While this show-is better than the average, it is not exceptional in the pine region of New Hampshire, Massachusetts, and Maine.

Three acres in a second New Hampshire lot were purchased in 1877 and planted with white-pine seedlings dug up from neighboring fields, at a total cost for land and planting of $11.66 per acre. This lot was sold in 1897 for about $100 per acre; in 1912 it was sold again for $333.33 per acre; and in 1922 it is held at $566.66 per acre. This represents a yearly average increase in value of $12.33 per acre, or more each year than the original investment, which was unusually large because of the cost of planting. Under the present "full valuation" New Hampshire law, taxes are now some-

where near the average annual increase in value, and the advantage, if any, of holding the stand for a future cut will be the production of high-quality material which will command much higher stumpage prices. As a result of this law, most New Hampshire stands are reported as being cut at an earlier age than in adjoining States.

A few additional cases will be summarized in the briefest form to give a more complete picture. About 1917, $11,500 was paid for 18 acres of 60-year-old Massachusetts pine of natural origin. A short time ago $1,000 was paid for 3 acres of planted 40-year-old pine. A natural 80-year-old pine stand of 2 acres in Vermont is reported to have cut 170,000 feet and to have sold at $2,000 for the stumpage. These three stands yielded $11, $8, and $12.50 per acre per annum in stumpage returns. A Massachusetts stand bought for $6.25 per acre in 1905 returned $105 in stumpage alone in 1921. Another Massachusetts stand bought for $18.88 per acre in 1895 returned $311.11 in 1916 in stumpage alone. These two stands yielded $6.17 and $13.91 per acre per annum in stumpage above the original purchase price. In the latter case the annual tax rose from about 16 cents per acre at the time of purchase to about $1.90 at the time of cutting, so that it did not constitute a burden.

While most of the second-growth white-pine stands are of natural origin, planting dates from about 1820 and has become common. In the early days seedlings were frequently obtained from adjacent fields or woods. To-day planting stock is being furnished at cost by a number of State nurseries and can be secured also from a number of commercial nurseries.

A report by the Massachusetts State Forest Service published in 1915 indicates in a striking way the results of some of the earlier plantings. Plantations from 30 to 40 years old show an average yield of 21,910 board feet to the acre; from 40 to 50 years old, of 32,726 board feet; and from 50 to 60 years old, of 41,186 board feet. At the 1915 average stumpage value of $8 per thousand, the cash returns per acre 35 years after planting would be $175.28; 45 years after planting, $261.81; and 55 years after planting, $329.49 per acre; while at the 1922 average stumpage value the cash returns would be for the same periods $306.74, $458.16, and

$576.60 per acre, respectively. Deducting the total costs for these periods (reckoned at $5 per acre for the land, $12 for planting, estimated taxes on both land and timber, and compound interest on all outlays at 5 per cent) the average net return per acre at the 1922 stumpage value would be: at 35 years, $194.86; at 45 years, $238.95; and at 55 years, $184.84.

Stands 55 years old should command a value decidedly above the average because of the higher quality of lumber they will yield, but no allowance was made for this. In any case, there is a comfortable margin above costs and interest at a current stumpage value of $14. Also, these stands had to carry a heavy initial planting cost which under good methods of cutting could probably be eliminated.

There is another consideration. Profitable thinnings in growing timber are to the forester a matter of prime importance. If they can be made, it means a series of returns between reforestation and the final harvesting of the crop. Such intermediate returns ease the burden of relatively long-term carrying charges before the final cutting, and, rightly conducted, stimulate growth so that the final yield is improved in quality as well as increased in quantity.

Comprehensive data which will show in any conclusive way the average yields which can be secured from thinnings in different sections of the country and the net financial returns from such yields are not in existence, but a few examples from various Eastern States show that they can be made profitably. In Massachusetts a white-pine stand partly 34 and partly 53 years old, thinned in 1908, afforded a stumpage return of $20 per acre. In New Hampshire three successive thinnings of white pine in the age period between 35 and 50 years took out 10,498 board feet, afforded a return of $114.48 per acre, and left 15,722 board feet of timber in the growing stand. Three other white-pine stands in New England made showings as follows:

Age.	Amount cut.		Amount left.	Returns per acre.	Stumpage.
	Board ft.	*Cords.*			
28	.....	12	.....	$12.00	$1 per cord.
50	7,000	.....	42,000	70.00	$10 per M board feet.
60	4,500	.....	25,500	22.50	$5 per M board feet.

Reports of thinnings made around New Haven, Conn., indicate that sprout hardwood stands can be profitably thinned in that region and may yield from 4 to 10 cords of fuel wood an acre in stands from 25 years of age upward. Average stumpage returns have varied from $8.12 to $10.50 an acre.

From a 40-year-old hardwood stand in New Jersey seven cords were cut per acre, leaving 18 cords in the stand. With stumpage at $1.50 per cord, the net return from the thinning was $10.50 per acre. A New Jersey hardwood stand was thinned of 12.6 cords, leaving 15.4 cords, at a profit of $15 per acre. Another yielded a profit of $45. And a Maryland stand of loblolly pine, thinned when only 14 years old, yielded 11 cords of wood, affording a return of $11.50 per acre, while leaving 15.5 cords of wood on the land to grow.

In the cases given, therefore, the returns ranged between $8.12 and $114.48 per acre, the latter including a series of three thinnings.

The sale of timber need not constitute the only money returns from the forest. In some regions live-stock grazing and timber growing can be combined if grazing is so regulated as to prevent material damage to young tree growth. On the National Forests the receipts from grazing amounted in 1921 to about $2,500,000. Longleaf and slash pines in the South can produce naval stores before lumbering. In a good stand of virgin timber an income of $16 to $17 per acre per year is easily possible during three to five years of turpentining under current commercial standards. From a poor timber stand returns of $3 to $4 a year are obtainable, and $8 to $10 per acre is a fair average for the South as a whole. Large progress has already been made in improving the methods of naval stores production, and better methods should at least prolong the period of obtaining profitable yields. Receipts from the leasing of summer home and camp sites, hunting and fishing privileges, and other recreational facilities are further examples of possible returns from forest properties while a timber crop is being grown, which may in part or altogether offset carrying charges.

Entirely aside from such incidental receipts the examples given of final returns and of the intermediate returns from

thinnings illustrate that in many localities, and conspicuously in New England, timber production on private lands is already very profitable. The timber crop is proving the salvation of many a New England farm which has been pushed to the wall in agricultural competition. True it is that in the majority of cases farmers allowed their fields to grow up into trees because they could not farm them profitably, could not sell them, and did not know what else to do with them. The play of forces long misunderstood has finally classified as forest land much of the farm acreage which after several generations of cultivation can not profitably produce agricultural crops. Owners have of late been slowly waking up to the fact that all unawares and without effort such land has often grown a very profitable timber crop. They do not yet realize that it would have been a still more profitable crop if they had known how to grow it to best advantage. This is not the entire story, however, for in the aggregate a very considerable area has been planted to white pine and other forest trees throughout New England. By inference, the possibilities in other regions are favorable, and in a far greater degree than has generally been realized.

It should be remembered that the second-growth timber crops of New England now being cut were started by 1890 at the latest. Pennsylvania was at that time cutting a large amount of virgin timber, the Lake States were in the crux of their fiercest competition with the South, and the crest of the southern pine cut had not yet been reached. There is no reason to think that the owner of timberland of to-day in any region of rapid growth in the United States is taking more chances on future returns from wood crops than did the New Englander of 30 or 40 years ago. On the contrary, all the facts as to our remaining timber stands, the rate at which they are being cut, the probable duration of the virgin supplies remaining, and the disparity between market demands and the second growth already started, point to opportunities for still greater profit in timber growing.

The hazard of loss from fire is sometimes a deterrent to the production of timber crops by private owners. While

the private owner must assume some risk from this source and must expect to pay a reasonable cost for protecting his own property, it is being recognized more and more that an obligation rests upon the public to assist him. From year to year publicly supported protection of forests against fire is being extended and its efficiency improved. This whole movement has come about largely during the last 20 years. The recognition of the value of second-growth stands is in itself acting as a powerful stimulus. White-pine wood lots in New England are worth, for example, up to $500 an acre, and no owner with timber of this value can be indifferent to the fire hazard. There is also the bugaboo of forest taxation, far more important in most timber regions and States on account of its future uncertainty than because of its present burden. In the New England States, for example, with the exception of New Hampshire, which under existing law taxes forest lands as nearly as possible to their full value, taxes on timberland are seldom burdensome.

The public, however, has a very direct and important obligation in the solution of the taxation question. By solving this question and assuming a fair share of the burden of fire protection, it will also help to remove two of the principal uncertainties in profitable timber growing.

Balancing Future Requirements and Production.

To summarize what has been shown in previous sections: Wood requirements normally increase with industrial progress and with growth of population. In our own case it seems probable that this tendency will be largely offset by (1) a gradual substitution of other materials, and (2) closer utilization, the saving of waste, the prevention of decay, and the reduction in losses of buildings and other products through fire. Imports from abroad may help out certain local shortages, as in the case of pulpwood, but can not be expected to cover any large deficit. We shall need continuously not materially less wood than we now yearly take from our forests.

Consideration of the remaining virgin timber, the present stands of second-growth, the present rate of cutting,

and the present rate of replacement leads to the conclusion that we face a period of stringency and reduced per capita consumption. This period has, in fact, already begun for high-grade materials, as indicated by reduced consumption and higher prices.

As the virgin supplies are exhausted we shall become more and more dependent upon the amount and character of the timber we actually grow. This dependence, at the present time, would mean a reduction in our annual use of wood from 22½ to 6 billion cubic feet. By the simplest measures, consisting mainly of fire protection, we can ultimately produce on our present area of forest land a quantity sufficient (14 billion cubic feet) so that it would be necessary to reduce the present consumption by somewhat less than half. By intensive forest culture we can balance or even increase our present consumption of wood.

A part of the present area of forest land can be utilized only for timber growing. On a part, however, timber growing must compete with agriculture. Profits obtainable from timber crops will increasingly induce landowners to devote the poorer agricultural lands to this use. The resultant of conflicting forces, which may be summed up as the relative needs of the country for food and timber, will probably be an area of land devoted to timber-crop production approximately equal to the present total of 470 million acres. Upon this we can, if we so desire, produce sufficient timber to maintain reasonable standards of living indefinitely.

The Progress of the United States in Timber Growing.

To complete this survey of the transition of the United States from timber mining to the production and harvesting of timber crops, it remains to summarize the progress to date in timber growing. The more significant facts in the present situation from this standpoint are (1) the character of forest land ownership, (2) the protection of forest lands from fire, insects, and disease, (3) the adjustment of tax laws to timber crops, (4) the management of forest lands with a view to continuous growth, and (5) the progress in forest education and research.

Forest Land Ownership.

The nature of forest ownership is important from the standpoint of stability, permanency of interest in the land as distinct from merchantable stumpage, and ability to carry timber crops through the periods required to produce commercial products. Of the 470 million acres of forest land in the continental United States, approximately 89 million acres are owned by the Federal Government, 8,700,000 acres by the States, and 450,000 acres by municipalities. These holdings, which aggregate 21 per cent of the total, represent the most stable forest ownership in the country and that most favorable to the continuous production of timber crops. It should be noted, however, that 5½ million acres of federally owned forest lands in the unreserved public domain and 1½ million acres of State-owned forest land not included in State forests or parks are still without policy or management with a view to timber production and indeed are partly without protection from forest fires. In addition to the areas given, the National Government owns probably 70 million acres of commercial timber or timber-growing land in Alaska, of which 20 million acres are in National Forests while the remainder, in the open public domain, receives no protection from fire and no attention to timber growth.

Of the 371 million acres in private ownership, 79 per cent of the timber-growing soil of the country, approximately 150 million acres are farm wood lots—a relatively permanent form of ownership and one capable, economically, of rapid development in systematic timber cropping. The remaining 221 million acres represent the holdings of land and lumber companies, mining companies, railroads, and other owners having, in the vast majority of cases, no permanent interest in the land except as timber growing may offer commercial profit.

During the past 11 years approximately 2 million acres of forest land have been purchased by the National Government, under the act of March 1, 1911, for the protection of navigable streams; and approximately 8 million acres of forest land have been acquired by States and municipalities. The progress in stable forms of forest ownership favorable to timber growth has lagged far behind the rate of forest denudation.

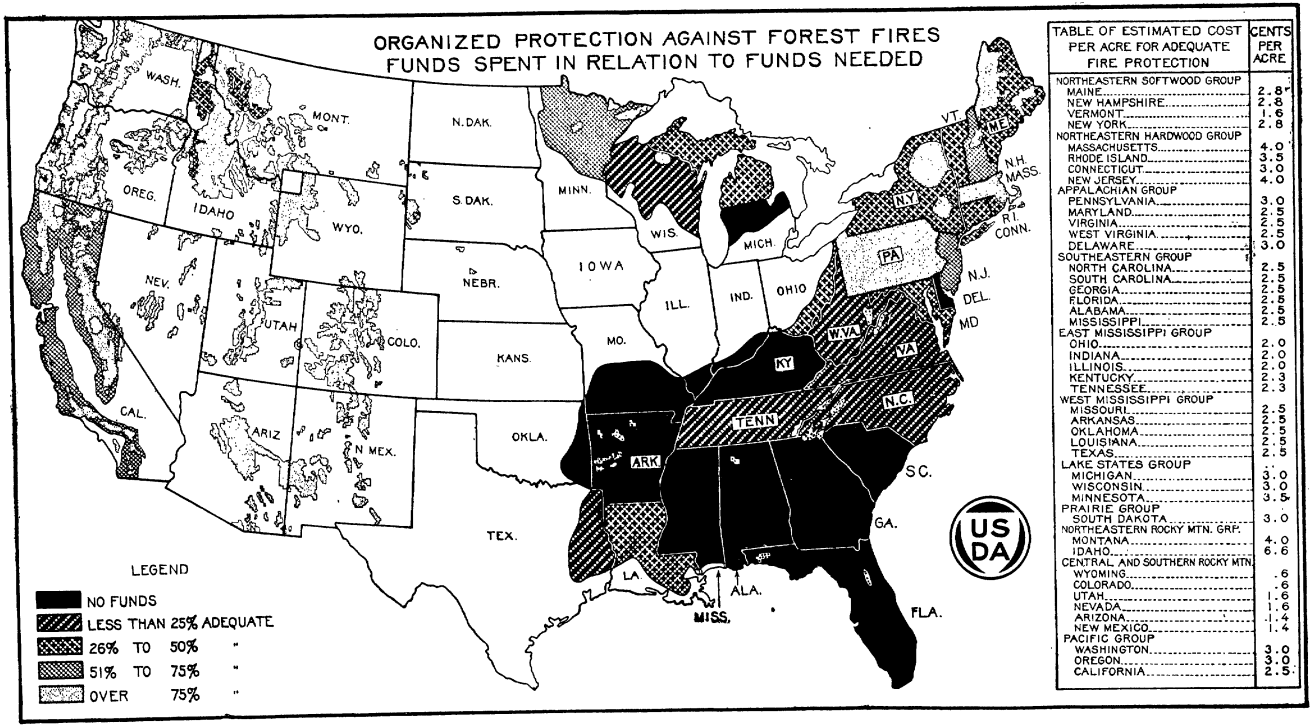


TABLE OF ESTIMATED COST PER ACRE FOR ADEQUATE FIRE PROTECTION	CENTS PER ACRE
NORTHEASTERN SOFTWOOD GROUP	
MAINE	2.8
NEW HAMPSHIRE	2.8
VERMONT	1.6
NEW YORK	2.8
NORTHEASTERN HARDWOOD GROUP	
MASSACHUSETTS	4.0
RHODE ISLAND	3.5
CONNECTICUT	3.0
NEW JERSEY	4.0
APPALACHIAN GROUP	
PENNSYLVANIA	3.0
MARYLAND	2.5
VIRGINIA	2.5
WEST VIRGINIA	2.5
DELAWARE	3.0
SOUTHEASTERN GROUP	
NORTH CAROLINA	2.5
SOUTH CAROLINA	2.5
GEORGIA	2.5
FLORIDA	2.5
ALABAMA	2.5
MISSISSIPPI	2.5
EAST MISSISSIPPI GROUP	
OHIO	2.0
INDIANA	2.0
ILLINOIS	2.0
KENTUCKY	2.3
TENNESSEE	2.3
WEST MISSISSIPPI GROUP	
MISSOURI	2.5
ARKANSAS	2.5
OKLAHOMA	2.5
LOUISIANA	2.5
TEXAS	2.5
LAKE STATES GROUP	
MICHIGAN	3.0
WISCONSIN	3.0
MINNESOTA	3.5
PRAIRIE GROUP	
SOUTH DAKOTA	3.0
NORTHEASTERN ROCKY MTN. GRP.	
MONTANA	4.0
IDAHO	6.6
CENTRAL AND SOUTHERN ROCKY MTN.	
WYOMING	.6
COLORADO	.6
UTAH	1.6
NEVADA	1.6
ARIZONA	1.4
NEW MEXICO	1.4
PACIFIC GROUP	
WASHINGTON	3.0
OREGON	3.0
CALIFORNIA	2.5

FIG. 18.—A little more than half our forest area receives more or less adequate protection from fire. Twenty-seven States have organized protection, and practically all Federal lands are protected. In the South, one of our most important forest regions, eight States have no protection, and the rest have wholly insufficient protection.

Protection of Forest Lands.

About 54 per cent of our forest area receives more or less systematic and adequate protection from fire. This includes the 95 million acres in national and State forests, national parks, and Indian reservations, and around 160 million acres in private ownership. The national and State holdings are protected mainly by direct public appropriations; the private forest lands chiefly by Federal and State agencies in cooperation with each other and, to a considerable degree, with the owners of the land.

Thirty-nine States contain important areas of forest land. Twenty-seven of them have organized State forest protection on a more or less adequate scale. Approximately $3,300,000 is now expended annually for the protection of the forest lands in private ownership, of which State appropriations or special taxes furnish $1,930,000, the Federal Government furnishes $400,000, and private land owners contribute $1,000,000—an amount often increased during seasons of special hazard. At least 166 million acres of privately owned forest land on which systematic fire protection is the first essential step to continuous timber growth now receives no protection, and on many other areas the protection furnished is incomplete and inadequate. An average yearly expenditure of between 2.5 and 3 cents per acre, or a total of $9,250,000, would fairly protect all of the privately owned forest land in the United States. The task is at present two-thirds undone. The status of fire protection is indicated graphically in Figure 18.

During the last six years an average of 33,500 forest fires has occurred annually, burning over more than 7 million acres of forest land.[8] Fifty per cent or more of the total loss in 1921 occurred in the South, where eight States have no organized forest protection and the rest have wholly insufficient protection. Fire, which goes hand in hand with destructive logging, has through repeated burning of young trees been the chief means of keeping the forest growth in the United States so far below the current drain upon our timber. Moreover, it has been responsible primarily for the lowered productivity of immense areas of forest soil.

---

[8]A detailed statement will be found in Tables 500 and 501, Forest Statistics section of the Yearbook.

Notwithstanding the losses still incurred, forest protection has made enormous strides during the last 12 years. This is due largely to the general awakening of the country to its forest problem, including the realization by timber owners of the necessity of preserving their merchantable stumpage. It has been aided by the cooperation extended by the Federal Government in protecting the watersheds of navigable streams, which during this period has stimulated the efforts of 15 additional States and enlarged the area of private forest land receiving protection from 59 million to 160 million acres.

Forest fire protection still varies widely in efficacy and in methods of financial support. A majority of the States defray its cost chiefly by general appropriations; a few, like Maine and Louisiana, levy special taxes upon timber or forest land for the purpose; while others, notably Oregon and Washington, require the landowner to meet the expense of a fire patrol.

The protection of forests and forest products from insects is of scarcely less importance than their protection from fire. Losses due to insect attacks upon living trees and crude, finished, and utilized forest products are estimated by the Bureau of Entomology at $130,000,000 annually. The Bureau of Entomology has made notable progress during the past 20 years in determining the life history of forest insects, in devising methods of checking them, and in meeting emergencies by educational work and systematic control measures.

Cooperative insect control on a large scale is at present being undertaken on Federal, State, and private lands on the Pacific Coast and Rocky Mountain forests. Over 1 million acres of land and over 11 billion board feet of yellow-pine timber, with a stumpage value of over $25,000,000, are involved in a single contract project. During the past 10 years the western pine beetle has killed on this area over 1½ billion board feet of the best trees, with a stumpage value of more than $3,000,000. The Bureau of Entomology estimates that the cost of bringing this insect under control will be less than $150,000. The location and extent of the present and more recent infestations are indicated in Figure 19.

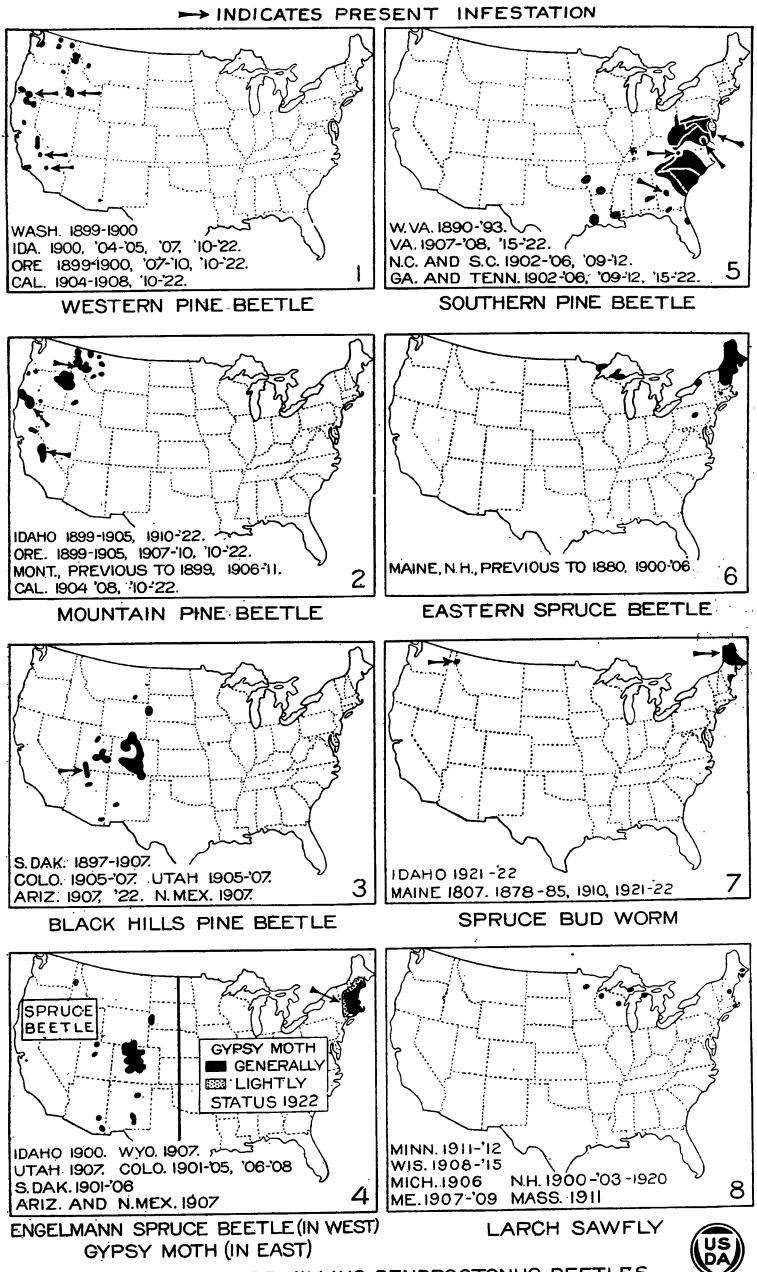


FIG. 19.—Tree-killing insects yearly take a large toll on our forests, and in their more serious outbreaks often threaten extensive forest regions.

It also estimates that in addition to the appropriation for research and for fighting the gipsy moth in New England, expenditures for fighting tree-killing insects in the whole country do not exceed $75,000 annually, while the amount

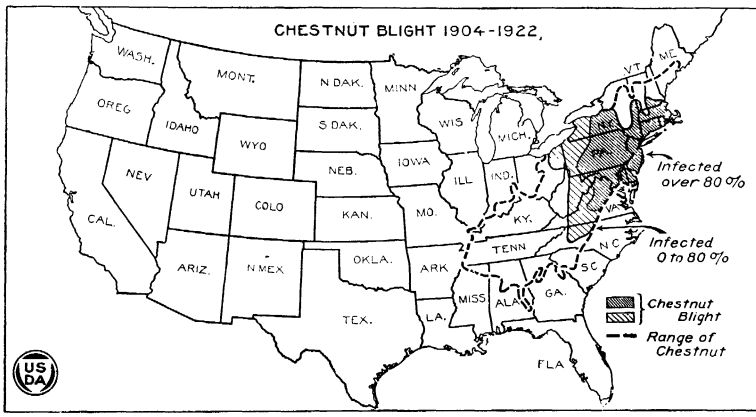


FIG. 20.—Chestnut blight has already wiped out chestnut over a large part of its range.

required by Federal, State, and private owners to get definite results need not exceed $500,000 annually.

Forest trees, like any other crop, are subject to the attacks of fungi. "Infantile" diseases such as damping-off are a large factor in the destruction of seedling trees. At all ages trees are subject to girdling, canker diseases, root rots, etc., while after maturity heart rots rapidly reduce the timber content of the living tree. Structural timber and other wood products rot through the action of fungi.

Marked success has been obtained in controlling the diseases of forest-tree seedlings in nurseries, such as damping-off. Rotting of wood products has proved amenable to various preservative treatments and to improvements in methods of location and storage. The age limits of the serious development of decay, beyond which a stand of trees can not be profitably held, have been determined for the few trees so far studied.

By far the most serious menace of disease to forest crops at the present time lies in the imported epidemic. The chestnut blight, imported from eastern Asia on nursery stock in the early nineties, has all but exterminated this useful tree

throughout its northern range. (Fig. 20.) Quarantines of foreign-tree nursery stock, the only effective means of preventing such diseases, have only recently been put in force. Altogether, the most important present example of this type of disease is the white-pine blister rust. Introduced from Europe within the past 20 years, it is now widespread through the northern range of the eastern white pine, and has recently been found extensively in British Columbia and to a limited extent in Washington on the western white pine. (Fig. 21.) The very existence of the western white and sugar pine forests is threatened. Under eastern conditions a financially practicable method of local control has been worked out which will save the eastern white pine in the areas of its greatest commercial value, but whether these methods can be adapted to western conditions remains to be demonstrated. During the past four years, in cooperation with the Northeastern and Lake States, a total of 1,025,384 acres have been cleared of currant and gooseberry bushes, at an average cost of 35 cents per acre, thus protecting the white pine on this area and making it safe for the future production of this valuable crop.

Tax Laws.

Annual taxation of growing timber compels the same crop to pay taxes many times. Where assessments equal or approach actual values timber production is discouraged.

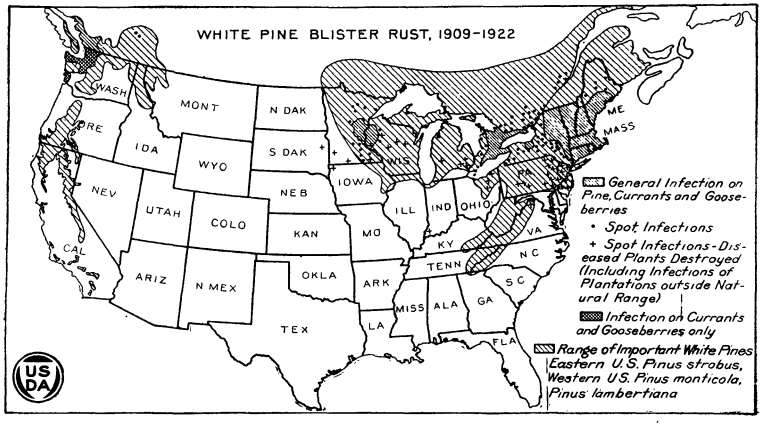


FIG. 21.—The blister rust is menacing our eastern white pine and has appeared in the West, where it threatens the western white pine and sugar pine forests. The Bureau of Plant Industry is fighting it by attempting to eradicate from white pine forests the currant and gooseberry bushes necessary to the propagation of the rust.

Some adjustment of the general property tax to meet this situation has been widely recognized as legitimate and desirable.

Prior to 1910, 26 States and subsequently three others made various attempts in this direction, usually in the form of optional rebates, bounties, or exemptions to induce tree planting or the maintenance of productive forests. These efforts have brought no substantial results, partly because of inadequate inducements offered, partly because of insufficient provision for local public revenues, partly because of uncertainty that timber-growing would pay. An outstanding present need is a system that will defer the principal burden of taxation on growing forests to the time of harvesting the crop without being inequitable to other taxpayers or materially curtailing local revenues.

Within the last dozen years 10 States have passed special forest taxation laws, most of which embody the so-called "yield tax." This taxes the land annually, but the timber only when cut. Some of these laws continue the "inducement" feature in the form of nominal or very low valuations of the land, and all take effect only if the owner "registers" or "classifies" his land. The whole matter is still in an experimental stage. Its ultimate solution should be a rational and equitable scheme that will embrace all forest land and take effect automatically.

Management of Forest Lands.

Hitherto second-growth timber has been mainly a "wildland" crop. During the past 20 years these wild crops of wood have furnished an increasing part of the softwood cut in the Eastern States. Their inadequacy is apparent from the broad fact that, taking the country as a whole, they offset but one-fourth of the current drain upon our timber supply. They represent an even smaller fraction of the timber crop which our forest land is capable of producing. The real measure of the progress of the United States in timber growing is the extent to which the management, or care of forest lands is purposely adapted to securing continuous crops of wood.

Fifty-four per cent of our aggregate forest area now receives a fair, or at least partial, degree of fire protection.

This is the starting point in forest practice and indeed on many areas alone suffices, if effective and continuous, to produce a valuable timber crop.

The 80 million acres of timbered and young growth lands in the National Forests constitute the largest area in the United States under a form of management designed specifically to secure complete reforestation of cuttings and a continuous yield of forest products. When fully utilized these lands are capable of furnishing continuously from 6 to 8 billion board feet annually of saw timber, pulp wood, railroad ties, and like products, or from one-sixth to one-fifth of our present total cut of similar material. They are, however, still largely virgin timber. Their administration provides for (1) a cut limited to what the land can grow and having in view a sustained yield; (2) restocking of cut-over areas through natural reproduction; (3) additional protection of cut-over areas through slash disposal; and (4) replanting old burns and other idle forest lands.

Of State forest holdings around 80 per cent, or 7 million acres, and of municipal forests 50 per cent, or 225,000 acres, broadly speaking, are under forms of management which provide either for continuous growth or for preserving the present stands. On the 79 per cent of our forest land in private ownership, however, the aggregate showing is still very small. A striking advance has been made in New England and parts of the Middle Atlantic States, where high timber values and opportunities for exceptionally close and varied utilization have given a tremendous impetus to the plan-wise growing of timber crops. It is estimated that one-sixth of the forest area of Massachusetts is under some intensive form of timber culture; and the Northeast furnishes many striking examples of forest properties, large and small, which have long maintained almost unbroken timber growth, the equivalent practically of a sustained yield. Elsewhere the intentional growing of timber crops on private land is as yet almost negligible. Instances of its being undertaken, however, on both woodlots and large commercial tracts, in the southern pineries, the central hardwood region, and the Lake States are becoming more numerous. Rising local stumpage values are slowly but inevitably creating a commercial basis for the timber crop; and landowners are

responding to this economic opportunity. A most illuminating development is the decision of owners in the redwood belt of California to capitalize the exceptionally favorable growth conditions in their region by reforesting their old cuttings.

About one-third of our forest land area, 150 million acres, is owned by farmers. A majority of these wood lots have undergone a process of gradual deterioration or extinction. On many others, however, crude but often effective methods of cutting have been employed which result in renewed forest growth. The farmer is usually a permanent owner of such land. His business deals with crops and the timber crop idea should not be difficult for him to acquire and apply. Farm wood lots probably now produce not more than a third of the timber which they are capable of growing. They can be made a permanent and profitable asset of the farm and an important national source of timber.

Forest planting has as yet played a negligible part in restoring the balance between the drain upon our timber and the current production of wood. (Fig. 22.) It has, however, been widely stimulated by State forest policies and by State and Federal educational work. Its extent is increasing. A number of States have made notable prog-

FOREST PLANTING COMPARED WITH FOREST DENUDATION.

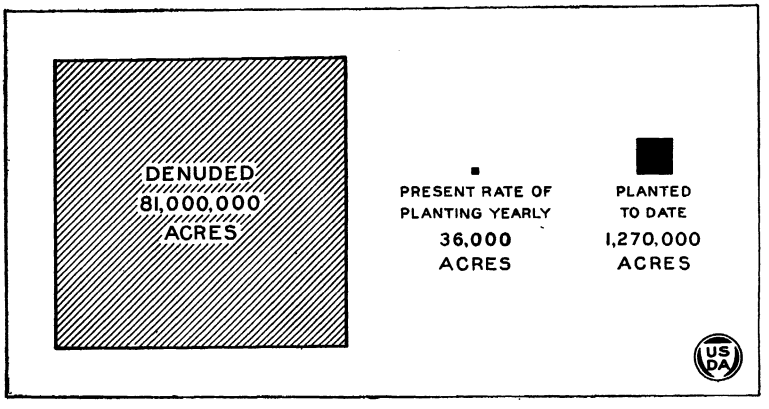


FIG. 22.—Forest planting, though an indispensable branch of forestry, is far from being an offset to forest denudation.

ress in planting State lands and encouraging tree planting by private owners through the distribution of nursery stock. Planting denuded lands in the National Forests, estimated at 1½ million acres, has proceeded at a snail's pace owing to limited funds for this purpose. The following table indicates that nearly 1½ million acres of land have been planted with forest trees to date, by far the larger part of which has been done by farmers and owners of estates. The area now planted annually amounts to nearly 36,000 acres.

Forest planting in the United States.

	Area planted.	Per cent of total.	Area now being planted yearly.	Per cent of total.
	Acres.		*Acres.*	
Federal Government	180,000	12.4	7,500	21.0
State governments	86,104	6.0	7,052	19.7
Farmers and estate owners	1,085,687	75.0	13,791	38.6
Large timberland owners and operators and wood-using industries	20,275	1.4	1,678	4.7
Railroads	15,007	1.0	1,010	2.8
Pulp companies	8,600	.6	1,241	3.5
Mining companies	3,375	.2	426	1.2
Municipalities	33,715	2.3	1,375	3.8
Other	15,478	1.1	1,700	4.7
Total	1,448,241	.....	35,773	.....

See also Tables 505 and 506, Forest Statistics section of Yearbook.

The educational activities of public agencies may fairly be credited with a substantial part of the progress made in private timber growing. Forestry is now an organized activity in 32 States, and through these agencies as well as through the Federal Forest Service the education both of the public and of the landowner is being widely extended. Aside from educational activities, the chief lines of development in State forestry have been: (1) Establishing forest nurseries that grow stock both for planting State lands and for distribution to private owners, and that now have a capacity of 55 million plants yearly; (2) creating State forests and managing them for continuous timber production; (3) organizing and maintaining, with the cooperation

of the Federal Government to a limited extent, a protective system against forest fires over approximately 160 million acres; (4) passing and enforcing legislation for the prevention of forest fires through precautions enforced upon railroads, land clearing, etc., and through the disposal or diminution of logging débris; (5) passing and administering special laws for the taxation of forest lands by classification or otherwise; (6) controlling methods of cutting to insure reforestation. This is a recent development, limited as yet to New Hampshire and Louisiana, which require the reservation of seed trees in cutting pine timber.

The following table attempts a rough appraisal of our national progress to date in the use of forest land for growing real timber crops. Possibly one-fourth of our forest soil is now managed more or less definitely from the "crop" viewpoint. This is comprised largely of Federal holdings, supplemented by some 10 million acres of private land and 7 million acres of State and municipal lands. Rough as it is, this table is the best concrete index that can be afforded of the extent to which, as a nation, we have attained a stable basis of timber supply and an effective use of nonagricultural land.

Status of timber growing in the United States.

	Total.	Federal.	State.	Municipal.	Private.
Total forest area, acres	469,500,000	89,100,000	8,700,000	450,000	371,250,000
Per cent of total	100.0	19.0	1.9	0.1	79.0
Proportion protected from fire, per cent	55.0	99.5	97.0	98.0	43.0
Approximate proportion managed for timber crops, per cent	23.0	98.0	80.0	50.0	4.0
Area planted, acres	1,450,000	180,000	86,100	33,700	1,150,200
Rate of planting yearly, acres	35,800	7,500	7,100	1,400	19,800
Expenditures for forest production [1]	$16,388,000	$9,785,000	$5,021,000	$300,000	$1,282,000

[1] Not including special forest road and trail appropriations or expenditures for slash disposal. Also excludes $625,000 spent by State and endowed forest schools on forest education. For details of expenditures see Table 513, Forest Statistics section of Yearbook.

Progress in Education and Research.

It has been essential that research, to develop an art as yet unknown in this country, and educational work, to make it the common knowledge of the people, should take a dominant place in both the earlier and later phases of national forestry activities. For 25 years after its insignificant beginning in 1876, the United States Department of Agriculture devoted its efforts in forestry exclusively to investigation and education dealing with timber culture, its protection from insect and fungous diseases, the industrial use of forest products, and the relation of forests to the economic needs of the country. A vast amount of material was published, much of it preliminary and tentative but nevertheless of far-reaching effect.

The forest products research of the Government has been centered, for the past 12 years, at the Forest Products Laboratory in Wisconsin. It deals with the qualities of timber, its efficient manufacture for an immense variety of products, and the conservation of the raw material by reducing waste and improving methods of utilization. The research in timber growing has centered largely at six forest experiment stations, in the South and West. At each of these points the science and practice of timber growing in a large region are being worked out, and a demonstration center of timber culture developed. Control of insect infestations and of fungous diseases are being worked out by the Bureaus of Entomology and Plant Industry, respectively. Forest research on a less or greater scale has also been undertaken by 20 State forest departments and by a majority of the 22 forest schools in the United States. The school forests of Harvard and Yale, in New England, and the experiment station conducted by the University of Minnesota are notable examples of local centers of forest research which exert a wide influence for better timber growing.

Much has been done toward solving the myriad technical puzzles confronted as the efficient growing, protection, and utilization of timber are seriously undertaken. But the forest research agencies of the country are still inadequate to keep pace with the demands made upon them in the evolu-

tion from timber mining to timber growing. Three important forest regions, the Lake States, the Alleghanies, and the Northeast, are still without Federal experiment stations; and the sum total of our research activities is meager indeed by any standard of comparison, such as the $2,250,000,000 which our yearly cut of forest products is worth, or the $250,000,000 which we pay for lumber transportation alone.

Other educational activities in timber culture and timber use have expanded enormously within the past 25 years from their small beginnings in the Department of Agriculture. The field organization of the Forest Service for the administration of National Forests has carried them into 27 States. They have been far more widely extended by the forest organizations of 32 States and State-wide or local forestry associations in 29 States. Meanwhile, 22 forest schools have been established, which have graduated 2,700 professional foresters. They now graduate about 175 trained men yearly. Like any other widespread economic or public movement in the United States, progress in timber growing rests fundamentally upon the understanding of the problem—by the everyday man as well as the landowner or industrial user of timber. While research and educational work can not immediately restock our idle lands with growing forests, they nevertheless are building an indispensable foundation for the needed changes in national use of land and timber.

Timber Growing a Public and a Private Task.

Two powerful forces are working to bring about the growing of timber crops on forest lands. One is public necessity, the other private opportunity. The public need for a permanent source of timber is being increasingly recognized; but the appreciation of private opportunities for profitable timber growing has scarcely begun.

Public Necessity.

No State can afford to shift the burden of taxation to other property or regions because of its diminishing wealth in timber or to subsidize vast areas of idle land even for such vital requirements as schools and roads. No region or State can afford, because of idle lands, to see its population

dwindle, its social life deteriorate, its industries stagnate, its transportation discontinue. Despite the demand for farms created by our growing population, the area of unutilized cut-over forest lands has increased steadily for half a century, now totals well toward 200 million acres, and, for the most part, seems destined to produce timber or nothing. As in agriculture, the growing of timber crops can be made the foundation for healthy rural development and for thriving, well-populated forest regions. Public interest—local, State, and national—can not tolerate the nonuse of immense areas of soil when their profitable use can be brought about.

Our rapidly growing population, expanding industries, demands for better housing in town and country, and enormously increasing use of pulp and paper will require little less timber in the future than the 22½ billion cubic feet we now use annually. Even this will necessitate decreased per capita consumption, the increased use of substitutes, and a reduction in the present waste of wood. We can not get along without timber any more than without wheat or steel, but we can meet our industrial requirements and maintain or improve our standards of living by growing it as a crop. We can grow more than half the amount required by simple, inexpensive measures, the most important of which is forest protection against fire. Under more intensive but still entirely feasible methods of timber culture, applied to all of our 470 million acres of forest land, we can grow at least as much timber as we now use.

Under intensive methods of management, our publicly owned forests will produce about one-fifth of the timber required by the United States. It is not conceivable that either State or Federal budgets could support the expenditures needed to buy enough forest land to bridge an appreciable part of the remaining gap between timber growth and timber use, short of an unendurable lapse of time. Even if public forest holdings are enlarged as rapidly as funds can possibly be supplied, the dependency of the country upon timber production on privately owned lands is unescapable.

Private Opportunity.

The second force tending to bring about timber growing is private opportunity, the possibility of profitable returns

on wood crops and of insuring a permanent source of raw material for established enterprises which otherwise will have to be discontinued. Timber growing is already profitable in New England, and conditions in a number of other regions appear to be little less favorable. The cutting out of one species in one great forest region—the Lake States pine—greatly accelerated the rise of stumpage values in practically all forest regions in the United States. The rising cost of transportation from the remaining regions of extensive lumber output is steadily creating higher values for the timber grown in the older forest regions. The value of second-growth stumpage has risen with that of virgin stumpage. In the older portions of the country it equals or exceeds the highest values for the less accessible virgin timber still remaining. Eastern second growth greatly exceeds in value the virgin stumpage in the newer regions of the West. Second-growth values equal or exceed the prewar prices of European timber.

The private owner of forest land must consider not only present but future economic developments which will affect the value of timber crops. He should consider the effect on profitable timber growing of cutting out the great bulk of the remaining virgin southern pine within a relatively few years; the effect of the diminishing accessibility of the Pacific coast stands as cutting progresses; the effect on stumpage prices of a gradually decreasing lumber cut, of a rapidly increasing population, and of normal industrial growth. All of these tendencies will have gone far before any timber crops now started will be ready for the ax.

Denuding and discarding forest land may be a short-sighted commercial policy. It has been demonstrated that small tracts of fully stocked second growth on the best sites can produce as much as 500 board feet per acre per year in the southern-pine region, 950 board feet in the white-pine region, 1,000 board feet of Douglas fir, and 1,400 board feet of redwood. Even discounting these yields liberally, for average conditions, young growing forests are often very profitable investments. Whether the owner wishes to hold the land himself for a second cutting or not, leaving it in a condition for good growth often marks the difference between an asset and a liability.

Aside from the financial returns from individual tracts, there are broader questions of private opportunity which in the last analysis are closely related to the public interest. The pulp and paper industry paid $19.03 per cord on the average in 1920 for its pulp wood delivered at the mill. Many individual mills paid higher prices. Even if home-grown pulpwood cost as much, it should still be worth while to ask whether a permanent and assured supply under the control of the paper plant is not preferable to the exigencies of future purchase, depending perhaps upon the policy of of the Canadian provinces anxious to develop their own industries. Which plan, timber mining or timber cropping, offers to the pulp and paper mill the best business course, considering future supplies and costs and the security of its enormous investment?

The pulp and paper industry is only one of many that faces this question: The mine owner for his supplies of props; the farmer for his farm timber and fuel; the naval stores operator for his gum; lumber and box manufacturers for a sustained inflow of logs; even such industries as agricultural implements and automobiles which use relatively small amounts but special kinds of wood. If the problem of insuring ample supplies of needed material at reasonable prices is too large for individual concerns, is it too large for groups or entire industries?

Two census groups of industries—lumber with its remanufactures and paper—are almost wholly dependent upon the forest. Practically all others are dependent in part. These two groups alone, however, reported in the 1919 census a capital investment exceeding $5,000,000,000. They include more than 75,000 establishments, located in every State. They employ nearly 1,350,000 wage earners, and they paid in wages in excess of $1,400,000,000. The individual concerns which make up these two groups and the two groups in the aggregate face the hazard of scrapping their plants, reinvesting their capital, and turning their wage earners adrift, except as a permanent source of raw material can be assured through successive timber crops. Timber crop production is primarily a business opportunity, or

necessity, for only thereby can permanent plant operation and permanency of investments be guaranteed.

Private Obligations.

Extending beyond the opportunities for profit or other business advantages are obligations growing out of the public interest and necessity which are inherent in forest land. These obligations conform with the trend in public opinion, laws, and court decisions toward restrictions on the handling of private property where the public interest may be seriously and adversely affected. They result from the growing complexity of our civilization which makes the welfare of the body politic dependent upon its component parts and impels restrictions upon the freedom of individual action which were unnecessary in a less complex civilization. Forest land is one of our basic natural resources. National welfare depends upon its productivity. From 30 to 100 years are required to mature its crops. Shortages in forest-grown material can not be made good in a season or two, under the reaction of supply and demand, like shortages in wheat or cotton. The people of the United States can secure the timber they need from no other source except this land. If they wait until the injury to social and industrial well-being from lack of wood crops is overwhelming, the loss in time before any remedy could be made effective would create little short of a national disaster. European jurisprudence has recognized the vital relation of forest land to public interest by imposing upon it a degree of public control not shared by most forms of private property.

The public has the right, provided it is reasonably and equitably exercised, to see to it that forest land is kept productive. It can not compel private citizens to own forest land, but it can require that those who choose to own it shall use it for growing timber. The public can not compel the logger to retain his cut-over lands and become a timber grower, but it can require him to leave the land, when he removes its chief element of value, in a productive rather than in a barren condition. In asserting this right, the public must be prepared to pay the price of reforestation as

a part of the cost of manufacturing forest products; and it must be prepared also to do its part in reducing the hazards inherent in timber growing. A considerable timber growth will be obtained on our forest lands, from the unaided efforts of nature, in any event. Self-interest and economic forces will gradually increase its volume and better its quality. But the timber and land problems of the United States can not be adequately met unless a reasonable obligation, or stewardship, is recognized as inherent in the ownership and treatment of forest land.

Public Obligations.

The obligations imposed upon the public by our timber and land problems must be accepted as equally binding. While profitable returns from timber growing can not be guaranteed, the public should meet the landowner half way and, so far as possible, remove the uncertainties which have retarded the timber-crop stage of our forest history. Many of the measures involved will reduce and stabilize the cost of producing timber.

The fire hazard to which growing forests particularly are subject is largely a community hazard, created by the social and industrial conditions surrounding forest lands. An obligation rests upon the public not only to reduce this hazard by legislation and police functions directed at the origin of forest fires, but also to assist the landowners in the cost of fire patrol and suppression. The public has a very specific obligation to adapt the taxation of forest-growing land and what it produces to the reasonable requirements of an undertaking which requires 30 years or more to mature and harvest a crop.

Credit for timber-growing enterprises, at reasonable rates and for long periods, comparable with farm loans, may reasonably be provided by public agencies. Timber insurance, now largely unobtainable, may be made possible with proper stimulus under public policy. Finally, the research necessary to ascertain the best methods of growing, protecting, and utilizing timber must be conducted and its results conveyed promptly and effectively to the producer and manufacturer.

Widespread education of every class of forest owner on his economic opportunities for profitable timber growing and the methods best adapted to his situation and requirements will go far in bringing about timber cropping through the stimulus of self interest.

Furthermore, the public should put its own house in order. All of the forest lands under Federal ownership or control should be systematically protected from fire and utilized for the maximum production of timber, as National Forests or under some comparable form of administration. This applies with special urgency to the 5½ million acres in the unreserved public domain in the continental United States. The enormous acreage of public-land forests in the interior of Alaska should at least be protected from fire pending further settlement and the ultimate determination of their most productive use. All of the forest lands owned or acquired by the States, through tax reversions or otherwise, should be incorporated in State forests, under permanent technical management for timber growth. The denuded areas in various forms of public ownership should be restored to productivity by planting. Public forest policies should aggressively attack the acute problem created by the present enormous area of unproductive land, through the extension of public ownership and the distribution at cost of planting material for private use.

These are obligations of the National and State Governments in recognition of the common necessity. If these things are done, the public can with equity and reasonableness insist that the private owner of forest land do his part.

Three Outstanding Measures Necessary.

Three outstanding measures are necessary to bring about the growing of timber crops on forest lands. The first is to stop unrestrained forest exploitation, the denudation which is a direct result of timber mining.

Timber mining has already left 81 million acres of forest land largely barren, has made 250 million acres more only partially productive, and is adding to these areas from 5 to 10 million acres each year. With little systematic provision for the renewal of our privately owned forests, with a cut

four times the present growth of wood, the remaining timber supplies have become so localized as greatly to decrease their general utility. Lumber prices have risen steadily with the exhaustion of local timber and mounting transportation costs, until now they are reflected in a falling per capita consumption. Forest industries, communities, and population have been made transitory. All of these evils have ramified until they reach and affect adversely our entire population.

Forest denudation can be stopped by relatively simple and inexpensive measures. The first is greater efficiency of protection against fire on the half of our forest area now receiving some protection and the extension of a protective organization over the remainder. This alone will prevent the denudation in many of our forest regions, although unrestrained cutting is likely to result in relatively inferior second growth. In some regions, like the southern pine belt, it is necessary to leave a small number of seed trees to insure a future forest. These simple measures will at least make forest lands partially productive and ultimately more than double the growth of timber.

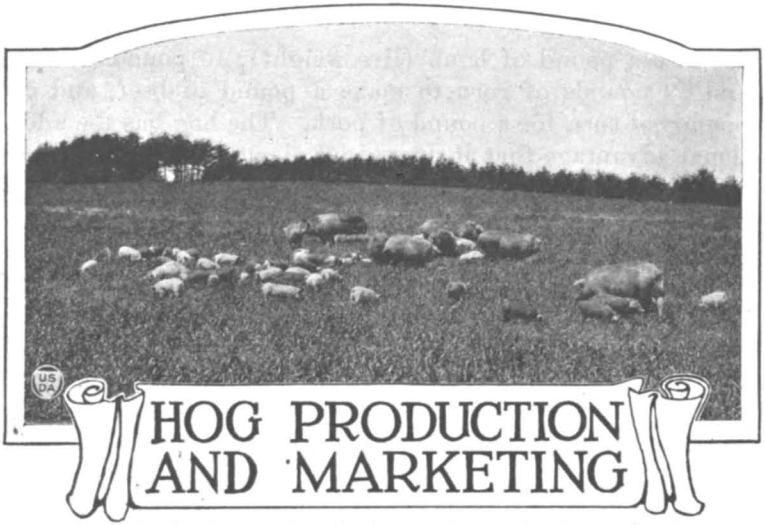
The second step required is to reduce waste in the use of timber. Out of a cut of 22½ billion cubic feet, we waste each year more than 9 billion feet. By the elimination of obvious waste in the woods, in the manufacture of lumber, and in its remanufacture and use, by the general application of technical knowledge already available, and by thoroughgoing research in the properties, protection, and utilization of wood, it should be possible to save at least 6½ billion board feet of lumber each year and additional amounts of other material. The possible saving in lumber alone is equal to the present yearly growth on 170 million acres. This saving is essential to extend the life of our present timber supply and thus to help bridge the gap between the existing virgin forests and new timber crops. Such a saving should mean greater profits to operators, and by increasing the proportion of the crop which can be utilized it should help to make timber growing more profitable.

The third important objective is to increase timber production to the full capacity of the land. Only by this course can we hope to grow the equivalent of our present consumption of 22½ billion cubic feet. Full production will require

the planting of areas now denuded which will not reforest themselves though fires are kept out. It involves careful methods of cutting areas now bearing timber and their protection from insects and diseases.

The ultimate goal of timber growing is a nation-wide extension, region by region, of what has already been attained on private lands in limited parts of the Northeast and in the administration of the National Forests, namely, a sustained yield of forest products, an adjustment of forest-using industries to the growing capacity of the lands which supply them, a balance between timber production and timber use. Before the war Germany was producing 50 cubic feet to the acre of forest land; France 36 feet per acre. We must grow at least 48 cubic feet per acre to meet our present requirements. This rate of growth can be attained if the art of timber culture is thoroughly developed by research in each important forest region and applied by demonstration on public forests and an aggressive campaign of education to reach the private owners of forest land.

By recognizing the importance and urgency of two great national problems, land use and timber supply, by taking full advantage of the powerful forces of public necessity and private opportunity which are working toward the solution of both problems, we can grow on our forest lands timber crops sufficient to meet our wood requirements if public agencies and private owners each do their share. The alternative is idle forest lands and timber bankruptcy.



HOG PRODUCTION AND MARKETING

By E. Z. Russell, S. S. Buckley, *Bureau of Animal Industry;* O. E. Baker, C. E. Gibbons, R. H. Wilcox, H. W. Hawthorne, S. W. Mendum, O. C. Stine, G. K. Holmes, A. V. Swarthout, *Bureau of Agricultural Economics;* W. B. Bell, *Bureau of Biological Survey;* G. S. Jamieson, *Bureau of Chemistry;* C. W. Warburton, *Bureau of Plant Industry;* C. F. Langworthy, *States Relations Service.*

Importance of Hogs.

HOGS are one of the most important sources of meat for human consumption. They are important in American agriculture because (1) they are produced by a large number of farmers; (2) they are consumed by large numbers of urban and rural people; (3) in the form of pork and lard they become two of the most important commodities in foreign and domestic commerce. Hogs rank second in number and third in total value of farm animals in the United States, being exceeded in number by cattle and in value by cattle and horses.

Hogs are produced on three-fourths (75.2 per cent) of the farms in the United States and represent over 10 per cent of the value of the Nation's agricultural production. Hogs in the United States are closely connected with the corn crop. Nearly two-thirds of the commercial production of pork is in that portion of the United States known as the Corn Belt.

The hog is an efficient user of foods fit and unfit for man. It takes about 6 pounds of grain and 6 pounds of hay to

produce a pound of lamb (live weight), 10 pounds of hay and 10 pounds of corn to make a pound of beef, and 5.6 pounds of corn for a pound of pork. The hog has the additional advantage that it dresses off about 25 per cent, while steers and sheep dress off from 35 to 50 per cent. Most of the carcass may be readily prepared as cured meat, in which form it will keep in any climate.

Hogs are frequently used to "hog down" crops, which saves the labor of harvesting. Hogs also help to maintain the fertility of the soil, and where they constitute a part of the live stock, farm practices usually are superior because of the necessity for seasonal rotations of leguminous or rather nitrogenous pasture crops.

Hogs on many farms are raised as a by-product. With few exceptions there is feed enough wasted on every farm in the United States to provide the pork and pork products consumed on that farm. The efficiency of hogs in utilizing farm by-products is greater than that of other farm animals. Hogs and poultry will select and utilize the wholesome parts of unsound and unmarketable grains, refuse from truck crops and by-products from the dairy with greater safety than will other classes of live stock. The prolificacy of hogs, their early maturity, the inexpensive equipment, and small capital investment needed likewise help to put hog production within reach of almost every farmer.

The amount of corn marketed in the form of hogs in this country varies annually from 30 to 40 per cent of the crop. The Secretary of Agriculture has remarked: "Our hog crop serves as a slow absorber for the variation in production of our corn crop year by year, thus ironing out the irregularities in corn prices."

Pork and lard are two of the large items in the food supply of the American people. The average annual consumption per capita for the last 5 years is 67.3 pounds of pork and 12.5 pounds of lard, as compared with 60.9 pounds of beef. In several recent years the consumption of pork, without lard, has exceeded that of all other meats combined. The per capita consumption of hog products by farm people is probably even greater than among city people. Many farmers raise hogs for their own consumption who do not produce hogs to sell.

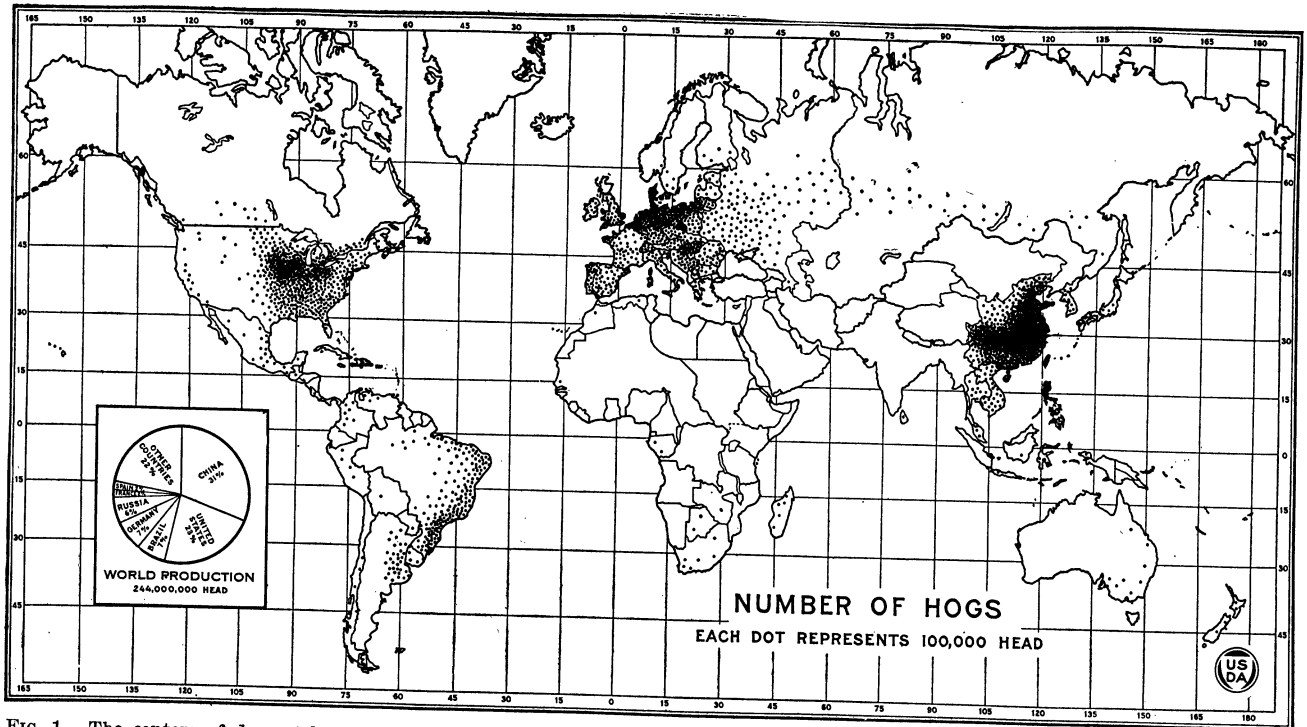


FIG. 1.—The centers of densest hog production are the Corn Belts of the United States and Hungary, the potato and dairying belt of northern Europe, and China, where hogs are fed largely on waste products and barley. Little is known about hog production in China, and the figures used are only estimates. In the corn-growing regions of Argentina and southern Brazil the number of hogs is increasing. Hogs are not numerous in tropical countries, because such countries, as a rule, are not densely populated and have available the vegetable oils to supply the needed fats. Moreover, in the tropical and subtropical climates hogs suffer more from parasites and diseases than in temperate climates. Religion practically excludes hogs from India, Turkey, and certain other parts of Asia; also from parts of Africa.

Pork is a product of relatively high value per quantity unit. Exports of pork represent about 4 per cent of the Nation's physical volume of agricultural exports and 10 to 12 per cent of the value of agricultural exports. If cotton, which is not a food product, is excluded, pork exports represent about 20 per cent of our agricultural exports. Before the war, the United States exported pork or live hogs equivalent to about 6 million animals annually, and in 1921 about 10 million. The quantity of corn exported in the form of pork is much greater than that exported in the form of corn or corn meal.

Uses of Pork and Lard.

Pork is used to a greater extent the world over than any other meat. But nowhere is it more important, probably, than among American farmers. All classes of farm animals raised for food are slaughtered to a greater or less extent on the farm, but with none is this custom so common as with the hog. According to a survey of 950 farms made in 1913 and 1914, pork furnished 54 per cent, beef 24.5 per cent, and poultry 21.5 per cent of the meat used on the farms studied. To have fresh meat during the winter, to cure meat for the summer season, to be able to render fat for almost all cooking purposes, to have savory meats in the form of ham, bacon, sausage, headcheese, and scrapple, is a matter of great importance to the farm housekeeper.

However, we live on a mixed diet, not on single foods, and producers as well as users of any given food product should not think of it alone, but always in connection with other food materials and with all the needs of the human body. If this is done it is far more likely to be used intelligently and to be combined with other foods in such a way as to make it attractive and therefore permanently popular. In general, the flavor of pork combines well with vegetables, legumes, and cereals, and fat pork is one of the best known "seasoners" and "enrichers" of such dishes. Many persons who think that they can not eat pork might find it quite possible to do so if they would take pains to combine it with foods that contain little fat.

The fat of all the domestic animals slaughtered for food is used to some extent in the household, but fat of no other

HOGS IN SELECTED COUNTRIES.

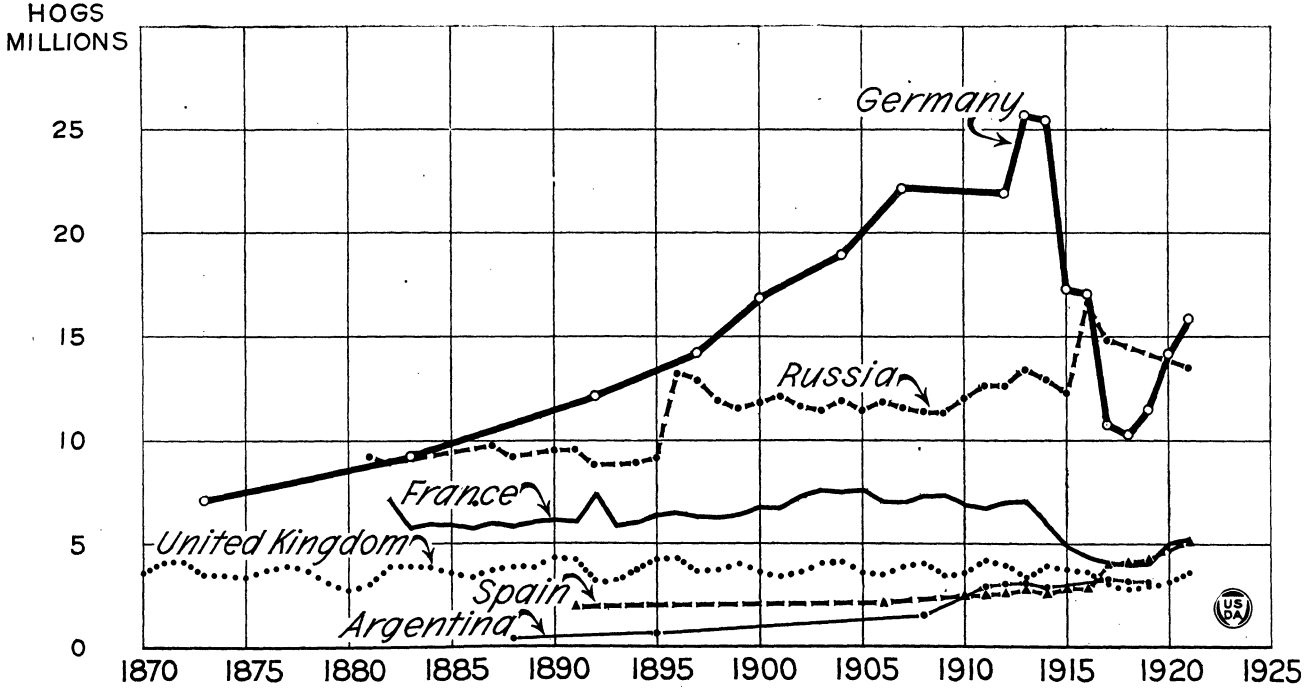


FIG. 2.—In the 40 years previous to the World War the number of hogs increased more in Germany than in any other important country for which statistics are available. The war caused a great reduction in the number of hogs in many of the European countries. Spain, however, increased its number of hogs. Argentina has only recently become an important producer. The estimates shown for Russia since 1914 are from the Central Statistical Bureau of Russia.

domestic animal has such varied and satisfactory uses in the home as lard. Like other fats which are liquid at or near body temperature, lard also is well digested. It must be remembered, however, that lard does not supply to any satisfactory degree the vitamin known as "A" which is believed to be essential for growth—a fact to be kept in mind in connection with food for children—and that so far as fat is concerned, the wise thing to do is to use regularly some fats, such as those in milk or eggs, known to contain this vitamin, and then if economy is at stake, to select the remainder as economically as possible. In many cases this might properly mean an increased use of lard.

Since vitamin A is present not only in milk fat and egg yolk but in all green-leaf vegetables, it is wise to include a liberal amount of the latter in the diet. Fortunately, spinach, turnip tops, cabbage, and many other green-leaf vegetables are quite acceptable when properly cooked with pork. It is better to cook the greens separately, seasoning them with a little of the fat broth from the meat just before serving, since both the flavor and the vitamin value are conserved by the shorter time of cooking.

Development of the Hog Industry.

Change is the rule. Production increases and decreases, centers of production shift, methods of raising hogs change, prices rise and fall, markets move, demand increases and decreases, all in comformity with economic conditions. The brief sketch that follows aims to trace changes and relations so as to show how economic forces operate on the production of, demand for, and prices of hogs.

Hogs were brought to this country by the first settlers to supply their customary meat, and soon became also an article of trade and a source of income. The Connecticut Valley early became an important center for producing pork for market. Several of the northern colonies produced a surplus of pork, which was exchanged with the West Indies for sugar and rum.

The export statistics of 1790 are the first available figures that afford a measure of this surplus production. In that year there were exported from the United States approxi-

mately 6,000,000 pounds of pork and pork products, the export amounting to 1.5 pounds per capita of the population. The domestic consumption was many times greater. Most people were farmers and were keeping a few hogs. In New England dairying (mostly butter and cheese making), cattle feeding, and hog raising were carried on together. The Southern States produced corn, cotton, sugar, and rice and let the hogs forage on roots, acorns, and nuts after which the animals were finished for the butcher with a little corn.

Following the War of 1812 agriculture developed very rapidly in Ohio, Kentucky, and Tennessee, and the most

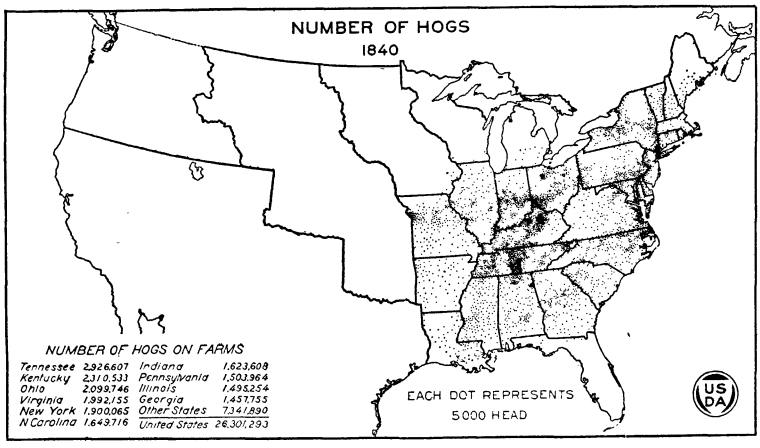


FIG. 3.—The important centers of hog production in 1840 were in the earliest settled corn-growing regions west of the Allegheny Mountains. Hogs were driven from these regions to the Atlantic coast and to the Cotton Belt to market.

important products were corn, hogs, and cattle. The corn was marketed principally in the form of hogs and cattle driven to market. Hogs were driven east to Philadelphia and Baltimore and south to the cotton-producing regions. Slaughtering for shipment down the Ohio and Mississippi Rivers to New Orleans, where the meat was consumed or reshipped to Atlantic coast points and abroad, began about 1820, and Cincinnati soon became a great pork-packing center.

Figure 3 shows the distribution of hogs at the time of the first census, 1840. The heavy concentration in Tennessee

and Kentucky was owing partly to the fact that these States had developed earlier than the Western States and partly to the more favorable location with respect to markets. The farmers of the South were specializing in cotton production

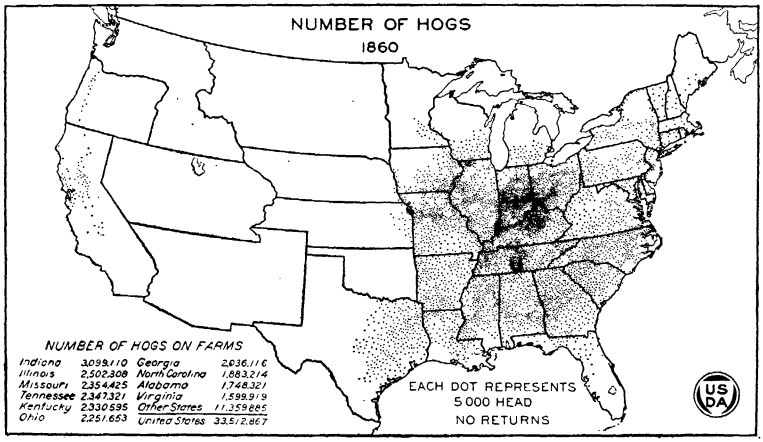


FIG. 4.—In the Mississippi Valley production continued to increase between 1850 and 1860 and expanded westward into Iowa, Nebraska, and Kansas. The areas of densest production were not far from Cincinnati, which was still the great packing center. Hogs had now become numerous in California.

and depending upon regions not so well suited for this industry to produce much of their meat. By 1840 hog-packing plants had been established at many points in the Western States. The beginning of the great packing industry at Chicago had been made in 1832. Large quantities of pork and pork products were shipped down the western rivers to New Orleans for reshipment to the Coast States or for export.

Between 1840 and 1860 the number of hogs increased especially in the West. The New England States and New York, on the other hand, lost about half the number they had in 1840. The West (now known as the Middle West), which was being settled very rapidly, was fertile and well suited to corn production. The most economical method of marketing the corn was to feed it to hogs. Corn and hogs were being produced so cheaply in the Western States that pork could be shipped to the Northeastern States and sold

at such low prices that many of the eastern farmers were finding it more profitable to produce something else.

Between 1850 and 1860 the same tendencies noted in the previous decade continued. Railroads built from the East into the West enabled the West to ship live hogs east for the fresh-meat market, and during several years immediately following the building of the railroads many live hogs were shipped east. Another result of the extension of railroads was to develop the tendency to centralize the packing industry. An important development, summer packing or "ice packing," began toward the end of this decade, about 1857. The ultimate result of this was to strengthen the position of the western producer by enabling him to furnish the eastern markets with fresh meats without shipping the whole hog alive.

The Civil War greatly disturbed the markets for hogs. The southern market for northern hogs was reduced and at times almost entirely cut off. Larger quantities than ever were exported to Europe during 1861–64. Notwithstanding that prices of most commodities were generally high in this period the price of hogs was very low until 1864. There are no statistics of the numbers of hogs on farms during this period. The estimates of the Department of Agriculture

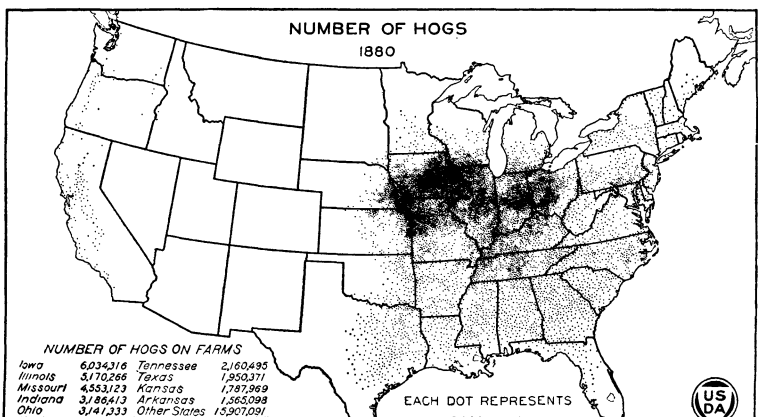


FIG. 5.—The center of greatest production had shifted by 1880 to western Illinois, eastern and southern Iowa, and northwestern Missouri. The present Corn Belt area was nearly all occupied by hogs. Production in the East continued to decline.

began in 1867. Assuming that the higher prices in 1864 and 1865 stimulated production there must have been some recovery by 1867 when there were probably 6,000,000 hogs fewer than in 1860. At the end of the decade 1870, adding in an

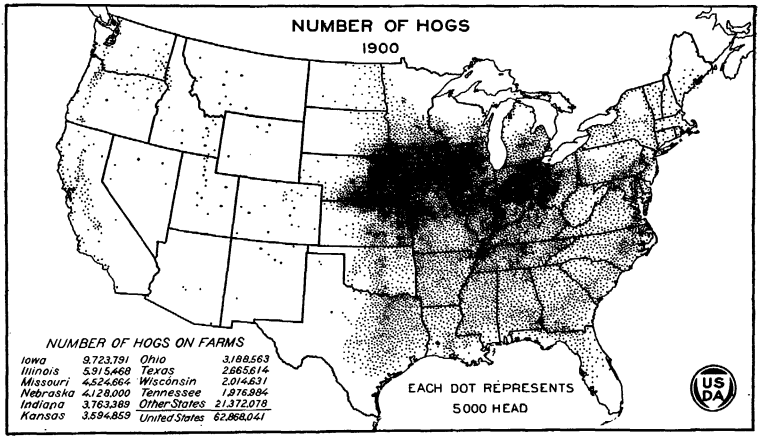


FIG. 6.—The most notable increases between 1880 and 1900 were made in Nebraska and Kansas and along the northern border of the Corn Belt in Wisconsin, northern Iowa, southern Minnesota, and southeastern South Dakota. Oklahoma and Indian Territory had been opened to settlement and many hogs were being produced in these new States.

estimate of the suckling pigs which were omitted by the census, the number was still less than in 1860.

Following the Civil War there was a very rapid expansion of agriculture in the upper Mississippi Valley and a great increase in corn and hog production. The price of hogs fell to very low levels in 1872 and 1873, from which there was a gradual rise to 1875, and then a decline to 1879, when it reached the lowest point since the Civil War. Many farmers in the East abandoned hog production. Low prices encouraged exports, and there was an enormous increase in the exports of pork and pork products between 1870 and 1880.

TABLE 1.—*Average annual exports of pork and pork products from United States, during two 5-year periods, 1867–71 and 1877–81.*

Period.	Pork, pickled and salted.	Ham and bacon.	Lard.
	Pounds.	*Pounds.*	*Pounds.*
1867–71	28,879,000	45,790,000	53,579,000
1877–81	85,968,000	658,367,000	331,457,000

These products flooded European markets, and producers in the importing countries demanded some protection. On the pretext that the pork from the United States was dangerous to the health of the people, chiefly because of alleged infestation with trichinæ, Germany, France, and several other European nations in 1881 prohibited imports of pork from the United States. The markets of some of these countries were closed for several years, thus curtailing the foreign market for our pork.

Low prices and a curtailed foreign market discouraged rapid expansion in hog production. Moreover, further expansion of the area of corn production after 1880 was made increasingly difficult westward by the semiarid condition of the Great Plains and northward by the shortness of the growing season. Between 1880 and 1890 there was an increase in the number of hogs, but that increase occurred in the first two years of the decade, the number in 1890 being less than in 1882. The most significant change in distribution was the increase in the number in the western part of the Corn Belt along the border of the Great Plains and in Iowa, in conformity with the tendency to market the most distant corn through hogs.

Since 1890 many of the tendencies noted above have continued. In the eastern Corn Belt States increase in the

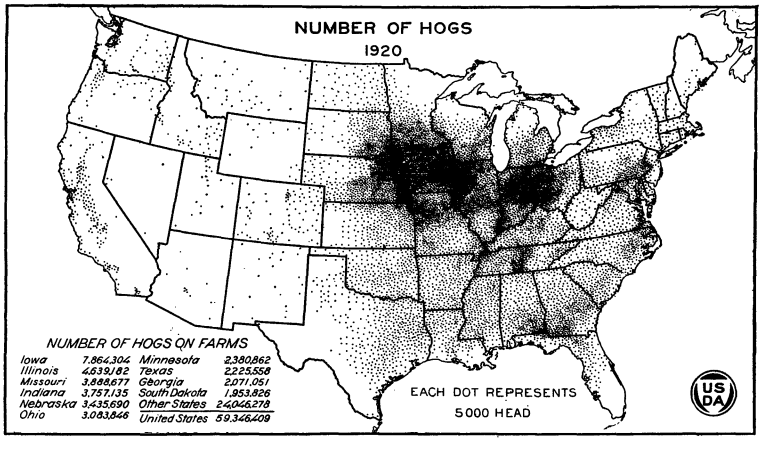


FIG. 7.—Between 1910 and 1920 the number of hogs continued to increase in the Dakotas, but decreased notably in Kansas and Oklahoma, where wartime prices for wheat had caused it to supplant much of corn. In the western States, especially California, the number had increased; also in Alabama, Georgia, and the Carolinas.

market demand for corn has resulted in reduction in the number of hogs nearest to corn markets. On the other hand, the number of hogs has increased with the development of dairying for butter north of the Corn Belt in Wisconsin and Minnesota and on the Great Plains with the settlement and development of that region.

Census Statistics of the Number of Hogs.

Changes in the time of year and in the scope of the census make it difficult to compare accurately the results of the several censuses. In recent years the Department of Agriculture has collected data as to the monthly changes in number of hogs on farms. Since the last census was taken as of January 1, 1920, it seems desirable to adjust the results of the other censuses to January 1 base. The censuses 1840–1870 took no account of hogs not on farms, and in 1880 and 1890 hogs in "inclosures" or in villages were not counted. In 1870 suckling pigs were omitted, whereas in other years they were partly or entirely included in the census.

The following tabulation gives census figures and, in addition, comparable estimates as of January 1 for each census year. The latter, excepting for 1840, were computed by Sewall Wright of the Bureau of Animal Industry:

TABLE 2.—*Hogs on farms and elsewhere as enumerated by the census and estimated by the Department of Agriculture as of January 1, each census year.*

Year.	Reported on farms by the census.	Reported on ranges and elsewhere.	Total reported by the census.	Estimated total hogs and pigs as of January 1.
	Number.	*Number.*	*Number.*	*Number.*
1840–June	26,301,293	.....	26,301,293	27,000,000
1850–June 1	30,354,213	.....	30,354,213	31,200,000
1860–June 1	33,512,867	.....	33,512,867	34,500,000
1870–June 1	[1] 25,134,569	.....	[1] 25,134,569	32,300,000
1880–June 1	47,681,700	[3] 2,090,970	[3] 49,772,670	51,200,000
1890–June 1	57,409,583	[4] 17,276	[4] 57,426,859	59,100,000
1900–June 1	[2] 62,868,041	[5] 1,818,114	64,686,155	53,900,000
1910–Apr. 15	58,185,676	[5] 1,287,960	59,473,636	57,200,000
1920–Jan. 1	59,346,409	[5] 2,638,389	61,984,798	62,000,000

[1] Suckling pigs omitted by instructions.
[2] Exclusive of 8,067 in Alaska and Hawaii which are not included in other census totals.
[3] On ranges, including 773, 931 in Indian Territory.
[4] On ranges, including 1,572 on Indian reservations.
[5] Not on farms or ranges, mostly in villages and cities.

Hog Production.

Breeds of Hogs.

Wild hogs from which all modern breeds originated were found in Asia, Europe, and Africa. Our modern hogs have been derived from the intercrossing of Chinese hogs, Neapolitan hogs, the early hogs of Great Britain, and red hogs from Spain and West Africa, with subsequent selection for certain characteristics. It is probable that domestication and systematic breeding of the wild hog of Asia was begun by the Chinese much earlier than by any of the peoples of Europe.

Chinese hogs are rather small, with long bodies and low backs, short necks and legs. They are either black or white, or mixed, fatten readily and are not prolific. Neapolitan hogs from southern Europe are small, with long bodies, heavy, flat backs, and short, fine legs. Their coats are soft, not bristly, and of a bluish, plum, or slate color. These hogs fatten readily, mature quickly but are uncertain breeders. The original hogs of Great Britain were mostly white in color, had large, long bodies, long snouts, pendent ears, long legs, and bristly hair. They matured slowly but grew to an enormous size.

The Yorkshire was one of the first modern breeds to arise in England out of these early types. The Berkshire, Tamworth, Suffolk, Essex, and Hampshire hogs represent later developments in the formation of breeds. In Great Britain different names are applied to hogs which vary only slightly in characteristics.

The breeds of hogs which are distinctively of American origin are the Chester White, the Poland China, and the Duroc-Jersey. The Chester White hogs, which are the oldest American breed, originated in southeastern Pennsylvania from foundation stock of large, white, long-bodied hogs derived probably from England. The Poland China was the second American breed to be developed. This breed originated in the Miami Valley of Ohio and resulted from the combination of a number of breeds which included the Berkshire, the Irish Grazier, the Byfield, the Big China, and

probably other hogs which had been brought into that section. Through selection and crossing hogs were produced which bred true, and outcrossing has not been practiced to any extent since about 1845.

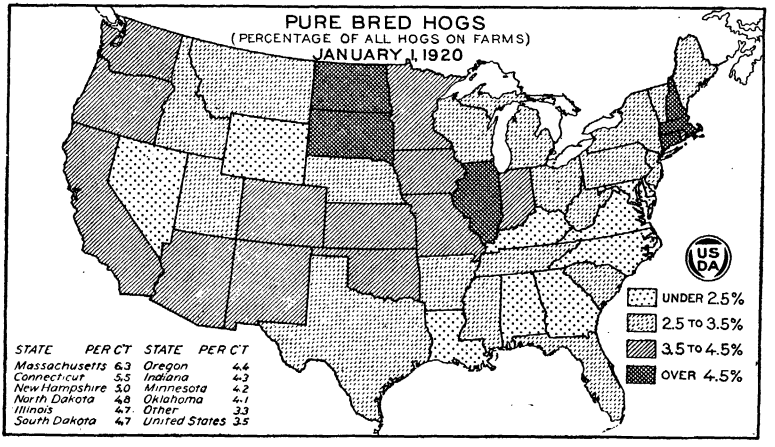


FIG. 8.—The percentage of hogs that were registered pure breds was highest in 1920 in New England, according to the census. In the Corn Belt, where nearly half the hogs of this country are produced, only about 4 per cent were registered pure bred. Undoubtedly many more were unregistered. The percentage of registered pure breds in the South ranged from about 2 to 3 per cent of all hogs. The average for the United States was 3.5 per cent.

The Duroc-Jersey was the last of the purely American breeds to be produced and has become most widespread. It resulted from the amalgamation of two very similar strains of red hogs known as Durocs and Jersey Reds. Hogs from West Africa, crossed with Berkshires and Tamworths, probably played an important part in establishing the characteristics of color and conformation. The Duroc-Jersey is a hog of good size, early maturing, an active grazer, extremely prolific, and well adapted to the feeds which are plentiful in the Middle West section of the United States.

Pure-bred Hogs.

According to the last census 3.5 per cent of the hogs on farms in the United States on January 1, 1920, were registered pure breds. (Fig. 8.) The total number of hogs on farms on that date was 59,346,409, and the number of regis-

tered pure breds was 2,049,900. These figures do not show the total number of pure-bred hogs on American farms. Many of our farmers use pure-bred sires and dams to produce market hogs which are never recorded, consequently they do not show in the numbers reported by the census. During the past decade there has been a marked increase in the number of unregistered pure-bred sires and dams which are used only for the production of market animals.

The high prices paid for market hogs during the war period greatly stimulated the pure-bred hog business. When prices advanced breeders enlarged their operations, and many persons, apparently assuming that high prices would continue indefinitely, went into the hog-breeding business as a new venture. Ridiculously high prices were paid for particularly fine animals, and prices for animals of average quality advanced far beyond the safety point. When the deflation period subsequent to the war came, hog prices dropped, accompanied by decreased demand for breeding stock. Many breeders found themselves stocked with high-priced animals and facing a depressed market. It is not strange that some were forced out of business.

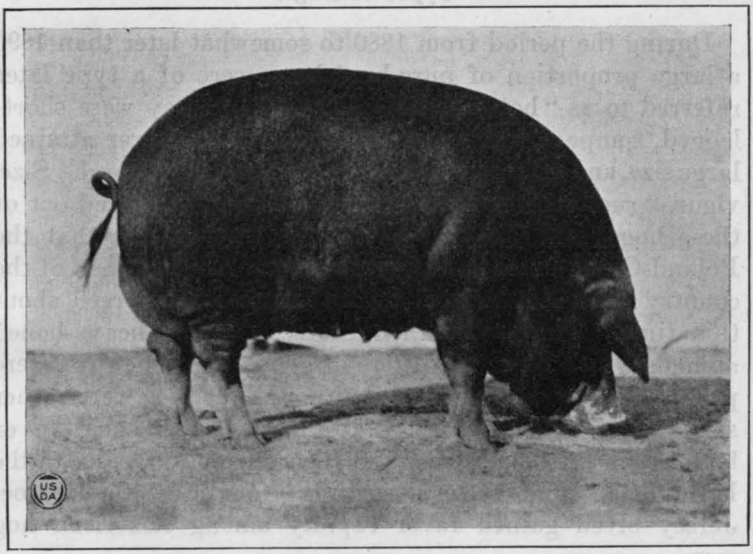


FIG. 9.—Big-type hogs are long, have large, sturdy legs, high arched backs, great length of body, and deep, broad sides. They are active in their movements, and are quite thrifty. Big-type hogs produce large, strong, vigorous litters.

The number of pure-bred hogs exceeds the number of pure breds of any other kind of live stock, cattle ranking second with 1,981,514. In percentage of pure bred to total number of animals, hogs rank first, cattle second, sheep third, and horses fourth.

FIG. 10.—The type of hogs which was commonly found in pure bred herds about 30 years ago is frequently referred to as "the hot blood." These were short-bodied, round-barreled hogs with short legs. They matured early and fattened quickly. They failed as breeders and became very unpopular. The big-type hog of the present time has largely replaced them.

Types of Hogs.

During the period from 1880 to somewhat later than 1890 a large proportion of pure-bred hogs were of a type later referred to as "hot bloods." (Fig. 10.) They were short-legged, compact, early maturing hogs which never attained large size, and were common in the Poland-China breed. Size, vigor, "rustling" qualities, and prolificacy were bred out of these hogs, and the type became so unprofitable that the Poland-China breed rapidly lost favor. The hog men of the country became interested in the Duroc-Jersey breed about this time. They were then coarse, rugged, heavy-boned animals which produced litters of good size. The sows were prolific and good sucklers, and although the pigs were rather slow in maturing, yet they attained weights equal to or better than the "hot bloods" at the same age. Owing to the large litters and better "rustling" qualities, the Duroc-Jersey breed gained favor rapidly among American hog men.

Recent Changes in Type.

The latter half of the nineteenth century saw the development of the western and northwestern section of the country with its mines, lumber camps, and railroad construction works. From this and other developing sections came the demand for fat and salt meats; but with the settlement of the country and improved facilities for transportation and refrigeration a greater variety of foods became available, causing the demand for heavy, fat meats to decrease. Likewise ships whose crews formerly used large quantities of salt meats became equipped with cold-storage facilities, enabling them to carry fresh meats and a greater variety of foods. Furthermore, the American laborer, business man, and farmer had advanced financially and demanded bacon and hams of higher quality. The fat sides produced from blocky-type hogs sold at heavy discounts. This situation compelled the packers to discriminate against heavy, fat hogs in favor of lighter-weight carcasses.

The most profitable hogs at present are those that attain market weights of 175 to 225 pounds at 6 to 9 months of age. These weights can not be obtained at that age in animals of the blocky type without an excess of fat. The so-called "big type" or modern hogs are popular because they produce and suckle large litters, are good rustlers, and utilize pastures to

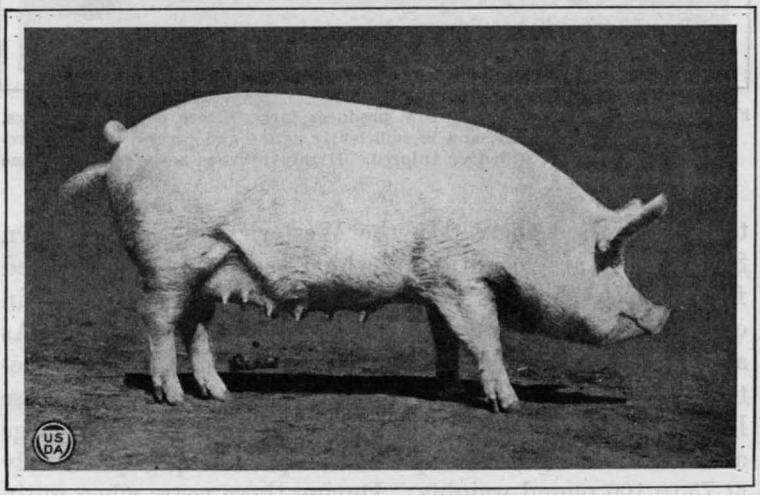


FIG. 11.—Bacon-type hogs have long, deep sides with relatively small hams and shoulders. The bodies of bacon-type hogs generally are smoother than those of the lard type.

the maximum. In the efforts to secure a big type, however, there is a point beyond which it is unwise for the hog breeders to go. If an extremely big type is attained, hogs weighing 175 to 225 pounds will not be sufficiently mature to produce firm carcasses, and will not command the best market prices.

Production of Feeder Pigs.

Within the last decade there has developed in the Corn Belt a large demand for pigs weighing from 75 to 100 pounds. This is because larger numbers of these "feeder pigs" (Fig. 13) can be profitably fed out in the Corn Belt

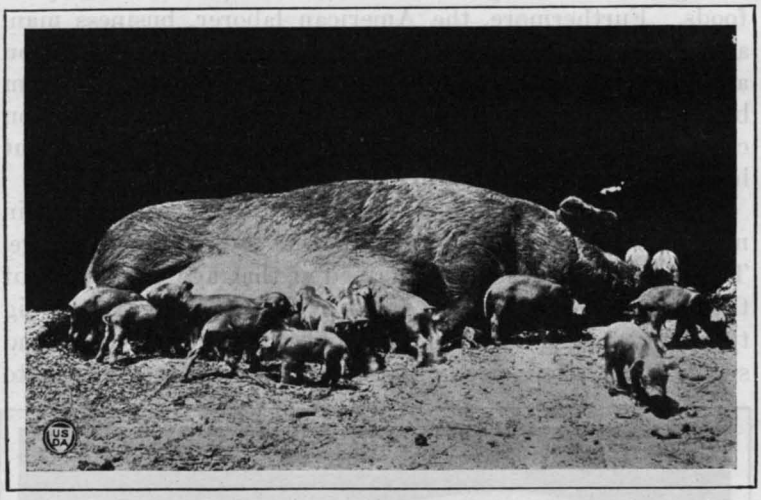


FIG. 12.—The profitable brood sow produces large litters of vigorous pigs, suckles them abundantly, and is sufficiently active and careful in her movements that few are killed or injured. Highly nervous sows rarely become good brood sows.

than are raised there. In the Western and Southwestern States there are localities in which the production of feed for fattening hogs is possible during some years while in other years these feed crops are almost total failures. As a result of this uncertainty the swine business in these sections has never developed into a large enterprise. These localities, however, have extensive pastures and grow large amounts of forage, so it is possible to produce pigs profitably at 75 to 100 pound weights. During those years when grain crops yield well these pigs may be fed out at a profit, and when the grain crops fail the pigs may be sold as "feeders."

Opportunities for developing the feeder-pig industry in those regions to the west and south of the Corn Belt appear far-reaching.

Hog Production and Farm Systems.

Hogs are raised in the United States for home use on the farm as well as for market. The production of hogs for home consumption is more widespread than that of any other kind of live stock except poultry, hogs being raised and slaughtered on the farm for food in every county of the United States. The production of hogs for market, on the other hand, is more concentrated than that of any other

FIG. 13.—Feeder pigs of approximately 100-pound weights are in great demand in some sections of the Corn Belt where not enough of them are produced to consume the corn grown in these sections. Frequently thin hogs are shipped back to farms from the markets for further feeding. The production of feeder pigs to supply this need is developing into quite an industry.

kind of live stock, nearly half the hogs of the country being found in the Corn Belt. In the Corn Belt hogs have attained a dominating position in the farm system. Outside the Corn Belt generally crops other than corn and other kinds of live stock are more important commercially and hogs usually play a secondary rôle, assuming an importance in the farm business corresponding to the purposes to be served. These purposes are essentially three, (1) for farm use, which is general all over the country; (2) for market on

the hoof as a principal farm enterprise, which system is found on a few farms outside the Corn Belt; (3) for market as a by-product of farms with some other chief commercial product, as in parts of the Cotton Belt, and in the dairy sections of the Northeastern States and of the Midwestern States to the north of the Corn Belt.

Production for Farm Use.

The wide distribution of hogs slaughtered on the farm for use by the family is shown in Figure 14. The greatest number are slaughtered in the Cotton Belt and in the southern portion of the Corn Belt. Only about 40 per cent of the farms in the United States raising hogs sold hogs for the market according to the census of 1920, the latest year for

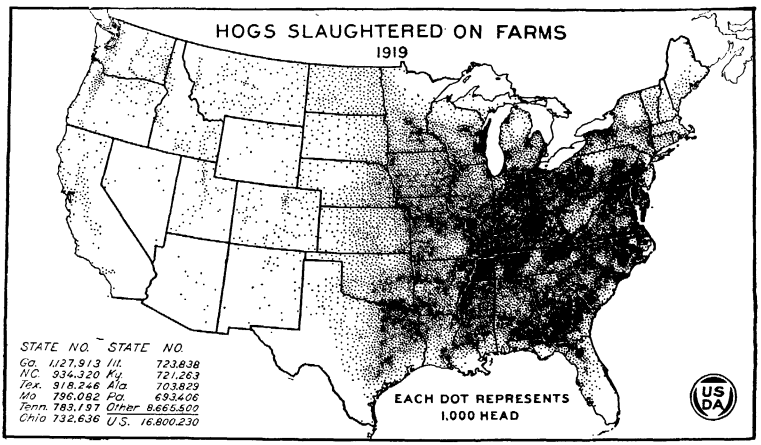


FIG. 14.—Seventy per cent of the farmers slaughtered hogs on the farm in 1919, but the number of hogs slaughtered was only about one-third as many as the number slaughtered by the large packers and local butchers. About five-sixths of the pork and lard resulting from the farm slaughter was consumed on the farm, and one-sixth was sold. More hogs are slaughtered on farms in the Cotton Belt than in the Corn Belt, where the country population is less dense and most of the hogs raised are shipped to the large markets. See Figure 7 and Figure 30. (Number of hogs, 1920, and Receipts at Principal Markets.)

which figures are available. Nearly twice as many farmers, or about 80 per cent, slaughtered hogs on the farm for their own use. Of this 80 per cent, three-fourths evidently sold no hogs. This practice of slaughtering hogs on the farm, moreover, was increasing up to 1919. Over one-fourth more farmers slaughtered their hogs in 1919 than in 1909, but the increase in the number of hogs slaughtered on farms was only about 10 per cent. Figures secured by the

Department of Agriculture indicate that farm slaughter has been decreasing during the last two years, owing to the necessity for farmers to convert every possible product into money.

Nearly every farm can find feed enough for a pig or two and thus supply the needs of the farm family for salt pork, bacon, and lard, and perhaps also a large part of its total meat supply can be so produced at home. Hogs kept for family use do not represent any great money outlay; they usually receive very little feed that could be converted into cash, and they do save the farm family considerable sums in the food supply.

The importance of pork and pork products in the food supply has been shown by special inquiries made by the Department of Agriculture into the contribution of the farm to the food supply of the family. In Clinton County, Ind., 100 farm families, each producing annually about 12,000 pounds of hogs on the hoof, set aside for their own use nearly 1,000 pounds, or 711 pounds dressed weight. This was 41 per cent of the contribution of the farm to the family food supply. In Sumter County, Ga., the average use by 550 farm families whose main business was raising cotton, was 832 pounds of pork of its own production out of a total farm production of little more than twice that amount. This was 37 per cent of the value contributed by all farm products. In Tompkins County, N. Y., where market milk is the chief farm product of the farmers interviewed, 250 reported the use of 229 pounds of pork per farm, or 17 per cent of the farm's contribution to the food supply. This was about half of the total pork contribution of the farms, and probably only a part of the pork used annually by these farm families.

The aggregate number of hogs kept to make use of table scraps and the refuse of farm crops and eventually finding their way to the farmer's table is large, but relative to the number produced in the United States it is small and gets its significance from the importance the farmers themselves attach to it. The hogs slaughtered on farms were about one-fourth the number raised in 1919, according to the census.

Production for Market.

About three-fourths of the hogs raised in the United States are produced for market. Over 95 per cent of this

commercial hog crop is produced in the humid eastern half of the country—about 60 per cent in the Corn Belt, 15 per cent in the Cotton Belt and other regions of the South and southeast of the Corn Belt, and 15 per cent in the Dairy Belt and other regions of the North and Northeast. The variations in the systems of farming into which production of hogs for market enter are many, but fall into three general types, (1) that of the Corn Belt, (2) that of the Cotton Belt, and (3) that of the Dairy Belt of the North.

Hogs in the Corn Belt System.

The American type of fat hog was made possible by the abundance and cheapness of corn in the Corn Belt, and year in and year out in spite of almost every vicissitude of the hog market, hogs make corn profitable. It is true that during the height of the war demands it was disappointing to feed two-dollar corn to hogs when hog prices were running below their usual ratio to corn, but in the post-war depression of 1921–22 it was the hog that saved the situation for untold numbers of corn growers.

In Iowa, where the hog population is densest (see Fig. 7), and where corn might be grown on 4 acres out of 5 if occasion should arise, the hog enterprise contributes only about two-fifths of the receipts of the average farm, the rest arising out of sales of crops and other live stock or live-stock products. Occasionally farms are found on which hog breeding and feeding constitute the sole important source of income. On such a farm all the land may be devoted to corn except for the small area needed for pasture and for hay and grain for work stock and a few cows, and much of the feed may also be purchased. Such farms are few in number, however, as the general run of farms require different management.

A great many variations of the general farm system are met in a day's journey through the Corn Belt. This system calls for a 3-year or 4-year rotation of crops. Rotation of crops is an essential feature of a permanent farm policy even under a live-stock system—perhaps because of it. Maintenance of fertility is most cheaply effected by the cultivation of some leguminous hay or other crop in addition to the animal manures. Small grains serve as nurse crops for the young alfalfa or clover, and thus establish their position in

the rotation, where otherwise they might be reduced to a minimum or left out entirely. While the hog may subsist largely on corn, it can make practically no use of the stalks nor of the straw and hay incidental to a rotation of crops. Cattle of either beef or dairy type make the best use of the roughage available in the rotation. Seldom more than half of the crop land is in corn; the balance is in clover or alfalfa, either cut for hay or pastured, and some small grain; cattle are kept to consume the roughage not needed for the horses, and hogs are kept to follow the cattle and to use the corn not fed to the cattle. Practically the adjustment is never very close; because of changing crop yields the feed supply varies; because of changes in market prices changes in the number and kind of live stock fed must be made, necessitating purchases or sales of feed. A farmer's personal preferences also enter into his decision whether to stock heavily and buy feed or run light and sell feed. Live-stock farming requires more capital than grain farming; so tenants tend to keep fewer animals than owners, unless the animals are furnished by their landlords.

Hogs are most numerous per square mile in Iowa, in a small area around Omaha, Nebr., the northwest counties of Illinois, central Indiana, and southwestern Ohio. Nearer Chicago in Illinois and Indiana, corn is even more intensely produced, but a much larger part of the crop goes to market as grain instead of being fed to stock.

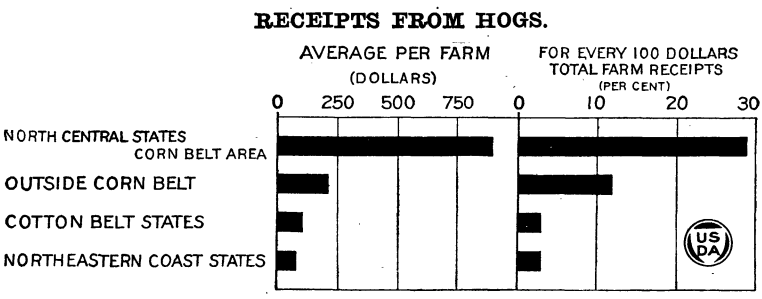


FIG. 15.—Receipts from hogs for 8,888 farm records in the Corn Belt area averaged $898 per farm, or 29 per cent of the total receipts; for 4,481 farm records in the North Central States outside the Corn Belt, $217, or 12 per cent of the total; for 2,185 farm records in the Cotton Belt States, $101 per farm, or 3 per cent of the total; and for 9,525 farm records in the Northeast Coast States, $80 per farm, or 3 per cent of the total. These data cover the years 1908 to 1920. The number of farm records varied from year to year. These data illustrate the importance of hogs as a source of farm receipts for the different groups of States.

Hogs enter into the calculations of cattle feeders even when not given first consideration, for the hogs work over the manure in the feed lots and make good gains on the corn left by the steers. Sometimes hogs following steers are given additional feed; sometimes they are used only in numbers sufficient to clean up after the steers.

A good idea of the crop and live-stock combinations in the areas of greatest concentration of hogs may be obtained from the figures of production and sales from 100 farms in Clinton County, Ind., shown below. The figures are averages for eight years,[1] and seasonal differences are accordingly largely eliminated. Cattle feeding was concentrated on the larger farms, sheep were fed on a few farms, and sales of corn varied from farm to farm and season to season. Corn, wheat, and oats were generally grown, the corn fed to hogs, and most of the wheat and oats sold. Farms in Iowa would probably show more cattle, somewhat larger farms, and greater total output per farm.

Organization of Farms, Clinton County, Ind.

Crops:	*Acres.*	*Production.*
Corn	43	1,935 bushels
Wheat	10	180 bushels
Oats	25	1,075 bushels
Hay	12	16 tons
Clover seed	--	7 bushels
Pasture	26	----- -------

Farm sales:	*Quantity.*	*Value.*
Corn	486 bushels	$408
Wheat	166 bushels	221
Oats	811 bushels	375
Hay	4 tons	44
Clover seed	5 bushels	42
Hogs	1,000 pounds	1,225
Butterfat	329 pounds	112
Cattle	6 head	290
Horses and colts	1 head	41
Sheep and lambs	1 head	9
Wool	7 pounds	
Poultry	62 head	125
Eggs	330 dozen	
Other sales		89
Produced for family use:		
Pork	711 pounds	158
Other food and fuel		244

[1] The figures for 7 of these years are shown in detail in Department Bulletin 920, Farm Profits, by Dixon and Hawthorne.

These are the average figures for 100 farms; there were wide variations in the use of the corn grown and in the importance of hogs on different farms. These variations in farms may be illustrated as follows:

Of the 100 farms—

12 fed less than one-half the corn they produced.
38 fed from one-half to three-fourths of the corn they produced.
21 fed over three-fourths of the corn they produced.
29 fed over three-fourths of the corn they produced and bought considerable corn or other feed.

Of the 100 farms—

23 had over one-half their receipts from the sales of hogs.
55 had from one-fourth to one-half of their receipts from hogs.
22 had less than one-fourth of their receipts from hogs.

It has become a common practice in the Corn Belt to turn the hogs into the corn fields to harvest it themselves. If

FIG. 16.—Hogging down corn is a successful and economical method of fattening hogs.

kept close together by temporary fences and made to clean up the corn as they go, very little grain is wasted by hogging off the corn and much labor is saved.

A device which has proved its worth to increasing numbers of farmers is the self-feeder, which must be replenished with feed at frequent intervals. Hogs being fed for market on pasture have corn, other concentrated feeds, tankage, salt, and water before them at all times, which they may take in such quantities as they like without much more care on the farmer's part than to keep the hoppers filled. Hogs self-fed in this way eat rather more feed than hand-fed hogs, but do not gorge themselves, balance their ration

as accurately as the farmer could do it for them, make as efficient use of the feed and are ready for market somewhat earlier than the hand-fed hogs.

Hogs on Farms in the South.

Commercial development of hog raising in the South has been greatly retarded because of the dominating importance of the cotton crop, just as it was promoted in the Corn Belt by the abundance and cheapness of corn. Such development as has been made is largely the result of the necessity of finding some profitable substitute for part of the cotton formerly raised. This necessity first appeared in connection with soil improvement campaigns, but more recently because of the ravages of the boll weevil.

In parts of the South to-day hogs are still given free range of woods and are obliged to shift largely for themselves. Breeding is often a matter of chance, and the hogs are rounded up for butchering as needed, regardless of age or size. Under such circumstances the size of the animal varies according to age, to the forage it may have been able to pick up, and to the amount of supplementary feed which may have been supplied, but the condition regardless of age is nearly always poor. This is not considered a serious matter, because such hogs make "bacon" and are largely used for farm consumption. Herds of hogs so kept number from a few stock hogs upwards, according to the size of the farm. Such hogs are a slight improvement over the old "razorback," and they cost very little, for they get little feed that costs money or that could be turned into cash. The percentage of the pigs born which reach the scalding vat is small, due to straying, theft, disease, and other contingencies of the wild life. Still such hogs are valuable, not for market but for home use. In the South pork or bacon is the principal meat used and is an important item in the food supply.

As early as the middle of the last century the necessity for soil improvement was recognized in certain of the less-favored cotton counties of the southeastern part of the Cotton Belt, together with the advisability of producing more of the farm supplies locally. Diversification, especially the use of leguminous crops, afforded a means of building up

the soil rather than letting the land lie idle, and hogs were put on in order to make these crops pay, first for home use, then for market. In other sections the boll weevil has brought about the same necessity for diversification with similar results. The hog is an important factor in diversified farming in the South. The peanut and the velvet bean are of value as soil improvers, and their value for this purpose is not seriously impaired by providing a large amount of protein-rich pasture for growing hogs before being plowed under. Peanuts may be grown for market, and the fields cleaned up by hogs after the bulk of the crop has been taken off, or they may be planted and cultivated solely for hog pasture. With the variety of crops grown on southern farms, hogs may be pastured and kept in good growing condition almost the entire year, requiring only a minimum of mill feed or corn for finishing off. On 218 farms in southwest Georgia, for instance, only 5 pounds of concentrates were fed in addition to pasturage to secure 100 pounds of gain with hogs as contrasted with the usual rates in the Corn Belt of 20 bushels of corn (560 pounds) for 100 pounds of gain. It is along these lines that hogs in the South can and do compete with hogs in the Corn Belt.

Cotton predominates the crop system of the South. For this reason hogs do not contribute a high proportion of the total income of the farmer directly through sales, not even if the value of the pork consumed by the household is added to sales. The hog industry, because it is an important factor in the maintenance of soil fertility, in soil improvement, and in diversification, contributes to the success of the farm through all the other enterprises. With the exception of the central part of Tennessee, where little cotton is produced, more hogs are raised in southern Georgia than elsewhere in the Cotton States. (Fig. 15.) In this section of Georgia there are many different crop and live-stock combinations representing a breaking away from the customary complete reliance on cotton. This tendency to reduce cotton acreage and increase corn and other crops and live stock has been particularly noticeable in Sumter County, Ga. Two special studies of farm organization and practice were made in this county on more than 500 farms. The composite figures for these farms are presented as typical of the or-

ganization of many farms in southern Georgia. Elsewhere in the South the ratios of cotton acreage to corn and other crops and the importance of hogs in the farm system are somewhat different according to locality, but there are now a number of counties in the South in which diversification of production has developed to about the same extent.

Organization of farms, Sumter County, Ga.

Crops: (Average per farm.)	*Acres.*	*Production.*
Cotton	63	32 bales lint. 15 tons seed.
Corn	41	568 bushels.
Small grains	11	225 bushels.
Hay, pasture, and green-manure crops (31 acres following small grains in the same season)	44	Largely for farm use.
Peanuts	3	1 ton.
Cane syrup		39 gallons.
Sweet potatoes	1	Family use.

Farm sales:	*Quantity.*	*Value.*
Cotton	32 bales.	$3,076
Cotton seed	12 tons.	524
Corn	118 bushels.	165
Small grain	30 bushels.	38
Cowpeas	3 bushels.	6
Hay	1 ton.	14
Peanuts	1 ton.	103
Cane syrup	31 gallons.	28
Sweet potatoes	11 bushels.	11
Cattle	1 head.	42
Hogs	4 head.	156
Cured pork	287 pounds.	
Lumber, wood, etc		19
Other sales		304
Produced for family use in addition to the sales:		
Pork	832 pounds.	159
Food in addition to pork		271

The sale of pork, it will be noted, is the fourth largest item, and, though it is insignificant compared with cotton, if the value of the pork used on the farm is added to sales, the hog enterprise ranks next to cotton and corn, with a total value exceeding $300.

Hogs in the Dairy Farm System.

In New England, New York, Wisconsin, northern Illinois, northeastern Iowa, and much of Minnesota, dairy cows are

the dominating factor in the farm operations. Wherever butter or cheese is made in these areas, the hog will also be found as an important contributor to farm profits, except in the newer farms in the cut-over country. The presence or absence of hogs makes little difference in the crop plans of dairy farms. The crop system is based on the needs of the cows. Usually there is concentrated feed enough and of suitable kind to meet the needs of the number of hogs which may be kept on the milk by-product available. The milk by-product is unexcelled as a feed for growing pigs and even small quantities added to the concentrate and forage ration give highly satisfactory results. Barley gives nearly as good results with hogs as corn, and because it does well where corn may not always mature, the hog-and-dairy system may be effective beyond the limits of profitable corn culture. Few hogs are kept on dairy farms in the city-milk or the condensery territories and, when they do occur, are on a basis similar to those obtaining in the Corn Belt.

Less than 5 per cent of the hogs of the country are maintained in New England, New York, and Pennsylvania combined. Commercial hog production in this region has been obliged to give way to the cheaper corn and cheaper hogs of the Corn Belt, few hogs above those needed for family use being raised. There are some breeding herds of importance, but these are managed in most respects as are those in the Corn Belt. In the dairy sections of the Lake States, because of the much greater variety and abundance of feeds suitable for hogs raised on the farms or available at comparatively low prices, hogs are much more numerous than in the eastern dairy sections, and the aggregate production is large.

As the development of the hog industry has to a large extent been based on transportation services and costs, its present organization and distribution also depend to a large extent on transportation facilities. Any radical change in freight rates and services will probably be reflected in the geography of the industry.

Relation of the Corn Crop to Hog Production.

No two farm enterprises are more interdependent in the United States than the growing of corn and the raising of hogs. Cattle, sheep, and horses are raised both on farms

and on the open range, but hogs are usually confined within comparatively narrow limits and are almost always fattened on corn where that crop is available. In the extreme

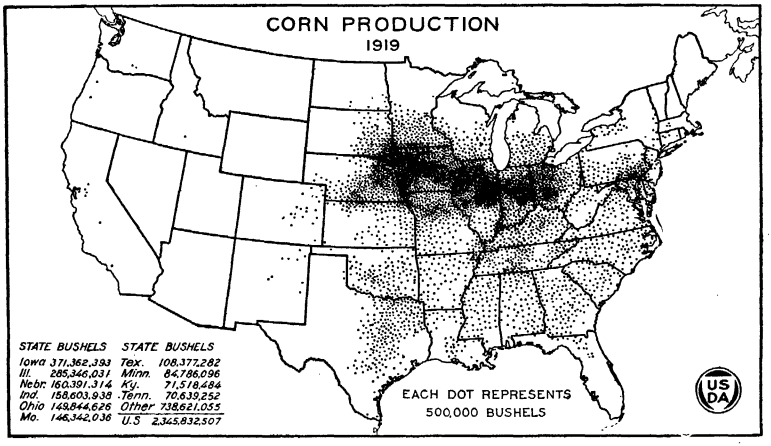


FIG. 17.—Compare this map with Figure 7 (Number of Hogs, 1920). Over half of the corn in the United States and nearly half of the hogs are produced in the Corn Belt.

Northern and Western States, where little corn is grown, it is shipped in for feeding to hogs, or its place in the ration is taken by barley and other grains. In the South, where corn often occupies a larger proportion of the improved land than in the States commonly included in the Corn Belt, a large part of the corn produced is fed to live stock, and farmers generally raise a few hogs for home consumption even though they do not grow them for market. Hogs consume as much of our corn crop as that consumed by all the other farm animals.

The close relationship between hogs and corn is shown by comparing Figure 7, number of hogs on farms on January 1, 1920, with Figure 17, production of corn in 1919. On these maps the darkest areas, indicating the heaviest production, practically coincide, extending from central Ohio through the Corn Belt States to northeastern Kansas, central Nebraska, southeastern South Dakota, and southern Minnesota. Both hogs and corn are less densely distributed over the southern United States westward to central Texas, with the exception of southern Florida and the Gulf Coast region of Mississippi and Louisiana. Hog production is

more general in the extreme Northern States and in the Western States than is the production of corn, the place of corn in the hog ration being taken in these areas by other grains. Hogs are less numerous in central and northern Illinois than in Iowa, northern Indiana, and western Ohio, although corn production is fully as heavy. This diminished hog production is due to the proximity of this section to the Chicago corn market, making it possible for growers to sell their corn profitably as grain.

Figure 18 shows that there is a marked relationship between corn production in the United States and the number of hogs packed the following year. Although there are some wide divergencies in the two curves, in general the hog curve follows the corn curve quite closely. Sometimes the full effect of a large corn crop on hog production is felt quite as much the second year afterwards as the first. The usual immediate effect of a large corn crop is to decrease for a few months the number of hogs going to market, both because farmers are inclined to feed their hogs longer when corn is abundant and because more breeding sows are retained for future production. After the period of decreased marketing there is a heavy movement of hogs beginning with those

CORN PRODUCTION OF THE UNITED STATES 1885–1920 AND HOGS PACKED IN THE WEST THE FOLLOWING YEAR.

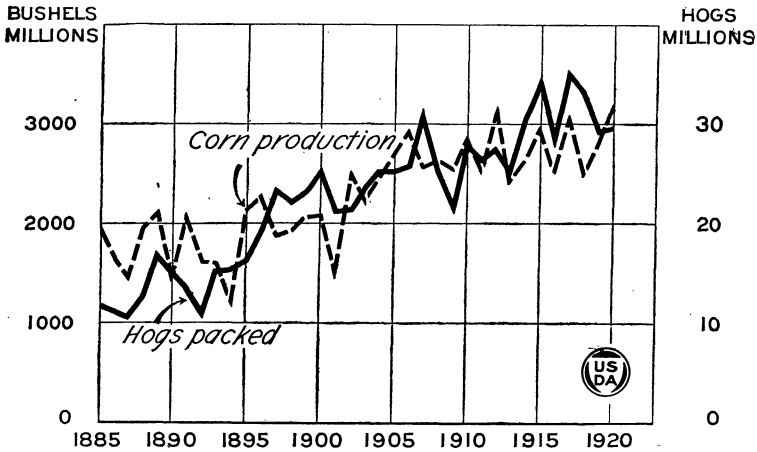


FIG. 18.—There is a close correlation between the number of hogs packed in the West and the trend of corn production of the United States. It is noticeable, however, that the number of hogs packed has increased more rapidly than corn production.

RELATION OF CORN TO HOG PRODUCTION, 39 STATES, 1919.

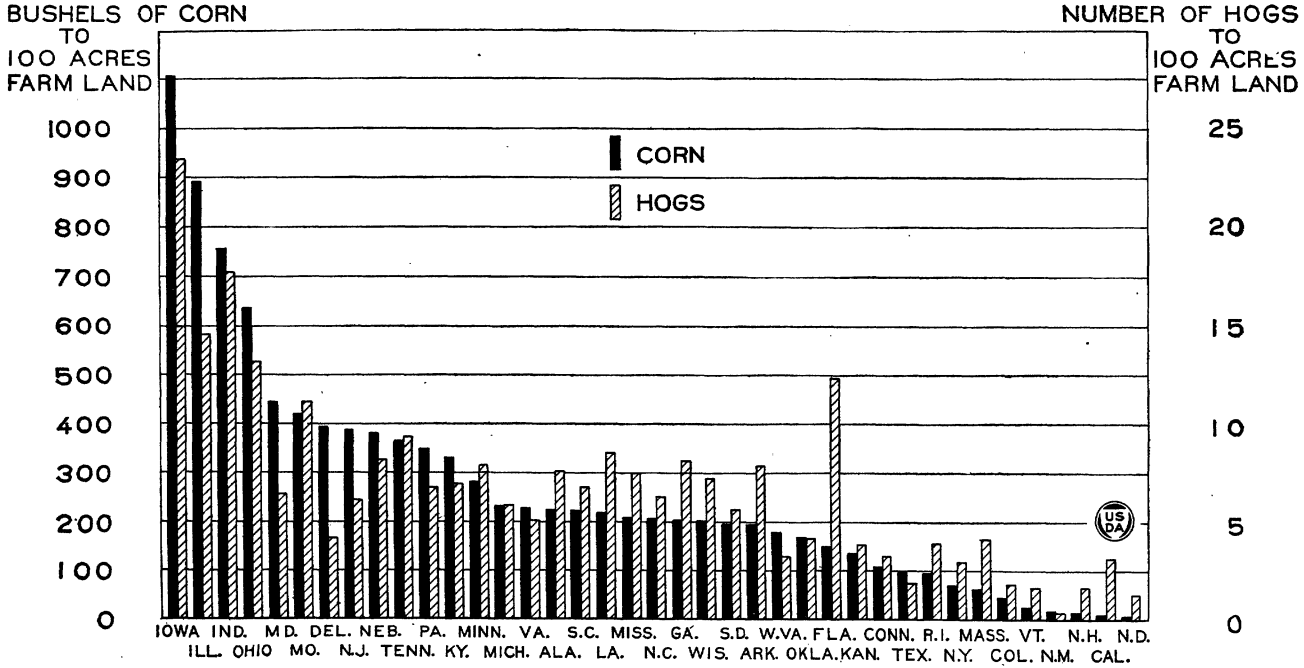


FIG. 19.—In this graph the average number of bushels of corn produced on each 100 acres of farm land in 39 States is shown, along with the average number of hogs to each 100 acres. Iowa leads not only in total corn and hogs, but also in production per unit area, the figures showing a production of 1,109 bushels of corn and 24 hogs to each 100 acres of land in farms. It will be noted that in the Corn Belt there is relatively more corn than hogs, whereas in the States of the Cotton Belt and dairy region there are relatively more hogs than corn. In these latter regions hogs are fed more extensively on other feeds than in the Corn Belt.

held for longer feeding and continuing with the sale of the increased spring-pig crop. Not only is the number of hogs going to market the year following a big corn crop likely to increase, but the average weight of these hogs is usually heavier. This is due, of course, to the fact that fewer light hogs are shipped when feed is abundant.

The relationship of hog raising to corn production is also shown in Figure 19, in which the average number of bushels of corn produced on each 100 acres of farm land in 39 States is shown graphically along with the average number of hogs to each 100 acres. Illinois, Indiana, and Ohio, all important States in both corn and hog production, fall far below Iowa in the production of both corn and hogs per unit area, but hog production follows corn production very closely, except in Illinois. As previously noted, a large proportion of the corn crop of this State is shipped to Chicago and other northern Illinois markets as grain and is not fed to live stock. Likewise proximity to corn markets at Philadelphia and Baltimore explains the smaller ratio of hogs to corn in Maryland and Delaware.

In the States where corn production is heaviest, it will be noted that the line representing hog production usually falls below the corn line, whereas, in the States where the intensity of corn production is lower, the line representing hog production usually runs above that representing the production of corn. These latter States are all in the dairy belt or in the South. In the dairy belt the corn ration is supplemented to a considerable extent by skim milk and barley, which is an important crop in those States. In the Southern States the corn ration is supplemented by peanuts, cowpeas, and other crops, and large numbers of hogs are fattened on mast.

The relatively large production of hogs in Missouri in comparison with corn production is due to an unusually low yield per acre of corn in that State in 1919. A marked divergence between hog and corn production is shown by the Florida figures, due to the fact that many hogs in that State, as well as in other Southern States, run comparatively wild in the woods and are fed little corn. Nine States in which the production of corn falls below 10 bushels to each 100 acres of farm land are not shown. In these States the

production of hogs is also very small, ranging from 2.87 to 100 acres of farm land in Idaho down to 0.48 in Montana.

Soft Pork.

Soft pork is a serious problem in the South and Southeast. Fresh pork from a soft carcass is soft, flabby, and

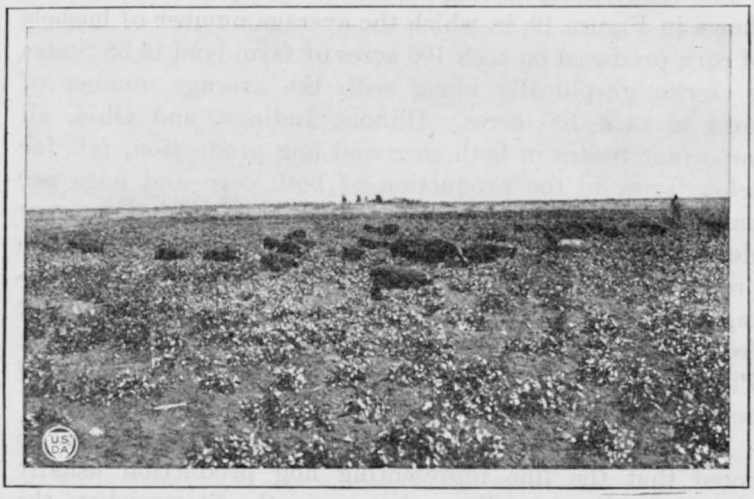


FIG. 20.—Hogs harvest peanuts from fields which have been planted for them, or are turned into fields after a peanut crop has been harvested to feed upon those left in the ground.

difficult to handle. Further, if the carcass is oily, as well as soft, the fresh cuts are oily and greasy. Smoked meats from soft hogs lack firmness and usually present a greasy appearance. The lard lacks body and when derived from oily carcasses is usually in a fluid state at ordinary temperatures. Such lard, of course, is exceedingly difficult to handle and is generally undesirable.

Certain feeds are generally assigned as the principal causes. Of these the peanut is the most important. However, soy beans, mast, and rice by-products, and probably other causes aside from feed, are responsible in many instances for the production of soft pork. The soy bean, in particular, has a wide adaptation in the United States and is gaining rapidly in favor as a pasture crop for hogs, especially in the Middle West, where hogs are produced in largest numbers. It is because of the existence and wide distribution of these feeds that a nation-wide aspect is given

to the problem. The peanut-growing section of the United States, however, is the principal soft-hog territory.

The fact that products from soft hogs are inferior in grade to those from firm hogs has resulted in producers being compelled to accept a lower price for them. The difference in the prices paid for soft hogs and firm hogs has varied considerably at different markets and at different times, but probably averages about 2 cents per pound live weight. It is not difficult to understand that such a discount represents a huge sum when considered for the total of soft hogs and for a long period of time. It is necessary to regard it as a serious loss to producers.

Diseases and Ailments of Hogs.

Any diseased condition affecting hogs adds to the cost of production in direct proportion to its seriousness. The principal diseases seriously affecting the hog industry of the country are hog cholera, tuberculosis, and hog "flu," together with certain parasitic infestations.

Hog Cholera.

Before the discovery of the preventive-serum treatment, approximately 90 per cent of all death losses among hogs were due to cholera. Since immunization practices against this disease have been in vogue that percentage has been lowered considerably. However, the cost of immunization,

LOSSES PER THOUSAND OF HOGS FROM HOG CHOLERA, 1896–1922.

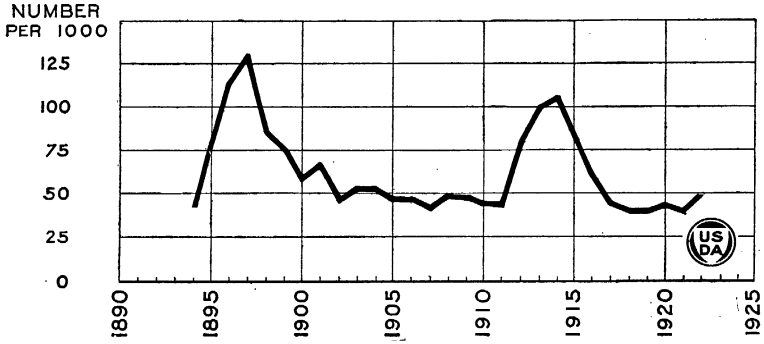


FIG. 21.—From 80 to 85 per cent of the death loss among hogs is caused by hog cholera. Infectious diseases usually occur in distinct waves of high mortality. The peak of one hog-cholera wave was reached in 1897; the next, much lower, however, occurred in 1914. In 1922 the wave was slightly on the ascent.

sanitary practices, and direct loss, by death, among nonprotected hogs cause hog cholera to remain the most important of all diseases in increasing the cost of production of hogs.

Hog cholera is not known to be transmissible to any other form of animal life or to man. Because some of the symptoms and some of the tissue changes resemble human typhoid fever, some who are unacquainted with the facts have believed that a relationship existed between these diseases. They are, however, unrelated.

Most hogs are susceptible to hog cholera when exposed to it and the disease is highly fatal. The virus of the disease readily finds its way from infected to healthy herds, so that danger to unprotected herds always exists.

Hog-cholera losses since 1884 have varied from 144 deaths per 1,000 hogs in 1897 to 37.2 deaths per 1,000 in 1919. (Fig. 21.) Since 1913, when the use of protective serum and virus began, the death losses and monetary losses have been greatly reduced.

TABLE 3.—*Estimated loss of hogs in United States due to hog cholera.*

Year.	Hogs in United States.	Hogs lost, due to cholera.	Monetary loss, due to cholera.
	Number.	*Number.*	*Dollars.*
1913 [1]	57,900,000	6,064,470	58,833,653
1914	55,000,000	6,304,320	67,697,461
1915	59,600,000	5,541,971	54,332,549
1916	61,700,000	4,057,884	33,943,443
1917	60,700,000	2,959,322	32,475,190
1918	63,000,000	2,701,825	52,535,315
1919	65,300,000	2,815,004	62,042,688
1920	62,000,000	3,377,032	52,666,045
1921	57,600,000	2,648,440	33,238,965
1922	58,500,000	2,774,033	27,906,772

[1] This year the preventive-serum treatment was announced and began to be used.

The monetary losses here mentioned represent the direct and immediate losses only for those animals which died. The varied additional losses incident to the presence of disease brings the toll levied by hog cholera to much larger figures.

General extension of immunization practices in infectious surroundings and early treatment in hog-cholera outbreaks prevent much of the losses formerly sustained. Careful management during the prevalence of an outbreak and

proper destruction of dead carcasses limit its duration and safeguard the surrounding territory against the spread of infection.

Tuberculosis in Hogs.

Second only to hog cholera in the toll of losses caused, though not so fatal, tuberculosis is a serious menace to the hog industry, hogs being peculiarly susceptible to this disease. Investigations regarding the transmission of tuberculosis from hog to hog have not been carried on to nearly the same extent as have these studies in relation to its transmission among cattle and human beings. That the disease is common is shown by the examinations of slaughtered carcasses at establishments where Federal inspection is maintained. Since about a third of the cattle and hogs of the country are not subjected to Federal inspection, available figures representing losses are approximately only two-thirds of the hogs actually affected.

Carcasses may be totally condemned, or "retained" for further examination and only the diseased parts condemned. Evidence of tuberculosis in a hog's carcass is a fair indication that tuberculosis exists in other animals—cattle and hogs—on the farm from which the hog was received.

TABLE 4.—*Number of cattle and swine slaughtered, and those retained and condemned on account of tuberculosis at establishments where Federal meat inspection is maintained.*

Fiscal year.	Cattle.			Swine.		
	Slaughtered.	Retained.	Condemned.	Slaughtered.	Retained.	Condemned.
1907 [1]	5,867,642	24,876	17,117	26,189,026	362,445	48,544
1908	7,116,275	68,395	24,371	35,113,077	719,279	77,554
1909	7,325,337	100,650	24,525	35,427,931	860,425	45,113
1910	7,962,189	123,501	27,638	27,656,021	792,176	28,880
1911	7,781,030	133,551	27,186	29,916,363	1,117,789	31,517
1912	7,532,005	160,122	35,273	34,966,378	1,643,100	42,267
1913	7,155,816	152,560	33,001	32,287,538	1,809,751	47,632
1914	6,724,117	143,699	29,738	33,289,705	2,201,005	48,252
1915	6,964,402	158,239	32,644	36,247,958	2,774,835	66,023
1916	7,404,288	190,991	37,085	40,482,799	3,687,817	74,109
1917	9,299,489	218,928	46,351	40,210,847	3,978,168	76,807
1918	10,938,287	222,787	40,692	35,449,247	3,494,587	59,740
1919	11,241,991	205,698	37,600	44,398,389	4,103,376	65,837
1920	9,709,819	200,917	37,762	38,981,914	4,262,719	65,609
1921	8,179,572	173,658	33,328	37,702,866	4,693,305	64,830
1922	7,871,457	212,978	38,804	34,416,439	5,640,061	70,304

[1] Covers 9 months from October 1, 1906, to June 30, 1907.

Germs of tuberculosis reproduce naturally only in the bodies of susceptible animals and are eliminated in body discharges. Milk may harbor germs which were derived directly from diseased milk glands or by contaminations. Hogs become infected when raw milk containing tubercle bacilli is fed or when they eat the grain which has passed through tuberculous cattle in an undigested condition. Infection may also result from eating parts of carcasses of tuberculous animals. Probably the commonest source of tuberculosis in hogs is through feeding unsterilized dairy by-products from creameries and skimming stations.

It is confidently believed that the work of suppressing tuberculosis by the accredited-herd and accredited-area plans will result in a marked lessening of infection among hogs.

Hog "Flu."

Since the fall of 1918 there has been recognized a respiratory disease of hogs, appearing simultaneously among many animals of the herd, usually spreading to all, and independent of parasitic infestations and of hog cholera. The affection appears suddenly and is accompanied by symptoms of difficult, jerky, and wavelike respirations with nausea, high temperature, cough, and sometimes great prostration. Death occurs in only about 2 per cent of the affected cases and when recovery occurs the duration of the immediate symptoms is short, lasting usually not more than a week or 10 days. Damage occurs to the lung tissues, however, which is readily recognized at slaughter a number of months after the acute symptoms have passed.

The cost of production of hogs as affected by this disease is due to the considerable loss in weight during the existence of the disease and the slower gains consequent upon deficient lung action during the remainder of the period of development and fattening.

Trichinosis.

Rats are notorious carriers of filth-borne, disease-producing organisms and of parasites which affect man and domestic animals. The agency of rats in the maintenance and transmission of trichinæ, small worms injurious to man and hogs, is a notable example. The presence of the living encysted form of these worms in pork products renders such products dangerous for human consumption unless the meat is thoroughly cooked. The American export trade in

pork was at one time so seriously affected that, as a basis for developing this outlet for American production, the Federal Government from 1898 to 1906 made microscopic inspection of all pork exported to certain countries. This showed an average positive infestation with trichinæ of 1 out of every 71 of the more than 8,000,000 hogs thus inspected for export.

The history of cases of human trichinosis shows that pork products made from hogs slaughtered for home use on the farm and at small meat shops are the most important sources of this disease. Preventing the occurrence of rats about houses and yards where hogs are raised, handled, or slaughtered is, therefore, of great primary importance to the farmer in protecting the health of his own family, as well as to those engaged in the preparation and marketing of pork products and to the millions of people who purchase pork for food.

Other Diseases and Ailments.

A common trouble known as infectious sore mouth is due to entrance of microorganisms from contaminated soil into abrasions on the mouth parts of young pigs. Colics and digestive disturbances in hogs found commonly in other classes of animals are unusual. Affections of the kidney are frequently present but usually are associated with the more common infections. Diseases of the liver are especially common in pigs and are in most instances due to parasitic causes. Skin diseases when present result from the peculiarly favorable conditions for contaminations of the skin with filth and organisms which infect abraded surfaces or penetrate the skin directly. Several kinds of pneumonia are serious and result frequently in death. Hogs appear to be quite susceptible to respiratory affections.

The losses from the minor diseases, however, are less among hogs than under similar conditions in the other classes of domestic animals. Parasitic diseases and infectious diseases already discussed, on the other hand, exact a larger toll than the infections and infestations among other classes of live stock.

Elimination from production costs of unnecessary losses from disease are reflected in greater profits to the grower and lower costs to the consumer of pork.

35143°—YBK 1922——15

Cost of Production of Hogs.

Too often the producer of hogs is prone to figure that feed, or even the quantity and value of corn in particular, measures the cost of producing hogs. As a matter of fact the relative share which feed plays in making up the total cost varies as the price of feed fluctuates in its relationship to the price level of the other cost factors. During the war period, with its high corn prices, the cost of those things other than feed necessary to produce 100 pounds gain in hogs could be purchased for the price of 1½ bushels of corn, whereas in the year 1921 it required the price of approximately 6 bushels of corn to meet these same expenses of production.

Corn Belt Data Obtained.

Cost figures gathered in Iowa and Illinois by the Bureau of Agricultural Economics of the United States Department of Agriculture for the year 1921 indicate that the average feed bill during the year constituted only 64 per cent of the total cost of raising and finishing hogs for market. (Figure 22 and Table 5.) Of this 64 per cent, 43 per cent was corn and the remaining 21 per cent consisted of feeds other than corn, including pasture and minerals. During the year 1921, when this cost study was made, the average price of corn in the sections of Iowa and Illinois studied was down to 35 cents per bushel, while the cost of labor, the taxes, marketing, and some of the other expenses of hog production had not dropped to the same general price level with corn. This accounts for the relatively small percentage of the total hog costs which feed made in that particular year.

Rather more than one-fourth of the total expense on hogs in 1921 was expended in interest and depreciation on hog buildings and equipment, in necessary veterinary hire, in insurance against losses among the hogs, in taxes on hogs that were on the farm at the time of assessment, in interest on money invested in the breeding herd, and in the necessary freight, commission, yardage, and other marketing expenses which were deducted from the sale price of the hogs. This same portion of the total cost also had some small items of miscellaneous expense, such as special trips to buy boars, telegrams, and the like. All these expenses, necessary in

addition to feed and labor, cost the farmer approximately $1.65 for every 100 pounds of hogs he raised.

The total average cost of raising and fattening hogs on 51 farms in Icwa and Illinois in the year 1921 was $6.08 per 100 pounds of marketable hogs.

The price of corn during 1921 was out of line with the price of those mill feeds that help so much in balancing the ration or in bringing the sows and boars through the breeding season in good condition. Every effort was made by these farmers to use corn up to the maximum and still not

COST OF PRODUCING HOGS IN IOWA AND ILLINOIS, 1921.

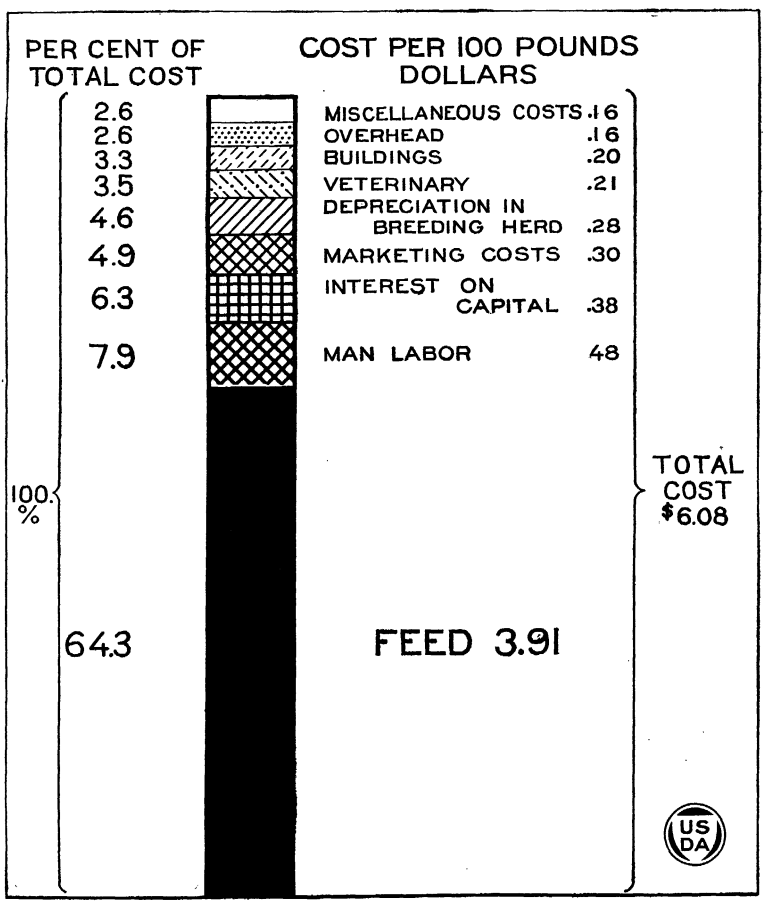


FIG. 22.—The average cost of growing hogs was $6.08 per 100 pounds. Under conditions which existed in 1921, feed made up 64.3 per cent of the total cost.

injure their breeding stock nor hinder the growth of their pigs. Over the whole production period, from the time the sows were bred until all their pigs were fattened out and sold, corn was fed at the rate of 30 pounds to every pound of the protein meals.

Under those conditions, with corn relatively cheap and mill feeds high, the Iowa and Illinois farmers whose costs were studied used, on the average, 7.4 bushels of corn, 28.3 pounds of skim milk, 23.3 pounds of oats, 8.8 pounds of tankage, 3.2 pounds of oil meal, 1.5 pounds of mill feeds, about one-half month of pasture per head, 1.7 hours of man labor, and one-third of an hour of horse labor to make 100 pounds gain in hogs.

TABLE 5.—*Average quantities of feed and other factors used in making 100 pounds of marketable hogs, 1921, Iowa and Illinois. (Fifty-one droves of spring pigs; 855,140 pounds of marketable hogs.)*

Item.	Quantity.	Per cent of total cost.	
Kinds of feed:			
Corn (shelled basis—7.4 bushels) ..... pounds..	413.6	(43.1)	
Feed other than corn—			
Oats ..... do....	23.3		
Barley ..... do....	1.1		
Wheat ..... do....	.04		
Soy beans ..... do....	.4		
Tankage ..... do....	8.8		
Oil meal ..... do....	3.2	(10.8)	64.3
Mill feeds [1] ..... do....	1.5		
Pumpkins ..... do....	.4		
Skim milk ..... do....	28.3		
Alfalfa hay ..... do....	.2		
Clover hay ..... do....	.5		
Pasture ..... unit days [2]..	2.2	(9.0)	
Minerals	.....	(1.3)	
Bedding ..... pounds..	7.3	(0.1)	
Man labor ..... hours..	1.7		7.9
Interest on capital invested	.....		6.3
Marketing costs	.....		4.9
Depreciation in breeding herd	.....		4.6
Veterinary	.....		3.5
Depreciation in buildings and equipment	.....		3.3
Overhead	.....		2.6
Taxes, insurance, and other costs	.....		2.6
Total	.....		100.0

[1] Shorts and red dog flour.

[2] A pasture unit day is the pasturage required to carry five 200-pound hogs a day with no additional feed.

Causes of Variations in Costs.

There were wide variations in costs among the various farms, due to the differences in size of litters weaned, the differences in total pounds of marketable pork produced per sow, and the relative economies made in the use of feed and other cost factors. (Fig. 23.) The most economical pork produced was grown at a cost of $3.76 per 100 pounds. In the same general locality another farm had a cost of $11.56 per 100 pounds. Between these two extremes all the hogs under study were produced, most of them at a cost varying

VARIATIONS IN COST OF PRODUCING HOGS IN ILLINOIS AND IOWA, 1921.

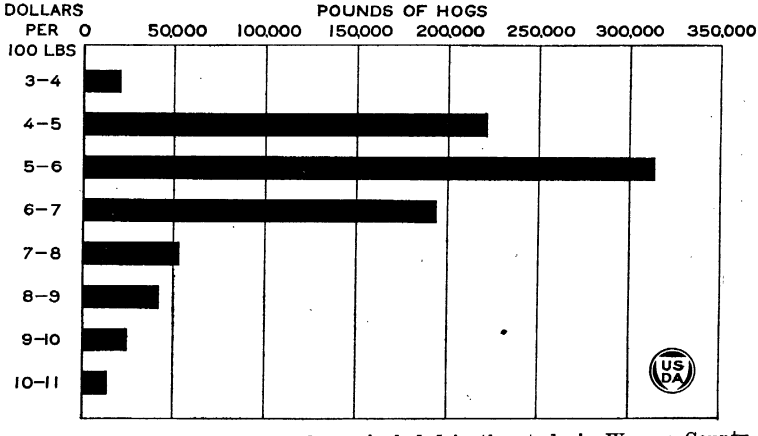


FIG. 23.—Most of the hogs on farms included in the study in Warren County, Ill., and Henry County, Iowa, cost between $4 and $7 per 100 pounds when ready for markets.

from $4 to $7 per 100 pounds, as is shown in the graph (Fig. 24). Of all the hogs on the 51 farms over 80 per cent were produced for less than $7 per 100 pounds.

The size of litters at weaning time varied from 2 pigs in one drove to 8 pigs in each of three droves weaning the largest litters. Three droves weaning less than 3 pigs to the sow had an average pig cost of $8.13; droves averaging 3 pigs showed a cost of $6.24 per weaned pig; droves weaning 4 pigs, $4.84 per pig; droves weaning 5 pigs $4.93; droves weaning 6 pigs $5; droves weaning 7 pigs to the sow showed a cost of $3.35 per weaned pig; and the droves with an aver-

age of 8 pigs to the litter, $4.45 per pig. The average cost per head at weaning time of the 3,574 pigs under observation was $4.50. The extreme variation was from $2.73 per pig in the drove having the lowest cost per pig to $10.16 in the

COST OF WEANED PIG AND SIZE OF LITTER, 1921.

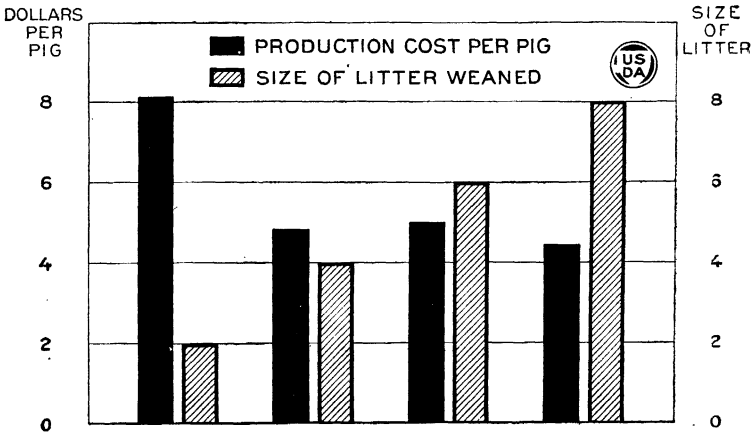


FIG. 24.—As the number of pigs alive and thifty at weaning time increased from 2 per sow to 8 per sow, the cost dropped from $8.13 per weaned pig, in the 2-pig litter, to $4.45 in the 8-pig litter.

drove having the highest cost. Cost figures on the pigs weaned include all feed and other costs upon their mothers from the day sows were sorted out in the fall to be bred up to the date of weaning. It also includes the feed and other costs for the boar while on the farm.

The one important cause of this wide variation in the cost of weaned pigs was the death losses in some droves, due in many instances to the careless management and feeding of the breeding herd. As Figure 25 indicates, 340 in every 1,000, or 34 per cent, of the pigs farrowed in the spring were lost before weaning time. More little pigs were killed by the mother sow lying on them than by any other one cause. The large number farrowed dead or so weak they could not stand up to suckle indicates that the selection of sows and their feeding and handling before farrowing are important factors in the health and vigor of the offspring. About 4.75 per cent of the hogs were lost after they were weaned. (Fig. 26.) As the cost of feeding and caring for the sow throughout the year must be borne

by her offspring, it follows that those sows whose litters are large and whose pigs are good "doers," making rapid gains, produce the cheapest pork. The farm averaging the smallest litters in the Illinois and Iowa area made 473 pounds of pork per sow in 200 days. The farm making the highest record for pork in 200 days made 1,759 pounds from an average of 7.27 pigs weaned per sow. Two farms producing an average of 8 pigs per sow ranked second and third, with 1,616 pounds and 1,435 pounds of pork per sow.

Fifteen of the 34 farms not buying stocker hogs made, on the average, over 1,000 pounds of pork per sow in 200 days. Among the nine droves making gains for less than $5 per 100 pounds the *smallest* production of pork per sow was 972 pounds; among the hogs costing over $7 per 100 pounds the *highest* producing drove made only 777 pounds per sow in 200 days.

Corn Equivalent of 100 Pounds Gain.

The quantity of corn or its equivalent required to produce 100 pounds of pork, when the entire herd is included, varied from 4½ bushels in the drove making best use of feed to 16½ bushels in the drove making poorest gains, with an aver-

DEATH LOSSES AMONG PIGS BEFORE WEANING, 1921.

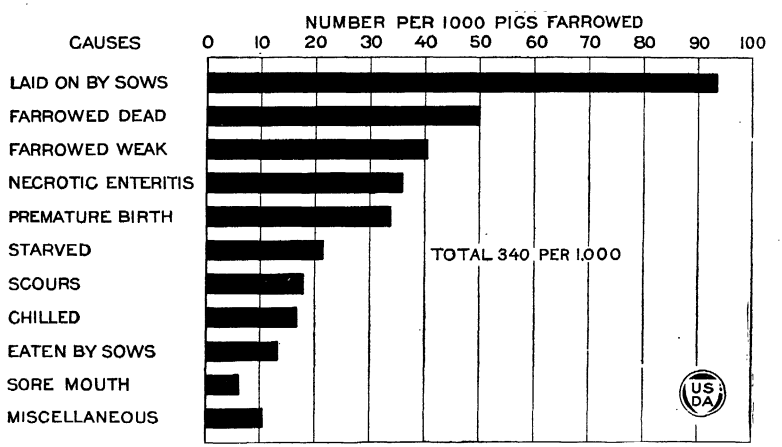


FIG. 25.—A loss of 340 in every 1,000 pigs farrowed, or 34 per cent under what may be termed normal conditions, presents a problem in breeding-herd management. Only a small proportion of the little pigs are lost by disease; the principal losses being from injury or weakness.

age of 8¼ bushels. (Fig. 27.) In addition to 8¼ bushels of corn or its equivalent in other grains, these hogs used from one-half to 3½ pasture unit days, and an average of 1.7 hours

DEATH LOSSES OCCURRING IN THE BREEDING HERD AND AMONG HOGS AFTER WEANING, 1921.

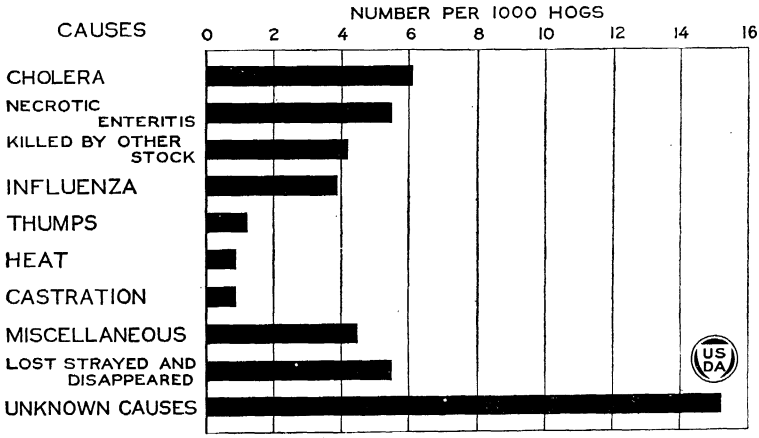


FIG. 26.—Losses after weaning are not so great numerically. But owing to the greater value of the hogs after weaning, the toll exacted is heavier than the chart indicates and practically all the losses are avoidable.

of man labor in the production of 100 pounds of pork. Farmers who selected sows with good breeding qualities, using care and diligence in the handling of the sow and her litter, and using good feeding practices, together with alfalfa or clover pasture, made the cheapest gains. To obtain the corn equivalent, the quantities of all feeding stuffs, other than pasturage, were expressed as the bushels of corn to which these other feeding stuffs were equal for fattening purposes.

TABLE 6.—*Variation in the quantity of corn or its equivalent required to grow hogs, and its influence upon cost (Iowa and Illinois, 1921).*

Bushels of corn and equivalent per 100 pounds of gain.	Number of droves.	Cost of producing 100 pounds of gain.
Less than 6 bushels	7	$4.82
6 to 7 bushels	11	5.54
7 to 8 bushels	11	5.49
8 to 9 bushels	11	5.93
Over 9 bushels	11	7.35

The farms requiring the least amount of corn or its equivalent to make 100 pounds of pork were those that carefully selected their gilts from large litters of thrifty pigs and the farms that held over the brood sows that had formerly produced large litters and brought them through to weaning time in good condition. The very marked influence which the number of pigs weaned per sow has upon the ultimate cost of pork made by the sow and her litter emphasizes the importance which care and management of the breeding herd have upon profits in hog production.

Marketing Hogs.

The market is the inspiration of the breeder, the hope of the feeder, the goal of the shipper, and the aim of all who produce a surplus of meat animals for human consumption. It either crowns the stockman's efforts with profit or sends him home with a loss. All roads lead to the market place, and there men learn whether or not they have produced wisely and well, for the market is a merciless judge.

History.

Marketing hogs and pork products was among the earliest of the commercial activities of the American colonists. At first surplus pork was used chiefly in provisioning ships,

VARIATION IN QUANTITY OF CORN EQUIVALENT REQUIRED TO PRODUCE 100 POUNDS OF HOGS, 1921.

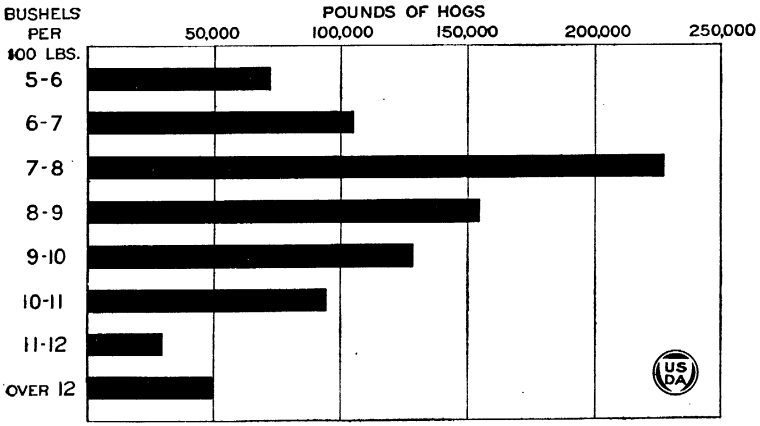


FIG. 27.—The quantity of corn and its equivalent in other feeds taken as a whole make the total corn equivalent. There is not an invariable ratio between corn and hogs; but, as this figure shows, the variation is wide between different farms in the quantity of corn used in making gain.

but in a short time it became an important item in the foreign trade of the country. Before the middle of the seventeenth century the Puritan uprising in England forced the West Indies to look largely to the American colonies for meat supplies, and as a result considerable quantities of both beef and pork were shipped to that southern market.

John Pynchon, of Springfield, Mass., is generally credited with having been the first American packer. Between 1662 and 1683 he bought and packed great numbers of hogs. In those early days both pork and beef were frequently used as a medium of exchange, some of the New England colonies accepting such commodities in payment of taxes.

The early live-stock markets at Boston, New Amsterdam (later New York), Philadelphia, and Baltimore handled considerable numbers of hogs. It is noteworthy, however, that hogs did not in those early days constitute so important an item of trade at the public markets as did cattle. This was probably due largely to the fact that most of the hogs were either slaughtered on the farms or by a country drover, who gathered up small lots and drove them to his own establishment for slaughter.

By the end of the eighteenth century there were considerable numbers of hogs in the Ohio River Valley. At this time both live and dressed hogs were loaded on boats and shipped down the Ohio and Mississippi Rivers to New Orleans. Great numbers were also driven east over the mountains to Baltimore and Philadelphia, droves containing 4,000 to 5,000 hogs occasionally being seen on the road at one time. During the early years of the ninteenth century fully 100,000 hogs went east annually. There were also great numbers driven south into the Cotton Belt. The southern farmer, because he devoted his energies almost exclusively to cotton raising, was forced to look to his northern neighbors for the major portion of his meat supply.

However, the hog never has been well suited to being driven long distances to market, though this deficiency has been due to causes which varied with the development of the hog industry. In the early days, when the hog was a longer-legged and more rangy animal than he is to-day and carried far less fat and total weight, although capable of traveling considerable distances and at a fair speed, he was usually so wild that it was almost impossible to herd him

satisfactorily. Old records contain some gruesome tales about how hog drovers stitched the eyelids of hogs together so that they might more easily be driven along the roads. When later, the type of hog was changed to that of an animal of comparatively short legs and carrying a large amount of fat and weight, he became incapable of traveling any great distance, particularly in warm weather. For these reasons the hog has generally been slaughtered and dressed not far from the place of production. In other words, when the hog goes to market he usually doesn't go far and he doesn't walk.

It was this fact which largely accounted for the rapid development of Cincinnati as a hog-packing center during the first half of the nineteenth century. Between 1815 and 1830 the Ohio Valley was the most important hog-raising section of the United States, and Cincinnati became world famed as a pork-packing center.

Hog production, and therefore marketing, followed close on the heels of corn production. As a matter of fact in the early days of the Ohio country the fact that corn could be sent to market in the form of pork was in no small degree

AVERAGE LIVE WEIGHT OF HOGS PACKED IN THE WEST AND YIELD OF LARD FOR 53 YEARS.

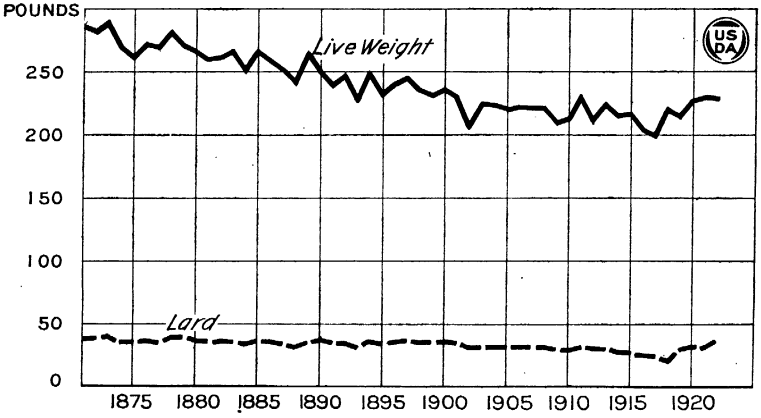


FIG. 28.—In 1873 the average live weight of hogs packed in the West was 289.5 pounds, compared with 228.5 pounds for the winter season of 1921–22. This shows the trend of consumptive demand toward animals producing lighter-weight cuts. The yield of lard per hog has not varied in proportion to the live weight of the animal. For example, in 1873 a 289-pound hog produced 40 pounds of lard, whereas in 1922 a 228-pound hog produced nearly 36 pounds of lard.

responsible for the rapid increase in corn production. Just as Cincinnati had depended largely on hog slaughter for its early and rapid growth so also did Alton, Edwardsville, and Chicago in Illinois. As early as 1818 there was some pork packed at a point near the mouth of Wood River, a few miles below Alton. By 1833 hog slaughtering and pork packing at Alton had assumed such magnitude that it was necessary to pass a city ordinance prohibiting slaughtering within the corporate limits without a permit. During the season of 1838 and 1839 Alton packed 22,400 hogs.

At Chicago pork packing first became an important industry about 1832. Owing partly to its location on the chain of Great Lakes which made it possible to send dressed meats east by water, Chicago developed rapidly as a packing center. The first shipment of live stock by rail occurred about 1852, the stock being loaded in ordinary box cars. In this shipment no provision was made for feeding, watering, or ventilation. During the season of 1861–62, Chicago packed over 500,000 hogs, and for the first time passed Cincinnati. From that time to the present time Chicago has maintained her position as the leading live-stock market and pork-packing center of the United States. About 1868 the transportation of meats under refrigeration began to be used. This revolutionized the meat industry, for it enabled the packers to slaughter the animals in the West and ship the meat under refrigeration to the consuming markets in the East. As population pushed westward and the limits of the Corn Belt expanded, other live-stock markets were established at St. Louis, Kansas City, Omaha, South St. Joseph, and Sioux City.

The relation between the freight rates on dressed and live hogs is influential in determining the location of meat-packing centers. The higher the freight rates the nearer the points of slaughter will approach the centers of production. The ease of shipping dressed meats is another factor affecting the location of packing centers. It is much easier to transport pork and pork products than it is to load, unload, feed, and water live stock. For these reasons a large proportion of the hogs are slaughtered close to the producing areas.

Hog Markets.

Probably 80 per cent of the hogs marketed in the United States pass through public stockyards. These central markets are scattered throughout the country, but, as might be expected, the largest hog markets are located in the area of densest hog production, which is the Corn Belt. As production of hogs increased there was a steadily increasing

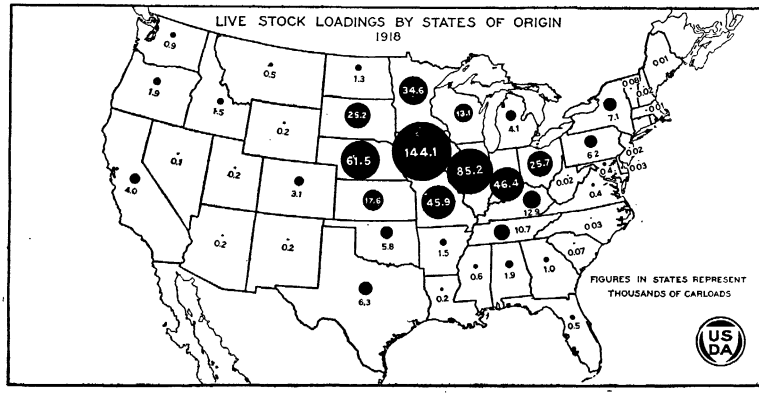


FIG. 29—In 1918 Iowa led in number of hogs loaded, with 144,105 cars; Illinois was second with 85,164 cars; Nebraska third with 61,489 cars; Indiana fourth with 46,362 cars, and Missouri fifth with 45,860 cars. Iowa loaded more than 25 per cent of all the hogs shipped during that year, whereas Missouri which was the fifth, loaded 8 per cent of the total.

demand for near-by and convenient marketing facilities. For this reason hog markets have always followed closely on the heels of hog production.

This fact is clearly indicated by Figures 29 and 30. Figure 29 shows the relative importance of each State with respect to the number of carloads of hogs shipped during 1918. Figure 30 shows the relative size of hog markets based on average annual receipts of hogs during the six years, 1916–1921. The five leading hog markets—Chicago, East St. Louis, Omaha, Kansas City, and Indianapolis—are located in four of the first five hog-producing States, Illinois having the first two markets, and Nebraska, Missouri, and Indiana each having one of the remaining three.

This tendency to bring the market and slaughtering facilities as near as possible to the point of hog production is perhaps more strikingly shown by a study of the average weight of hogs received at the various markets. (Fig. 31.) Such a study brings out the fact that the receipts of hogs

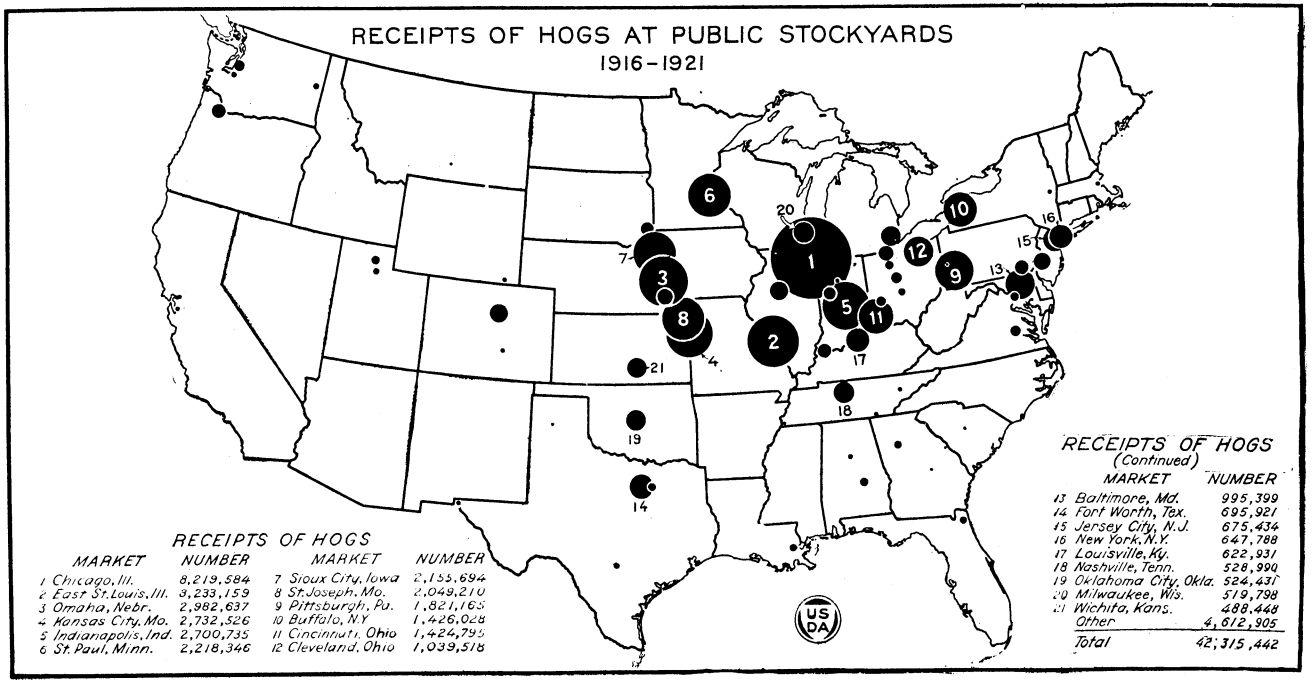


FIG. 30.—Chicago is the leading swine market of the United States. Based on the average annual receipts for five years, 1916–1921, Chicago received considerably more than twice as many hogs as did East St. Louis, which was the second market with respect to receipts. Omaha was third, Kansas City fourth, and Indianapolis fifth during this period. Most of the hogs purchased at these markets were slaughtered at the same points. About half of the hogs slaughtered under Federal inspection are slaughtered at the eight middle western points shown on the map.

at each market represent the character of hog production in that immediate vicinity.

For example, Omaha is known as a heavy-hog market. The average weight of hogs at that point is generally higher than at any other important center, weekly average weights sometimes running as much as 100 pounds per head heavier than at East St. Louis. This condition might be expected in view of the fact that Omaha is situated almost in the heart of one of the surplus corn-producing areas where hog production is conducted in an intensive manner. East St. Louis, being located nearly on the border line between the Corn Belt and the Cotton Belt, has the lowest average weight of hogs of all the important markets. Considering yearly average weights over the period 1915 to 1921 Omaha stands first, Sioux City second, St. Joseph third, Chicago fourth, St. Paul fifth, Kansas City sixth, and East St. Louis seventh.

Methods of Marketing.

Methods of marketing hogs vary from time to time and in different parts of the country, but for the country as a whole it is believed that at present approximately 85 per cent of the hogs packed pass through one or another of the public stockyards and that approximately 15 per cent reach

WEEKLY AVERAGE WEIGHT OF HOGS RECEIVED AT FOUR LEADING MARKETS, 1921.

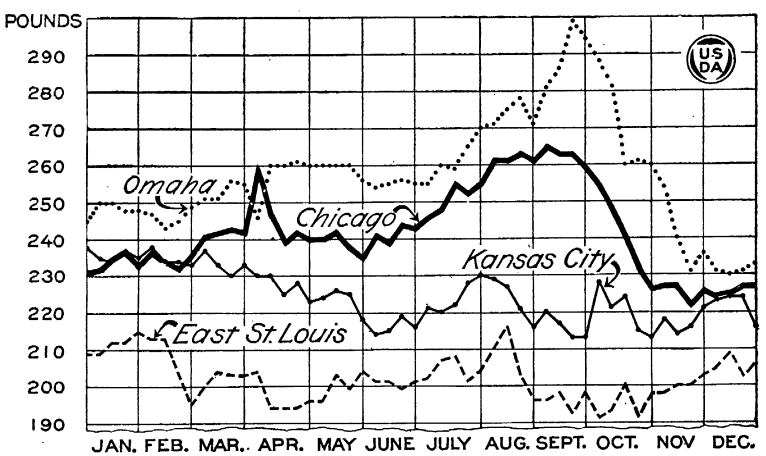


FIG. 31.—As a rule the average weight of hogs marketed at Omaha is higher than at any of the other three leading middle western markets. Chicago is usually second in this respect, Kansas City third, and East St. Louis fourth.

the packing house via other routes. The more important present-day methods of marketing may be listed as follows:

1. Producer shipments:
   (*a*) To central markets.
   (*b*) Direct to packers.
   (*c*) Slaughter and sale of products by farmers.
2. Local sale:
   (*a*) To the country drover.
   (*b*) To the packer buyer.
   (*c*) To local butcher.
3. Cooperative marketing:
   (*a*) Through shipping associations.
   (*b*) Through auction sales.

Producer Shipments.

Some producers ship their own hogs in carload lots. Such shipments may go either to a central market or direct to a packing house. A survey made in 1914 and 1915 indicated that of the total hogs marketed the percentage shipped to central markets directly by producers ranged from none in most of the New England States to as high as 57 per cent in Wyoming. The New England States and Wyoming, however, are not important hog-producing States. In the Corn Belt, where most of the hogs are raised, the percentage shipped to market by the producer ranged generally from 15 to 24 per cent, with Nebraska reporting as high as 35 per cent so marketed.

Most of the hogs sent by producers directly to market are consigned to the stockyards, but some producers and shippers ship direct to the packing house, thereby eliminating stockyard charges. This is not an important method of marketing, except in certain sections. In Kansas City one packing concern maintains a private stockyard simply for the purpose of receiving shipments that come to the concern direct from the country. Some days this private yard receives a larger number of hogs than the public stockyard in that city. Also in St. Louis there is a packing concern which often receives on a given day more hogs than the National Stock Yards, generally referred to as East St. Louis, across the river, despite the fact that the latter market is the second largest hog market in the country.

A third form of marketing involving direct shipment by the producer is one in which hogs are slaughtered and

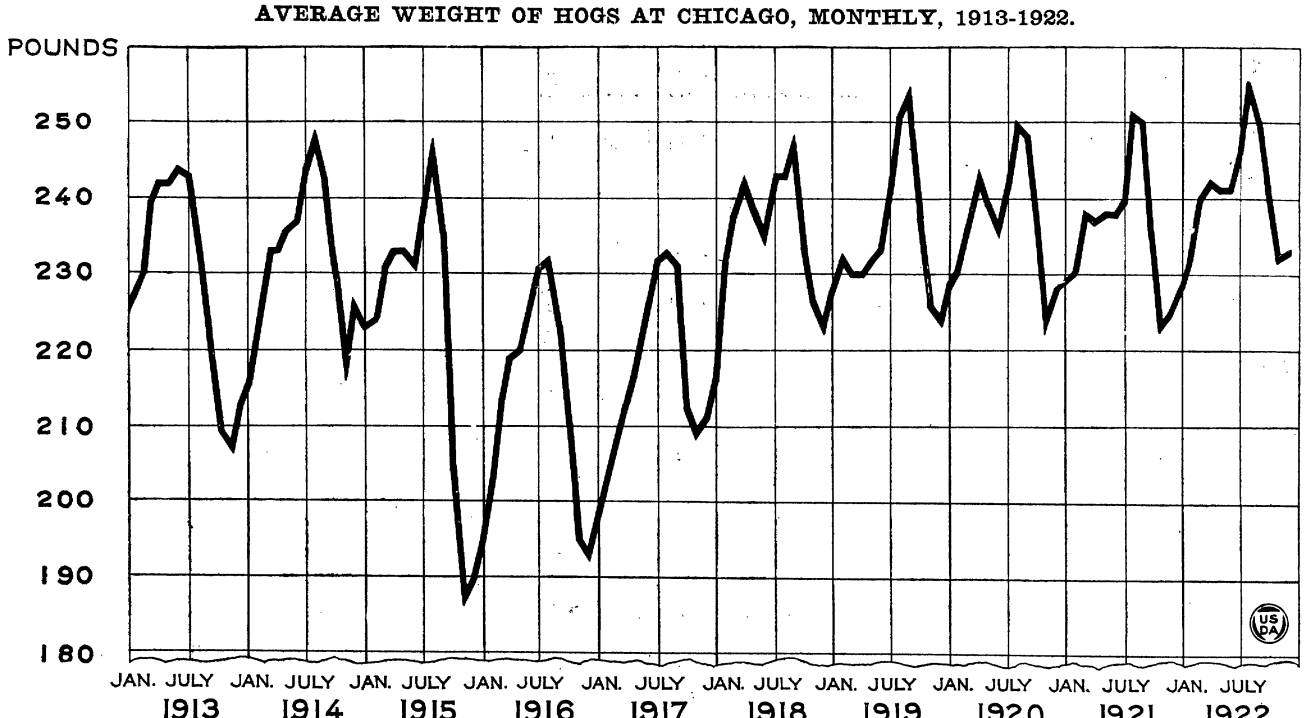


FIG. 32.—The average weight of hogs marketed is usually highest in August or September, when most of the packing sows are marketed, and lowest in November or December, when the run of hogs farrowed the preceding spring assumes large proportions. During the past nine years the average weight of hogs was lowest (187 pounds) in the autumn of 1915, and since 1918 has been very steady, except for seasonal fluctuations, ranging around 240 pounds.

35143°—YBK 1922——16 + 17

dressed on the farm and shipped to some consuming center and sold. This method of marketing is relatively unimportant in the large hog-producing areas. In New England, the Cotton States, and the Pacific Northwest, however, it comprises a considerable proportion of the hogs marketed. For example, in the survey of 1914 and 1915 the per cent so marketed in the New England States ranged from 20 to 33, in the Cotton States from 5 to 27, and in the Pacific Northwest from 4 to 33. It is probable that with the increase in the number of packing establishments and improvement in central market facilities which have occurred during recent years, this practice of marketing farm-dressed hogs in the carcass is not so prevalent as it was eight years ago.

Local Sales.

Considerably more than half the hogs marketed in the United States are sold by the producer in the country. These local sales may be either to (*a*) country buyer, (*b*) local butcher, or (*c*) the packer buyer. These three agencies are listed in the probable order of their importance based on the number of hogs handled.

Country Buyer.

Probably more hogs still reach the market through the country buyer than by any other single agency. In the survey referred to above the per cent of hogs marketed through the country drover ranged all the way from none to 69 per cent. In the Corn Belt States the percentage ran high, ranging from 45 per cent in Nebraska to 69 per cent in Missouri.

The strength of the local buyer as a marketing agency has always rested largely on the fact that he stands ready to buy anywhere from one head to several carloads of animals and thereby provides a ready market for the small-lot producer. As a rule he takes whatever the producer has to offer and pays cash in hand. He assumes all risk and pockets all profits of marketing.

During recent years, however, the country buyers' activities have been seriously curtailed by the cooperative shipping associations. This type of organization competes successfully with the country buyer for the reason that it provides for the small producer the same sort of service that the

country drover does and, in some instances at least, provides this service at a lower cost.

Country Butchers.

Although in the Corn Belt comparatively few hogs are sold direct to the country butcher, there are sections of the country, notably New England and the Cotton States, in which a very large percentage of the hogs are marketed right at home. The survey made, 1914–15, indicated that in Connecticut nearly 62 per cent of the hogs went to local butchers and in Louisiana approximately 63 per cent were so marketed. Obviously this system of marketing is suited only to sections of small production. Any territory, such as the Corn Belt, where a large surplus of hogs is produced, must, of course, depend on other means for an outlet.

Packer Buyer.

In certain sections of the country packer buyers or agents go to the farms and buy hogs direct from the producers. This policy is confined almost entirely to those sections of the Corn Belt where hog production is most highly developed. In this system of marketing the packer buyer supplants the country drover and is able to do so chiefly because he is relieved of stockyard charges which the country drover, as a rule, must pay.

Cooperative Marketing.

Cooperative marketing of hogs is increasing steadily and rapidly; in certain parts of the country more than half of the hogs are now marketed in this way. Iowa, Minnesota, and Wisconsin have made rapid strides, and in other sections of the country the system seems firmly rooted. Cooperative marketing has appeared in various forms, but the most important are the cooperative shipping associations and the auction sale methods.

Shipping Associations.

The most popular method of marketing live stock cooperatively is through cooperative shipping associations. In 1921 Iowa had more than 600 such associations and it is

estimated that at the present time there are, in the country as a whole, between 5,000 and 6,000 organizations of this sort.

Probably between 75 and 80 per cent of the business of cooperative shipping associations consists in marketing hogs. This is true because hogs lend themselves more readily to cooperative shipping than any other class of meat animals. Despite its concentration in the Corn Belt, hog production is probably more widely dispersed than that of any other meat animal. Almost every farm produces at least one or two hogs annually. The assembling of these small lots of hogs and getting them to market provides an excellent opportunity for cooperative effort. A survey made in 1921, which covered 210 live-stock shipping associations and companies handling live stock, and a total of 1,133,000 head of stock, showed that, on a head basis, hogs constituted more than 83 per cent of the business of the associations.

The advantages of cooperative shipping have been pointed out too often to require restatement here. One advantage, however, which has not received so much attention as it deserves is the fact that every successful shipping association depends largely for its success on a lively interest in the organization on the part of its membership.

This necessitates the individual members and producers gaining at least a working knowledge of the machinery involved in handling live stock between the farm and the consumer's table. More intimate knowledge concerning these various factors and instruments of marketing makes for more intelligent action on the part of the producer, both with respect to his production and also his marketing methods.

A rather interesting feature in this connection is found in the fact that the country buyer was in a sense an outgrowth of cooperative marketing. In the early days producers in many instances pooled their stock and either took or sent it to a market. This soon developed the need for a manager or some one who would be responsible for the enterprise. Presently it was found simpler to sell the stock to the manager and allow him to assume all responsibility and all risk.

Likewise at present, although early in the development of organizations of this sort, individual members usually exhibit a lively interest and exercise an active supervision over the activities of the manager; as time goes on there is a natural tendency to leave the actual management of the association more and more to the man in charge. This is particularly true of associations having competent management. The logical result of this attitude on the part of the membership is for the control of the organization to center more and more in the hands of the manager. With this in mind, it will be interesting to watch the development of the cooperative movement and see whether or not, in the course of events, the manager will ultimately again metamorphose into the country buyer.

Auction Sales.

Another form of cooperative marketing of hogs which has met with a measure of success in certain restricted areas is one which utilizes the auction as a selling agency. Although this method of disposing of live stock has always been extensively used in connection with breeding stock, it has not, for certain rather obvious reasons, been used to any considerable extent in connection with marketing live stock intended for slaughter. In the Southeastern States auction sales of market hogs have for several years past been conducted at various points and at irregular intervals. Frequently county agents are sponsors for such sales and are responsible for their conduct. As a rule both producers and buyers are advised as to the time and place of the sale, the hogs are assembled and buyers bid on them in small lots. These hog sales have at times been successful, but at other times they have not given complete satisfaction.

In California the auction method has been developed to a rather high degree. An association with a paid manager has general charge of the sales which are held each week, on regular days, and at specified places. A rather unique feature of these sales consists in the fact that the manager of the association, who represents the producers, has the right to make one bid on each lot of stock. This provides protection for the producer against any possible collusion between buyers which might have for its purpose undue depression of prices. These sales have been going on for

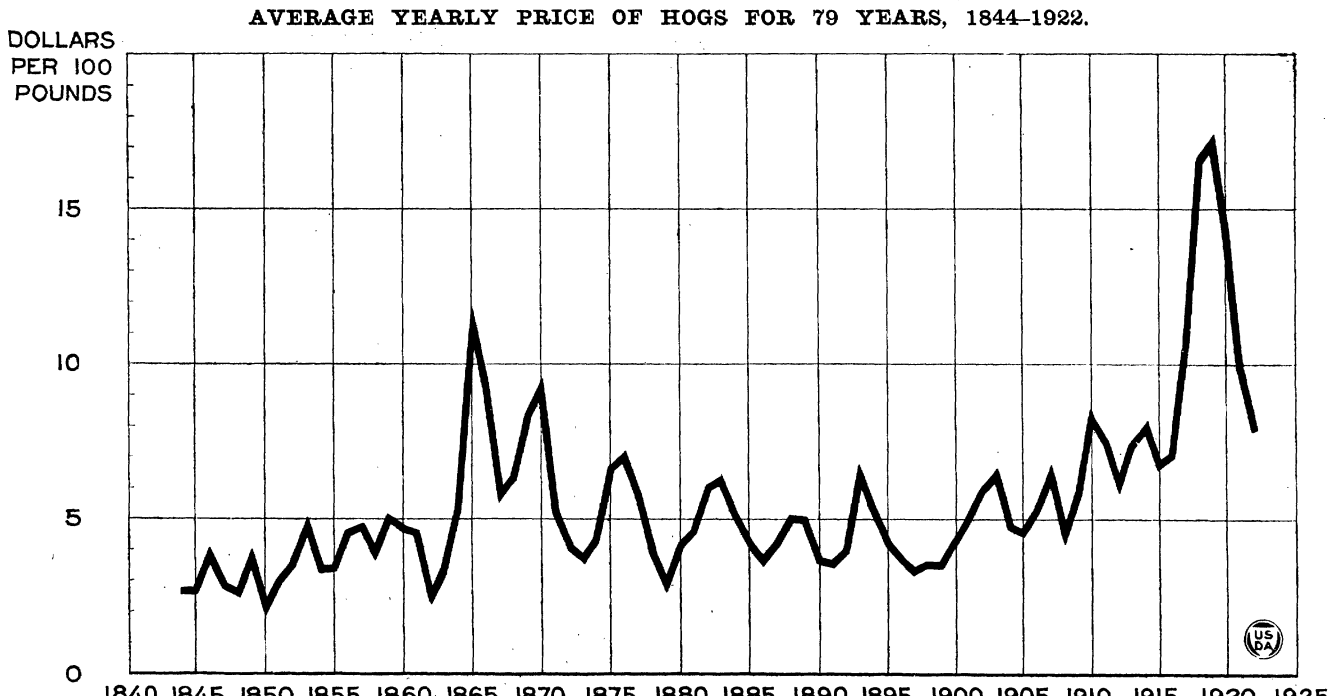


FIG. 33.—Hog prices vary rather widely over a period of years. From 1844 to 1864 yearly average prices were generally below $5 per 100 pounds. Toward the close of the Civil War, in 1865, prices shot up to $11.46 and remained above $5 during the next six years. From 1872 to 1907 yearly average prices ranged generally from $1.50 above to a similar amount below the $5 level. In 1908 prices swung upward, crossed the $5 line, and have remained above that point ever since.

the past three or four years and apparently have given a reasonable degree of satisfaction to all parties concerned.

Factors of Marketing.

Prices.—Obviously many factors enter into the control of market movements of hogs. Furthermore, the degree of influence varies somewhat with the time and locality. At all times and in all places, however, price is the dominating influence. High prices overcome virtually all obstacles. They bring a rush of stock to market even in times of scarcity and sometimes draw stock from great distances. Commodities of all sorts, and particularly live stock, follow peak prices across the map just as iron filings follow the magnet. No distance is too great and few obstacles too imposing to prevent a flow of live stock to a given point, provided the price is sufficient to warrant the effort. Distance, weather, transportation difficulties, and virtually every other difficulty is overcome by a sufficient advance in prices.

Hog marketing probably has made a nearer approach to an exact science than has that of any other important class of meat animals. Freight differentials from producing areas to market centers are carefully calculated, as are also all of the important items of marketing expense. For this and other reasons hog prices undoubtedly show greater uniformity the country over than those of other animals. Each market has its place in the general price scale. If for any reason temporary local conditions advance or depress hog prices at a given market in such a manner as to put that market " out of line " with the general level, a compensatory shift or change in the flow of supplies to that market very quickly brings about a restoration of the equilibrium and the market again assumes its normal position.

In view of the importance of price in determining movements of hogs to market it may be of value to consider the trend of hog prices over a period of years. Figure 35 shows the course of prices from 1844 to 1922. These prices, which represent the cost of hogs packed in the West during the winter season of each year, indicate that the market reached the lowest point ($2.13 per 100 pounds) during the winter

AVERAGE PRICE OF HOGS, CATTLE, AND LAMBS AT CHICAGO, MONTHLY, 1913-1922.

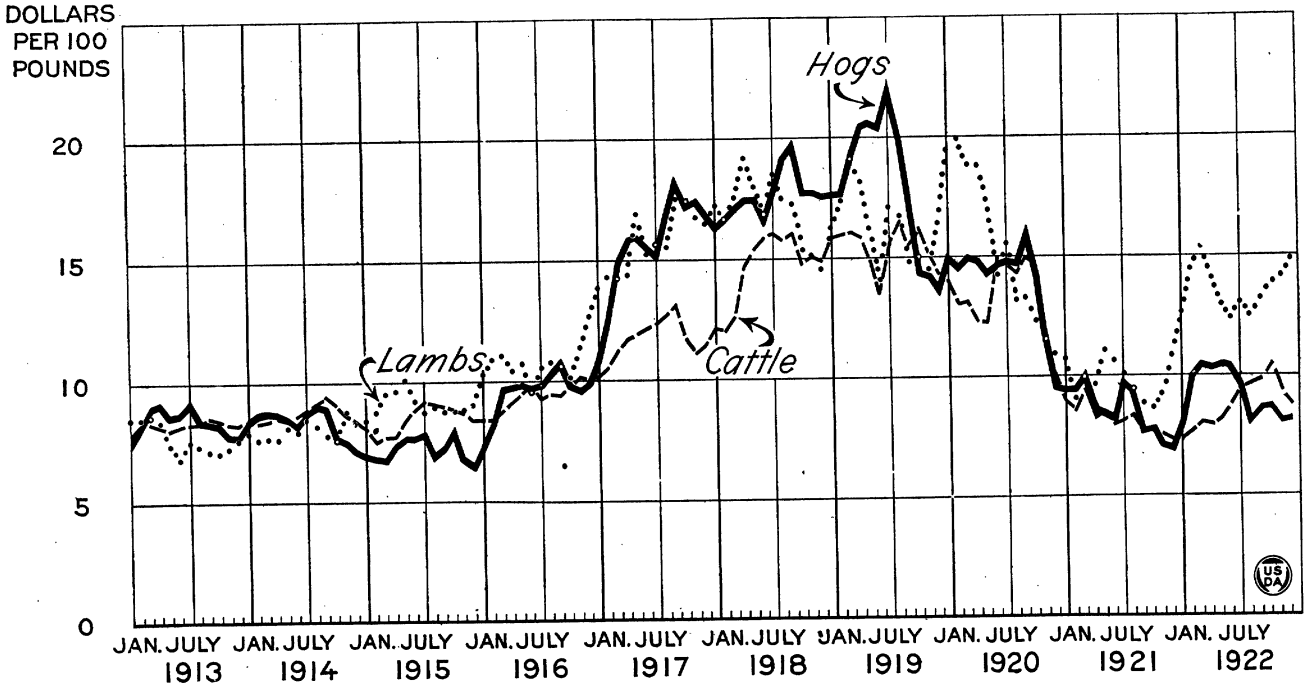


FIG. 34.—Under the fairly normal conditions existing from 1913 to 1916 cattle, hog, and lamb prices showed a very close correlation. During 1917 and 1918 hog and lamb prices pulled away from those of cattle. Hog prices continued upward to 1919, but cattle and lamb prices, as a rule, did not advance to the extreme heights reached by hogs. By the middle of 1920 the three classes of meat animals were again selling almost on a parity. Since 1921 lamb prices have been higher than prices of hogs and cattle.

of 1849, and the highest point ($17.27) in 1918 which was the last year of the World War.

There are, however, various ways of expressing value other than in dollars and cents. In fact a study which is confined to dollar and cent prices frequently leads to erroneous conclusions. A more accurate conception of the actual status of a commodity or industry is frequently gained by a study of comparative purchasing power of different commodities. Generally speaking it is of little consequence whether hogs sell at $10 or at $15 per 100 pounds. The thing which concerns the producer much more vitally is whether or not the money price obtained for his hogs will bring in return a commensurate quantity and quality of other commodities which he must purchase. With this in mind it may be of value to note the vast difference which exists from time to time between money values and purchasing power of hogs.

Using prices of hogs and of other commodities in the year 1913 as 100, a comparison of the indexes of the money price of hogs packed in the West during the winter season from 1845 to 1922 with the purchasing power of those prices, develops some rather striking facts. (See Fig. 35.)

From 1844 to 1913 the price of hogs packed in the West advanced more rapidly than the general commodity price level. If it is assumed that in 1913 a dollar's worth of hogs would purchase a dollar's worth of other commodities, in 1844 a dollar's worth of hogs would purchase only 37 cents worth of other commodities.

Toward the close of the Civil War the price of hogs rose to $11.46 per 100 pounds, which was 44 per cent above the 1913 level. At the same time the purchasing power of hogs rose to 86 per cent, which was the highest point reached since 1844. Following the war hog prices declined rather steadily until the winter of 1878–79, when they reached an average price of $2.85 per 100 pounds for the packing season. That price was 64 per cent under the 1913 level. Furthermore, the purchasing power dropped to 40 per cent, a figure which had been equaled only once during the preceding 18 years.

From 1896 to 1909 hog prices advanced rather steadily, and in the last-named year averaged $8.30 per 100 pounds. That price was 4 per cent higher than the 1913 average, and

AVERAGE PRICE AND PURCHASING POWER OF HOGS PACKED IN THE WEST, 1845–1922.

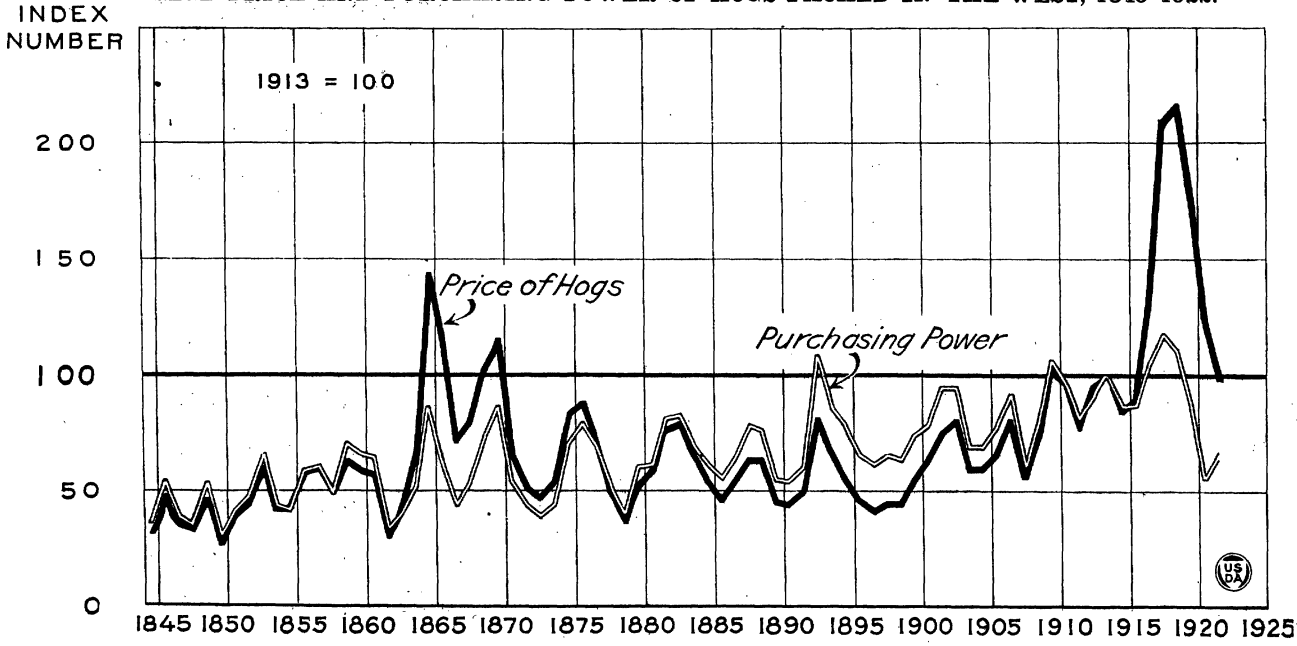


FIG. 35.—The market price of hogs and the purchasing power of that price in terms of other commodities are seldom the same. Since 1844 the purchasing power of hogs has exceeded the money price during 52 years. In three years the two were equal, whereas during the remaining 23 years the purchasing power was less than the market price. In 1921 the purchasing power of hogs was only about half of the 1913 average.

the purchasing power, which stood at 107 per cent, was the highest with one exception since 1844. The exception occurred during the winter of 1892–93, when the purchasing power of hog prices stood at 108 per cent.

The World War with its unusual demands and inflation of the currency brought an advance in hog prices and resulted in an average price of $17.27 for the packing season of 1917–18. Although this price was 116 per cent above the 1913 average, it had a purchasing power only 11 per cent higher than that level.

The precipitous decline that occurred in all farm prices during the postwar adjustment carried hog prices to an average of $7.92 during the winter of 1921–22. This was 1 per cent under the 1913 level. Hog prices, however, declined so much more than those of other commodities that the purchasing power of hogs became only approximately two-thirds of what it was in 1913.

Season—Climatic Conditions.

Although the marketward movement of hogs is not affected by weather and climatic conditions to nearly so

MONTHLY RECEIPTS OF HOGS; 67 PUBLIC STOCKYARDS.

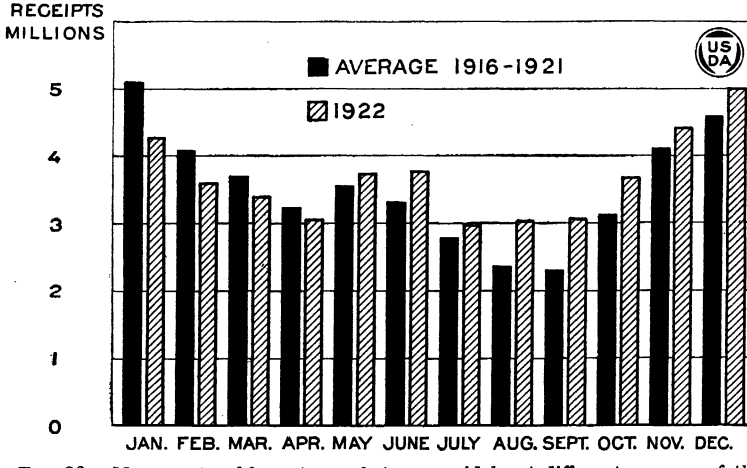


FIG. 36.—Movements of hogs to market vary widely at different seasons of the year. January usually brings the heaviest run. From then on receipts decrease until April. During May and June movements usually increase, but from then on receipts at public stockyards decline steadily until the low point of the year is reached in September. During November and December receipts are generally heavy, but usually somewhat lighter than in January.

great an extent as that of cattle and sheep, movements of hogs to market nevertheless vary materially during different seasons of the year. The peak of hog receipts at public markets is almost invariably reached in January. Decem-

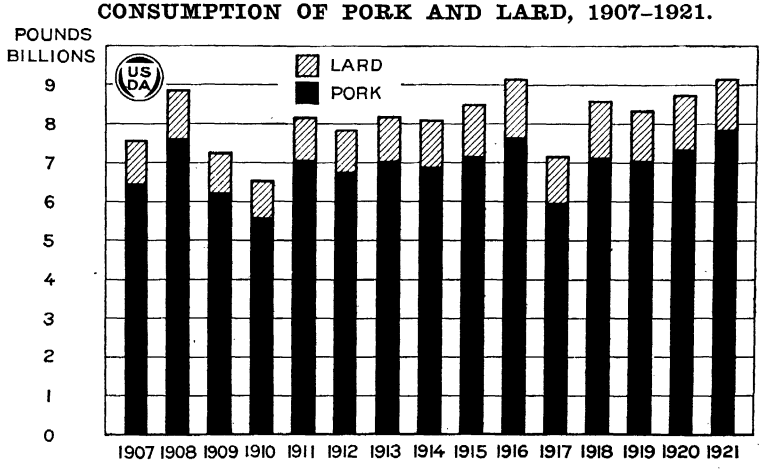


FIG. 37.—Since 1907 domestic consumption of pork was highest in 1921 and lowest in 1910. Consumption of pork and lard combined, however, was highest in 1916.

ber is second and November third in importance in that respect. September is usually the lightest month. (Fig. 36.) After September, receipts usually increase rapidly until the peak is reached in January. From that point they usually decrease until April. May and June generally show a rather marked increase in receipts, after which they usually decrease again until the fall movement begins in October. Rarely is there any marked variation in this schedule.

Climatic and the resulting feeding conditions are largely responsible for these fluctuations in the marketward movements of hogs. Sows are usually bred to farrow in the spring so that mother and pigs may be on pastures during the summer, in addition to a grain ration. By the end of the summer most of the pigs have attained the age and size where they can be put on a full ration of grain and other concentrated feeds. Six to eight weeks of such feeding makes them ready for the market and they begin moving to the great central markets in enormous numbers.

Consumption.

From one point of view, consumption should have been considered first among the factors of marketing. Obviously the aim of all production and all marketing is human consumption. Furthermore, consumption might be considered a more basic factor than price, for the reason that consumptive demand is an extremely important price-determining factor. In a sense, consumption is synonymous with demand and there is usually an interchangeable relationship of cause and effect between consumption, demand, and prices. Consumption may be considered under two general heads—domestic and foreign. (Figs. 37 and 38.)

Domestic consumption of pork varies from year to year, but it is noteworthy that during 11 of the past 15 years per capita consumption of pork and lard has exceeded that of beef, veal, lamb, and mutton combined. During 1916 consumption of pork and lard was 57 per cent of the total consumption of meat and in 1921 it amounted to 54 per cent. During 11 of the above years per capita consumption of pork, excluding lard, exceeded that of beef, its nearest competitor. In two years the per capita consumption of pork exceeded that of beef by approximately 17 pounds.

PER CAPITA CONSUMPTION OF PORK AND LARD, UNITED STATES, 1907–1921.

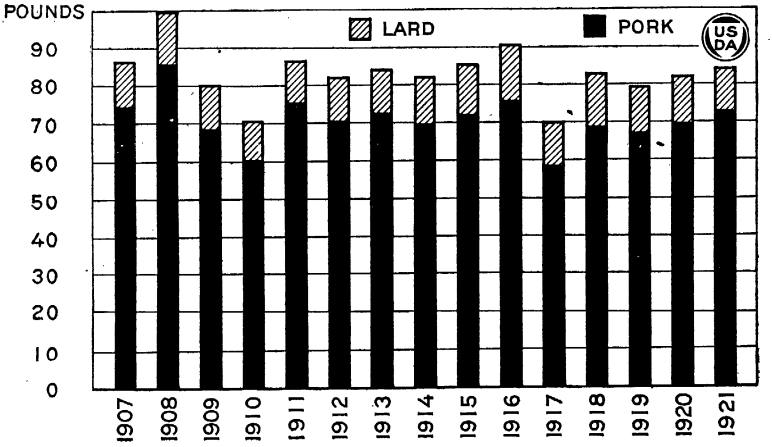


FIG. 38.—Since 1907 per capita consumption of pork was highest in 1908, when it amounted to 85.4 pounds, and lowest in 1917, when it was 58.4 pounds. Per capita consumption of pork and lard combined was highest in 1908, when it amounted to 99.7 pounds, and lowest in 1917, when it totaled 70.1 pounds.

Since 1907 per capita consumption of pork, excluding lard, fluctuated widely, ranging from 58.5 pounds in 1917 to 85.4 pounds in 1908, an extreme variation of 27 pounds per capita. Converted into live hogs of an average weight this amounts to a variation of approximately 16,875,000 in the number of hogs consumed in the United States annually. Based on the estimated average annual slaughter of hogs for the past five years this would amount to a variation of nearly 27 per cent. It requires little imagination to picture what a variation of this sort means to the hog producers of the country. Fortunately there are certain compensations for this wide variation in domestic consumption.

Foreign trade in pork and pork products supplies a powerful counterbalance for domestic consumption and this outlet is of vital importance to the hog industry. The United States has always been an important pork-exporting country and has led the nations of the world in this respect. For the five years ending 1794 average annual exports of pork amounted to 7,649,000 pounds and those of lard to nearly 700,000 pounds. (Fig. 54.) By 1864 pork exports had increased to 162,000,000 pounds and those of lard to nearly 92,000,000 pounds. For the five years ending 1919 pork exports[2] averaged 1,179,000,000 pounds and lard exports 513,000,000 pounds per year. Normally our exports of pork and pork products represent from 10 to 12 per cent of all our agricultural exports and from 5 to 6 per cent of the total exports of all kinds.

Furthermore, foreign demand consumes from 10 to 24 per cent of our total production of pork and lard. During pre-war years exports of these commodities averaged a little more than 12 per cent of the production, but during the war such movements were materially increased. In 1919 export trade took more than 24 per cent of the total production of pork and lard and in 1921 the export movement (1,296,200,000 pounds) amounted to 15.5 per cent of the amount produced.

When these figures are compared with exports of other meat products the dependence of the hog producer on foreign consumption for an outlet for his products at once

[2] Fresh, pickled, canned, and dry-salt pork, bacon, hams, and shoulders.

HOG PRICES AND EXPORTS OF PORK AND PORK PRODUCTS (INDEX NUMBERS, 1915-1922).

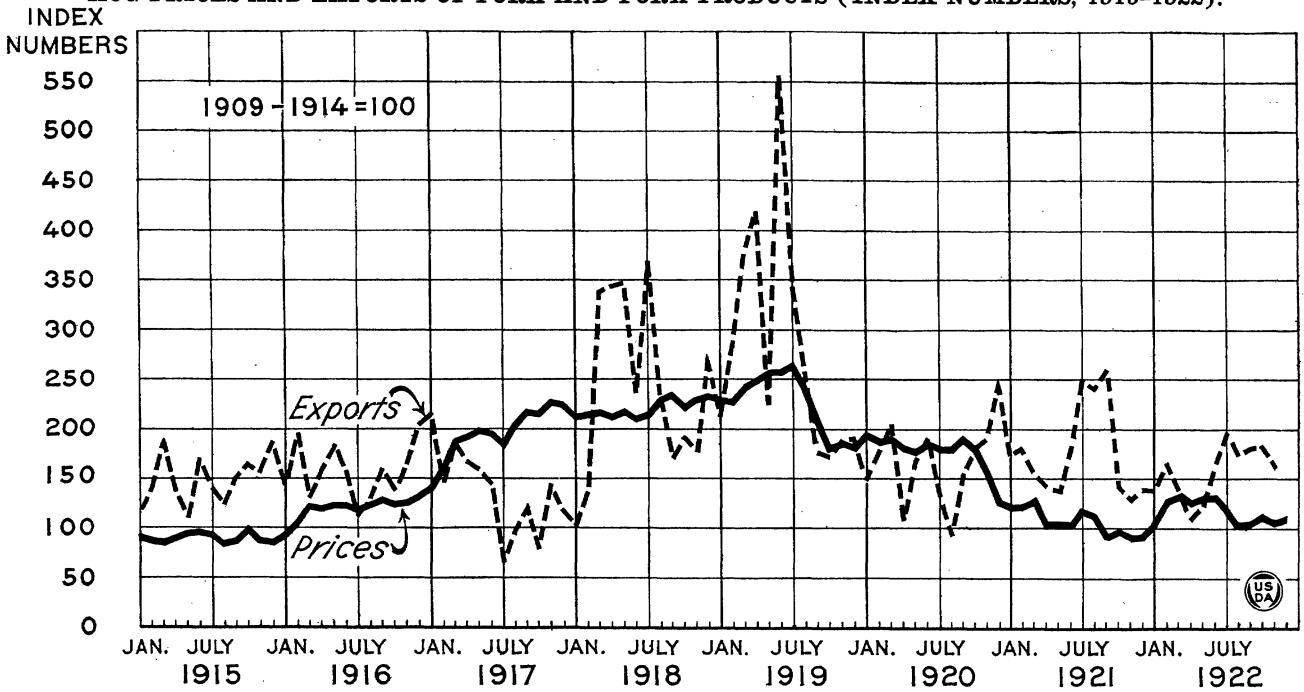


FIG. 39.—Foreign trade in pork and pork products shows much wider variations than do live-hog prices. Exports have an important effect on hog prices, the latter usually anticipating movements in the former.

becomes apparent. For example, at no time during the past 15 years have exports of beef and veal exceeded 10 per cent of production. During the pre-war years from 1907 to 1914, such exports ranged all the way from 0.7 per cent to 4.4 per cent of total production. In 1918 foreign trade in those commodities reached 9 per cent, but in 1921 exports of beef and veal dropped back to the 1913 level, or less than 1 per cent of the amount produced. As might be expected, exports of lamb and mutton make a still poorer showing. During 12 of the past 15 years such exports were less than 1 per cent of production, in some years dropping as low as 0.2 per cent.

Expressed in dollars, total exports of merchandise from the United States during 1921 increased $2,319,000,000 or 108 per cent over the pre-war average. Agricultural exports increased $1,066,000,000 or nearly 100 per cent over that average. Exports of pork and pork products, on the other hand, increased $138,000,000 or 128 per cent over pre-war figures.

Another way of considering our foreign trade in pork is to compare such exports with those of other important classes of meat. For example, the yearly average exports of meat and meat products from the United States during the five pre-war years, 1910–1914 amounted to 1,123,156,000 pounds. Of this total, pork and pork products constituted 81.3 per cent, beef and veal 18.4 per cent, and lamb and mutton 0.3 per cent. In 1919, which was the peak year for meat exports, the total outward movement amounted to 3,026,281,000 pounds. Of this total 87.2 per cent was pork and pork products, 12.7 per cent beef, and veal, and 0.1 per cent lamb and mutton. Total exports of meat in 1921 amounted to 1,820,947,000 pounds. Of this total, pork constituted 89.6 per cent, beef and veal 10 per cent, and lamb and mutton 0.4 per cent.

From the foregoing it is obvious that the hog producer deals with a commodity which enters extensively in world trade. This fact comprises both an advantage and a disadvantage. The advantage consists in the fact that the hog producer has a much broader outlet for his products than is enjoyed by either the cattle or sheep man. In other words the beef and mutton producers are more dependent on do-

mestic consumption than is the hog producer, though, of course, the home market consumes the major portion of the meat produced by each.

On the other hand, the hog producer is at a disadvantage for the reason that he logically comes to depend to a considerable extent on foreign buyers to take his surplus production. He counts on this outlet and conducts his operations accordingly. If, therefore, anything happens which materially reduces the foreign demand for pork and pork products he is likely to be caught with an oversupply and suffer severely as a result of a glut in the domestic market.

In view of the importance of this foreign outlet to the hog producer it may be of value to consider where most of our pork exports go. In other words what countries are the leading customers of the United States for such products? Also, what other countries export pork products and what is the extent of such competition with the United States for the world market?

The United Kingdom for many years has been the hog producer's best foreign customer. Frequently exports to the United Kingdom exceed these to all other countries combined. From 1910 to 1914 exports of pork and pork products to the United Kingdom averaged about 450,000,000 pounds. During 1918 and 1919 they were over 1,000,000,000 pounds, in the latter year amounting to 1,369,000,000 pounds. For the fiscal year ending June 30, 1922, such exports totaled 676,000,000 pounds.

Before the war Germany was our next best customer, exports to that country ranging from 94,000,000 pounds in 1910 to nearly 175,000,000 pounds in 1913. Immediately following the war, however, France usurped Germany's position in this regard, exports to that country in 1919 amounting to 425,000,000 pounds. More recently, however, Germany has come back as a customer of the United States, and in 1922 took 325,000,000 pounds of pork and pork products. France, on the other hand, took only 48,000,000 pounds. During that year Cuba was our third best customer, more than 110,000,000 pounds going to that small island country.

For many years past the United States has had no real competitor as a pork-exporting country. Despite its small

FREIGHT RATES ON HOGS AND PORK PRODUCTS, CHICAGO TO NEW YORK, 1896–1922.

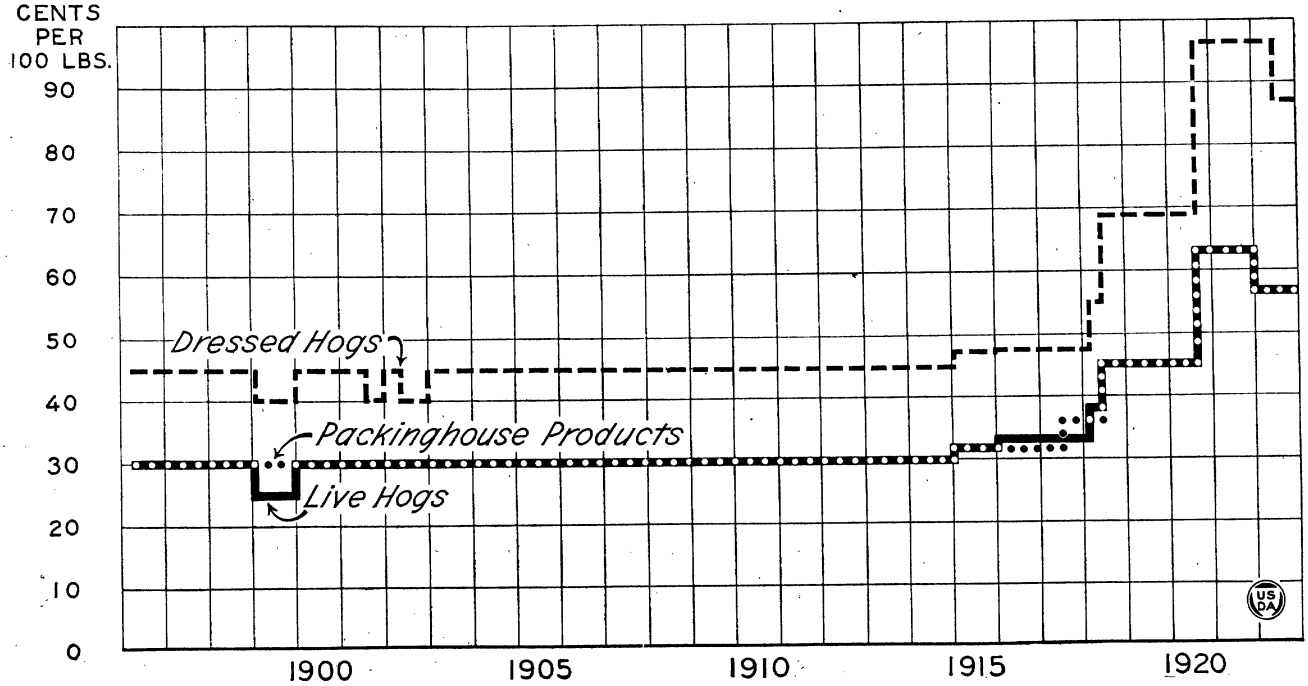


FIG. 40.—The relation between freight rates on live hogs, dressed hogs, and packing-house products is seen in this figure, showing the rates from Chicago to New York on these items, annually, from 1896 to 1922, inclusive. The rate on dressed hogs is normally about 50 per cent higher than on live hogs and packing-house products.

area Denmark has made the nearest approach. In 1910 Denmark exported 280,000,000 pounds of pork and lard, compared with 1,000,000,000 pounds exported from the United States. By 1914 Denmark's exports had increased to 364,00,000 pounds. The war, however, materially reduced Denmark's exports and in 1921 these amounted to only 98,000,000 pounds. In the same year the United States exported 1,631,000,000 pounds. In that year Canada was our nearest competitor with approximately 111,000,000 pounds exported, while Netherlands came next with 105,000,000 pounds.

Transportation.—Transportation has a vital bearing on market movements of hogs. In fact the development of the hog industry has been due to a very considerable extent to the extension and improvement of rapid and safe transportation. As has already been stated, the hog is not suited to being driven to market, and the producer must depend upon the railroads and other means of transportation. When about the middle of the last century trunk-line railroads were extended into the Corn Belt, and later on through to the Great Plains region, the hog industry received a tremendous impetus.

Exorbitant freight rates or inadequate transportation facilities of any sort are quickly reflected in the hog industry. Not only must there be adequate transportation for live hogs from the producer to the slaughtering establishment, but there must also be adequate facilities for transporting the dressed meat from the slaughtering points to the great consuming centers, the largest of which are along the Atlantic seaboard.

Partly because of difficulty in obtaining adequate and satisfactory rail transportation but more particularly as a natural evolution of transportation, the motor truck has, during the past few years, come to play an important part in getting hogs from the farm to the market. At many of the important live-stock markets fleets of motor trucks, some trucks capable of holding half a carload of hogs, are in operation daily. Many of these trucks run on regular schedule and cover a radius of from 50 to 75 miles on all sides of the market. These motor trucks have been particularly serviceable to the small-lot producer living at a considerable

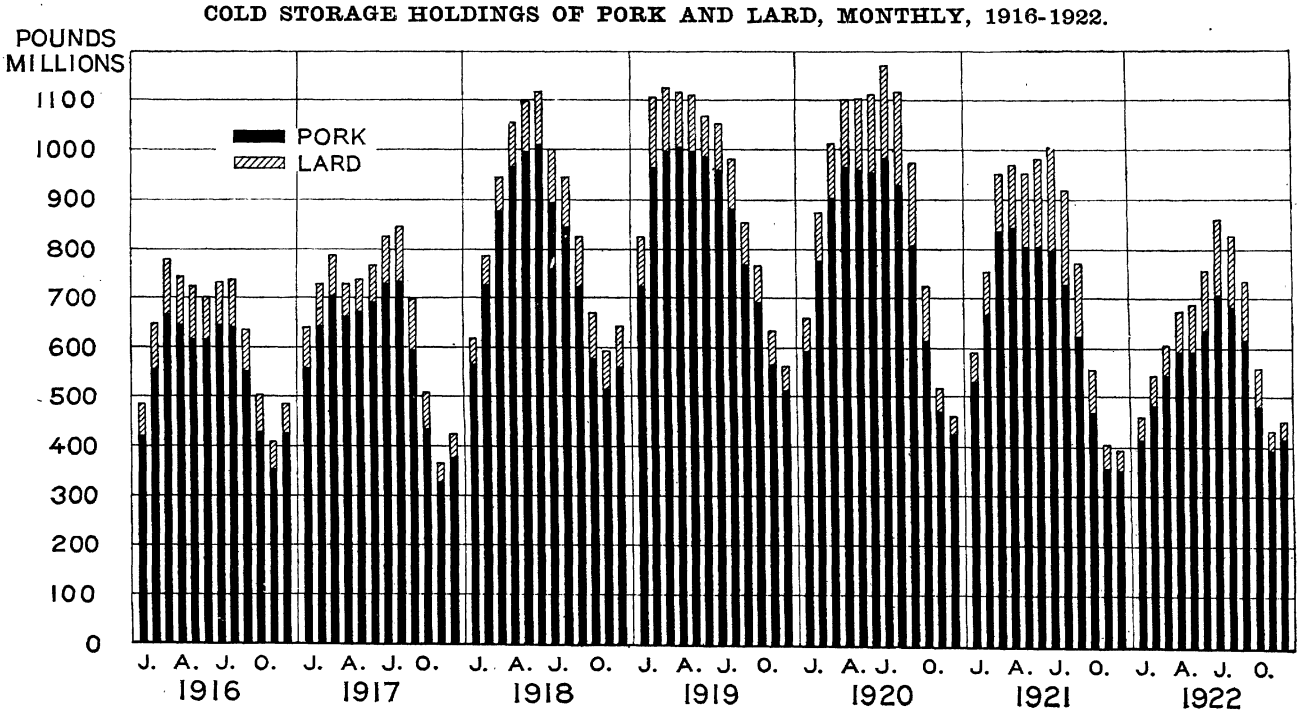


FIG. 41.—Quantities of pork and lard held in cold storage are usually greatest in July and August, although occasionally the peak is reached earlier in the year. From September to December withdrawals from storage are generally heavy, and, as a rule, storage holdings are lightest in November or December.

distance from a railroad. They have also rendered valiant service at various times when rail transportation was interrupted or curtailed by storms, strikes, or other untoward events. All the leading markets now have special facilities for handling stock delivered in this manner.

One of the important things to be considered in connection with marketing hogs is the matter of shrinkage between the time the hogs leave the farm and their passage over the scales at the market. The higher the price the more important shrinkage becomes.

Refrigeration.—Next to adequate transportation facilities, artificial refrigeration is probably the most important factor in present-day hog marketing. When it is considered that approximately 85 per cent of the carcass is held anywhere from a few weeks to several months, it becomes apparent that without artificial refrigeration it would be impossible to conduct the hog industry in anything like its present magnitude. Artificial refrigeration was developed in the late seventies and revolutionized the system of slaughtering and packing hogs then in existence. Formerly the packing season began when freezing weather arrived, or generally about November 1. It ended with the approach of spring, or about March 1. To-day slaughtering, curing, and packing of hogs goes on uninterruptedly every business day of the year. Furthermore, a refrigerator car makes it possible to transport fresh meats across the continent in the hottest weather without in the least impairing the condition or wholesomeness of the meat. It is obvious, therefore, that the refrigerator car and artificial refrigeration in packing establishments and warehouses are largely responsible for the year-round market which the hog producer enjoys.

Central market facilities.—Central market agencies, such as stockyards, commission men, scales, weighmasters, speculators, packer buyers, slaughterhouses, packing plants, cold-storage warehouses, and the like serve as complements to transportation. Each renders service to the hog producers and is responsible to a certain degree for maintaining a steady and orderly flow of pork from the farm to the consumer's table. Each of these agencies, therefore, constitutes an important factor in swine marketing.

Problems of Marketing.

The problems involved in marketing hogs are many and varied. These problems vary with location and time. The most important present-day marketing conditions with which the hog industry must contend are the following:

Price fluctuations.
The machinery of marketing.
Demand fluctuations.
Lack of standardization.
Lack of adequate market information.

Price fluctuations.—Sudden and wide fluctuations in price constitute one of the most important problems of marketing hogs. Such fluctuations will be considered in three general groups: Daily, seasonal, and cyclic.

Daily fluctuations are those which occur at all markets from day to day and even from hour to hour. Such daily price changes may range all the way from 5 cents to as much as $1 per 100 pounds. The hog market is probably the most sensitive of the important live-stock markets. This is partly due to the fact that it has been more highly developed and subjected to greater refinement than has either the cattle or sheep market. As has been stated, pork products enter into world markets; consequently prices respond very quickly to changed economic conditions in almost any part of the world.

The fact that approximately 15 per cent of the hog is sold immediately as fresh meat might lead to the conclusion that the market for live hogs would be steadier than that for other meat animals. The fact that so large a percentage of hogs may be stored to supply future needs does, of course, tend to steady the market, when a considerable period of time is considered. On the other hand, the fact that hog prices respond quickly to changed world conditions, and the further fact that supplies may be increased or decreased in a much shorter time than those of beef, for example, make for a very sensitive market, and it is this sensitiveness that, to a very great extent, provides the basis for day-to-day fluctuations.

A fact which is sometimes overlooked or understressed by students of the hog market is that, in general, the long-time average does not materially affect the individual producer. The average man markets hogs once or twice a year. If he happens to have his hogs on the market on a day when some wild rumor of an impending strike, war, or some other upheaval has suddenly depressed prices, that producer usually suffers severe loss. Within a week the market may have recovered the whole amount of the decline, but that is of little consequence or consolation to the man who has sold his hogs on the decline.

In this respect the buyer has a tremendous advantage over the producer. The buyer is in the market almost daily throughout the year and can maintain an average cost. The producer on the other hand is in the market but once or twice a year and either profits or loses according to the market prices prevailing on those one or two days.

Seasonal price fluctuations are those which occur rather regularly at different seasons of the year. Under normal conditions such price movements follow rather well-defined courses year after year. (Fig. 42.) A study of weekly average prices of hogs on the Chicago market for 21 years,

AVERAGE WEEKLY HOG PRICES AT CHICAGO, 1901-1922.

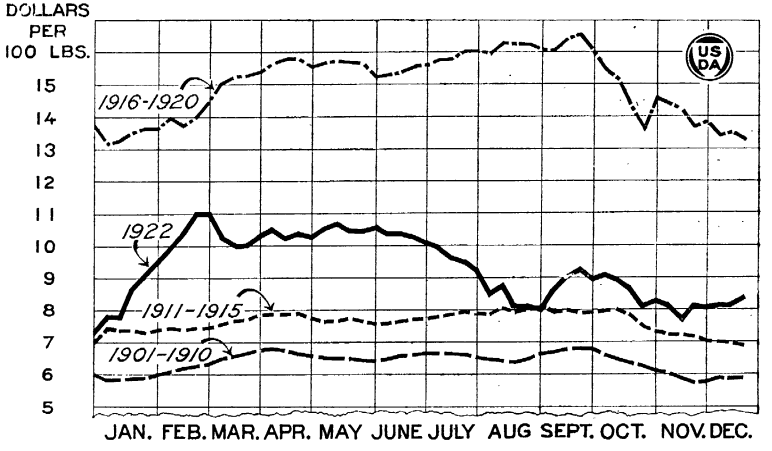


FIG. 42.—As a rule, hog prices pass through two cycles each year. The high point is usually reached in August or September, and the low point in November, December, or January. The second high point generally occurs in April, and the second low point late in May or early in June.

1901–1921, shows that September stands out as the month in which the highest prices of the year occur more frequently than at any other time. In the same measure December usually records the lowest prices. In general, these price movements correspond rather closely with fluctuations in supplies. Generally speaking the month of lightest supplies usually develops the highest price, although peculiar conditions sometimes arise which upset this normal relationship.

Hog prices really develop a double cycle each year. In other words, there are two points during the year when prices swing upward and then downward. The spring rise usually begins as soon as the heavy winter marketing is over and reaches its peak in April or May. This is followed by a spring or early summer decline which usually culminates in May or June. Prices then generally advance until the peak is reached in September, after which prices normally break rather sharply until the low point of the winter decline is reached in November or December. Rarely does the spring advance reach as high a point as that of the late summer, and only occasionally does the early summer decline reach as low a point as that in the winter. Breeding operations on which the pig crop depends are largely responsible for this double yearly cycle of hog prices.

There is still a third movement of hog prices which extends over a longer period of time, usually of 3 to 5 years' duration. During the past 20 years there have apparently been five of these major cycles.

In January, 1901, prices were moving upward. From a weekly average of $5.05 per 100 pounds for the first week of January of that year, prices advanced to $7.79 for the week ending July 26, 1902. From that point prices declined until they reached $4.28 in November, 1903, completing the first major cycle. An upward swing followed which by February, 1907, carried the market up to $7.10. Financial depression then drove prices rather sharply downward until they touched $4.31 in February of the following year.

In the third cycle prices reached their peak in April, 1910, when they touched $10.88. This was followed by a decline to $5.89 for the week ending May 6, 1911. The upward movement of the fourth major cycle carried prices

to $9.40 in August, 1914. The outbreak of the European war disrupted the normal trend of events but prices broke to $6.35 in December, 1915.

During the fifth cycle prices were influenced considerably by artificial efforts at stabilization. Following this a wild speculative movement in pork products still further disrupted the normal price trend. However, during the week ending July 26, 1919, average prices touched $22.20 and the downward movement which began immediately carried the market to a weekly average price of $6.75 for the week ending November 19, 1921. These major price cycles are usually governed by fundamental changes in the general economic situation.

Many factors enter into the determination of hog prices. Among the more important are supplies of hogs, the price of corn, domestic consumption of pork and lard, foreign demand for these commodities, the price of cattle and sheep and lambs, and the amount of pork products held in storage. Most of these factors are discussed elsewhere in this article, and the majority of them are illustrated by graphs. A comparison of the trend of these various factors with the trend of hog prices develops the close correlation between the groups and makes possible an approximation of the relative weight of the different factors at different times.

Machinery of marketing.—The whole machinery of marketing and each component part therof constitute a distinct problem for the hog producer. Every marketing agency possesses the power to influence vitally the return the hog producer obtains for his efforts. The country drover, the cooperative shipping association, and the packer buyer and speculator who buys in the country, all must be studied and understood by the hog producer if he is to get the most out of his hogs. The transportation company is vital to the hog producer, as are also the central market agencies such as stockyard companies, commission men, speculators, packer buyers, packing establishments, and all the other agencies which operate at central markets.

Even the wholesale and retail meat dealers have much to do with the success or failure of the hog producer. The thought that the producer's interest ends when he has sold his hogs either on the farm or at a central market is erro-

RELATION BETWEEN THE PRICE OF 100 POUNDS OF LIVE HOGS AND 10 BUSHELS OF CORN, AND RECEIPTS OF HOGS. MONTHLY AVERAGES, CHICAGO, 1905–1922.

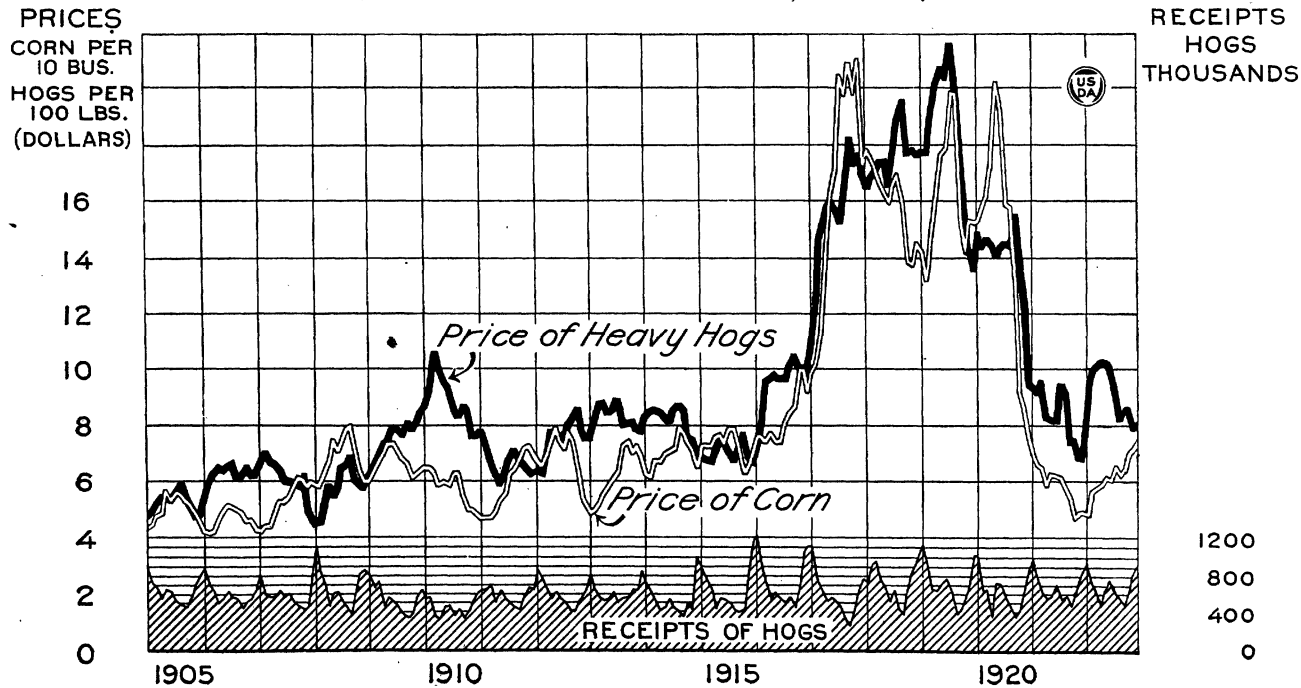


FIG. 43.—The profitableness of feeding corn to hogs rather than marketing the corn as grain depends chiefly on two factors—the market price of hogs and that of corn. Since 1905 hogs have shown a profit on the corn consumed a majority of the time. Rather striking exceptions to this rule occurred in 1908, 1917, and 1920.

neous. The packer, the wholesale and retail meat dealer, together with the foreign buyer or agent, all are essential to the hog producer, and unless each of them functions continuously and efficiently the results of such dereliction will be quickly reflected in the price the producer receives for his hogs.

Fluctuations in demand.—It has already been shown that wide fluctuations occur from time to time in domestic consumption of pork and lard. It has also been pointed out that within a space of 10 years, from 1908 to 1917 inclusive, per capita consumption of pork fluctuated 27 pounds, or 32 per cent. Fluctuations in foreign demand frequently are even greater. For example, during the 10 years from 1909 to 1919, exports of pork and lard from the United States ranged from 707,000,000 pounds to 2,704,000,000 pounds, a net increase of 1,997,000,000 pounds, or 282 per cent. The war with its abnormal demands was largely responsible for this condition.

Demand also fluctuates with the season, with the geographical location of the consumers, and according to certain religious customs. During the winter season there is usually a good demand for fresh pork and bacon, whereas in the summer ham is usually in best demand. During the holiday season poultry and game materially reduce the demand for pork. Europeans consume more pork and lard than Orientals. Generally speaking, the consumption of such products is greater in northern than in southern regions. Furthermore, the religious teachings of certain peoples, such as the Jews and the Turks, prohibit the eating of pork. All of these things are of vital consequence to the hog producer, and if he is to conduct his operations profitably he must have accurate knowledge of the more important factors which affect the demand for his product.

Standardization.—The lack of a standardized system of grading live hogs and dressed-pork products has always constituted a problem for the producer. However, the grading of hogs and pork products has approached much nearer generally accepted standards than has the grading of the other major classes of meat animals. The Department of Agriculture, some five years ago, when it started its livestock and meat-market reporting service, came to a keen appreciation of the need of a uniform system of grades. If

trade conditions and prices at different market centers were to be compared it was essential that, for sale purposes, the animals be grouped according to some definite standard ap-

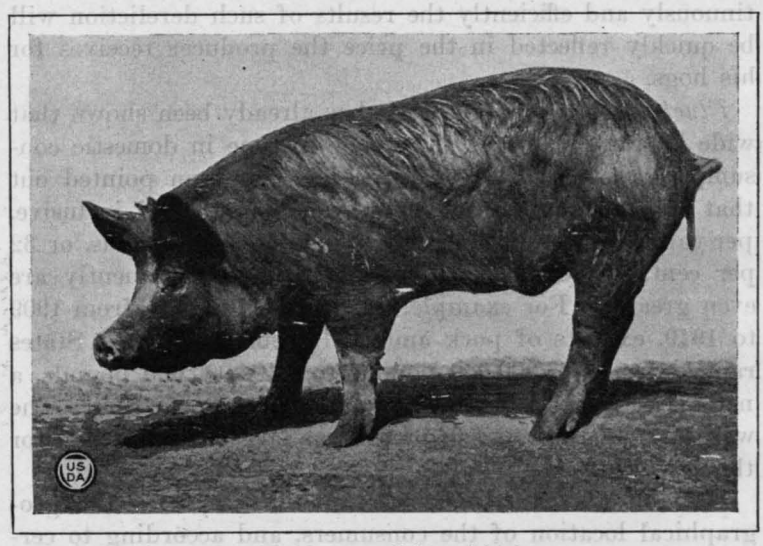


FIG. 44.—Common light-weight hog.

plicable to all markets. Work was started immediately on a classification of all hogs and dressed pork. Such a classification has been completed, and for the past four years has been

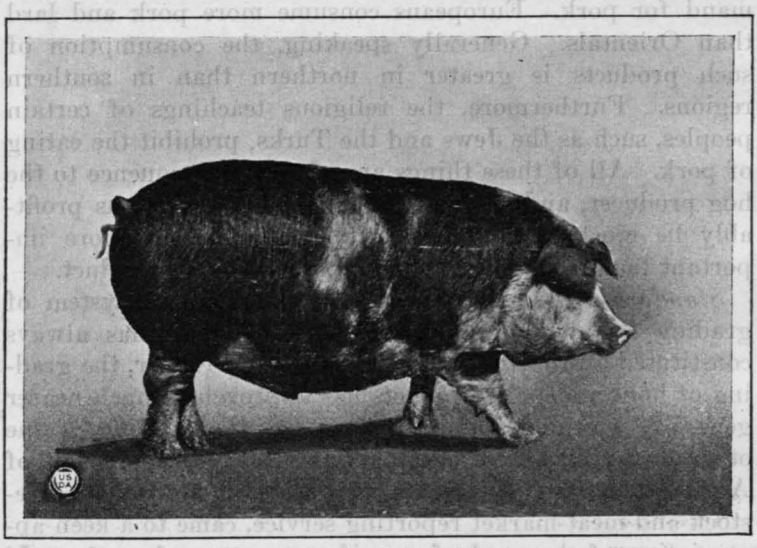


FIG. 45.—Choice light-weight hog.

in use at all public markets where the department maintains reporting offices.

In order to make a market report intelligible it is

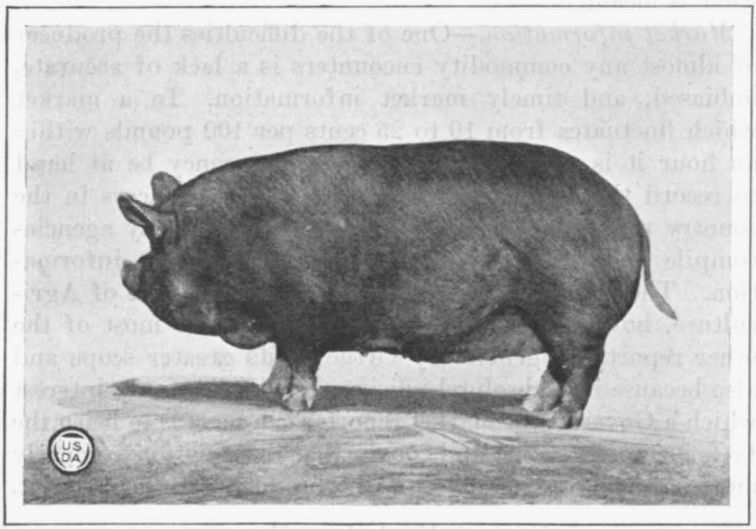


FIG. 46.—Smooth packing hog.

absolutely essential that the one who publishes the report and the reader should use the same definitions for trade and grade names. In other words, they must speak a common

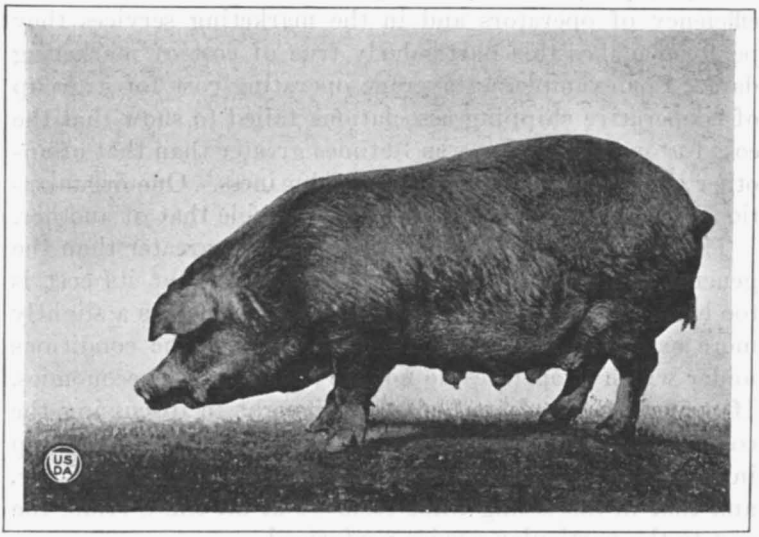


FIG. 47.—Rough packing sow.

language. The department has endeavored to establish such a language, so that when market reports are published everyone interested may at all times understand exactly what is meant.

Market information.—One of the difficulties the producer of almost any commodity encounters is a lack of accurate, unbiased, and timely market information. In a market which fluctuates from 10 to 25 cents per 100 pounds within an hour it is quite essential that some agency be at hand to record those fluctuations and keep the producers in the country promptly advised regarding them. Many agencies compile and publish live-stock and meat-market information. The market news service of the Department of Agriculture, however, possesses an advantage over most of the other reporting agencies by virtue of its greater scope and also because it is absolutely disinterested. The only interest which a Government market reporter can have is to learn the facts just as they exist and convey that information as clearly and as quickly as possible to all who may have need for it.

Cost of Marketing Hogs.

A common method of treating cost figures is to use averages. A statement of the *average* costs of marketing hogs may easily be misleading, however, for averages obscure many significant details. The wide variation in the efficiency of operators and in the marketing services they perform makes this particularly true of cost of marketing data. For example, an average operating cost for a group of cooperative shipping associations failed to show that the cost for one association was 10 times greater than that of another organization doing a similar business. One organization in a group frequently has a cost double that of another.

That a given concern should have a cost greater than the general average does not necessarily mean that its cost is too high. It may mean that the concern performs a slightly more extensive marketing function, or that the conditions under which it operates do not permit of greater economies. If we are to avoid confusion of thought in discussing the costs of marketing a product, it is necessary that we keep in mind the probable variations in service and in efficiency, and that in discussing these costs we at all times relate the cost to the particular service performed.

Four graphs are presented comparing the chief terminal costs of marketing hogs at nine markets (Fig. 48), the extent to which animals were crippled (Fig. 49) and killed when shipped in straight and in mixed cars (Fig. 50), and the seasonal shrinkage in weight of straight and mixed shipments (Fig. 51). The principal items of expense of the local organization engaged in marketing hogs on a cooperative basis are briefly noted.

The graphs are based on statistics secured through a study of 224 organizations shipping live stock on a cooperative

CHIEF TERMINAL COSTS OF MARKETING HOGS, 1921.

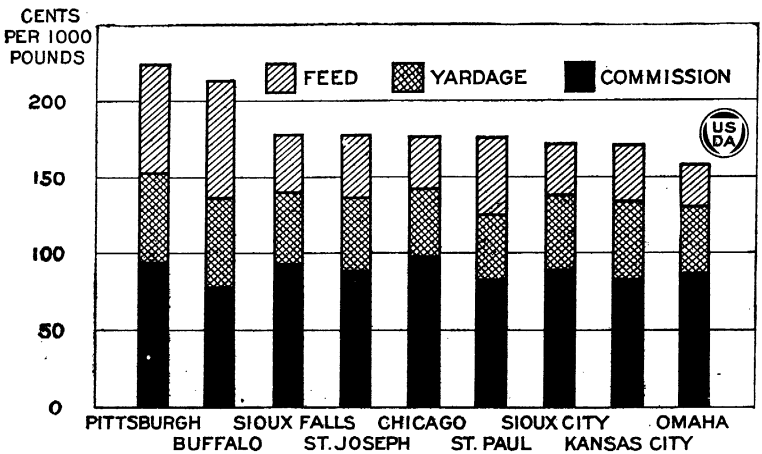


FIG. 48.—The terminal costs in 1921 in the nine markets varied from about $2.25 to $1.50 per 100 pounds. Commission is usually charged at a flat rate per car. Weight per car varies, also rate charges in different markets. Feed costs vary with distance from the Corn Belt.

basis. During 1921 these organizations shipped over 940,000 hogs, which were sold at the terminal markets for over $18,000,000. They were located principally in the following States in and around the Corn Belt: Missouri, Kansas, Nebraska, Iowa, South Dakota, Minnesota, Wisconsin, Illinois, Indiana, and Ohio.

Trained investigators visited the cooperative organizations in each area and compiled the statistics from their books and statistical records. These figures were secured from only such associations as had fairly complete records, thus insuring accuracy. Owing to the large volume of the information secured, the results may be considered as fairly representative of the costs of marketing hogs cooperatively. One

consideration, however, should be kept in mind: The statistics were secured from those concerns having the better records. Such concerns tend to be the more efficient and least expensive agencies in marketing.

Local Cost of Marketing.

The relative importance of the items of cost of operating the local agency is one but little considered, and still less understood. Every effort was made in this study to get ac-

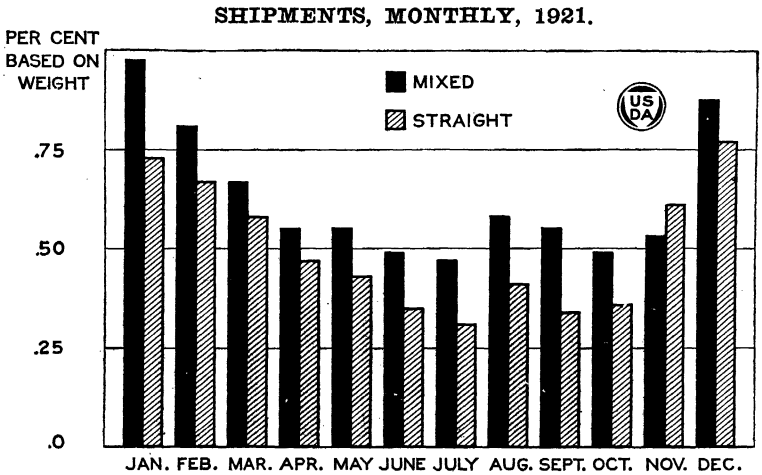


FIG. 49.—The average loss in the year 1921 of animals crippled in transit was about five-tenths of 1 per cent of thte total weight marketed. The damage was greatest in January and December.

curate figures concerning these costs, but there were so many variations in methods, and so little realization of the importance of keeping the items carefully isolated, that it has been practically impossible to secure an accurate analysis up to this time. However, certain figures are presented herewith showing approximately the total expense of operating such an organization. The figures given are averages of the local costs of 104 associations whose business was at least 80 per cent (by weight) in hogs.

Management expense (per 1,000 pounds)	$0.60
All other	.37
Total	.97

The variation from these average figures was wide. The most efficient associations had costs around $0.40 per 1,000 pounds, while the least efficient associations had costs around

PERCENTAGE OF DEAD HOGS, IN MIXED AND STRAIGHT SHIPMENTS, MONTHLY, 1921.

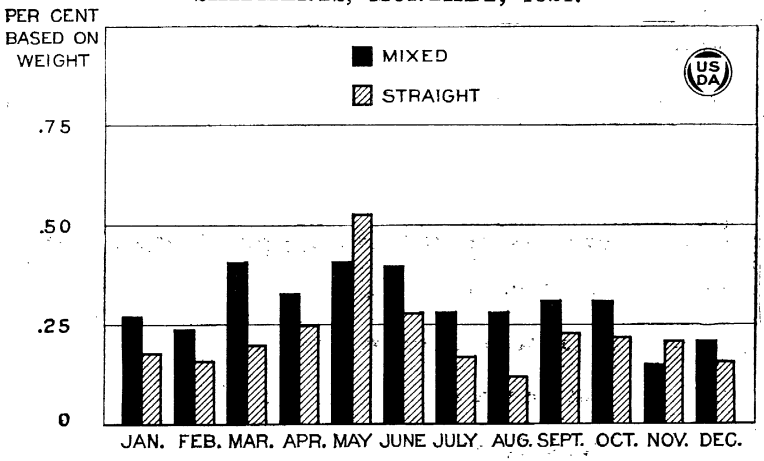


FIG. 50.—Hog losses in transit in 1921 were greatest in mixed shipments. The heaviest occurred among light hogs in winter, and heavy hogs in summer, a condition the reverse of that in the case of crippled hogs.

SHRINKAGE OF HOGS IN STRAIGHT AND MIXED SHIPMENTS, MONTHLY, 1921.

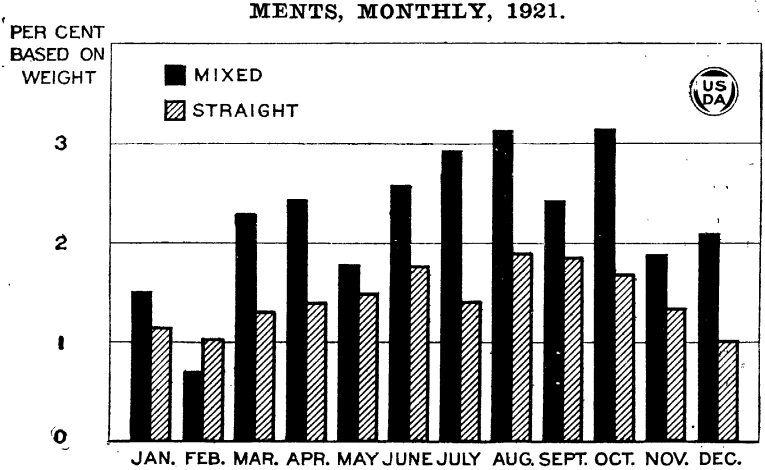
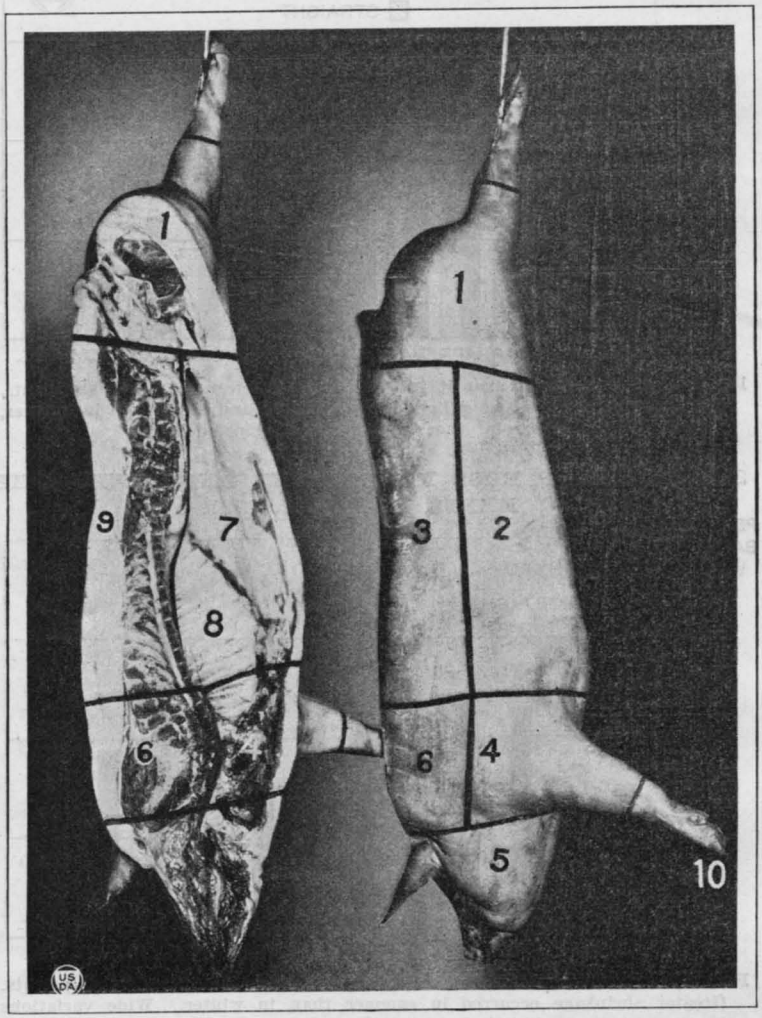


FIG. 51.—Mixed shipments suffered more shrinkage than straight shipments. Greater shrinkage occurred in summer than in winter. Wide variations occur on account of size of animals, seasons, number in car, distance, temperature, and general handling in transit.

$1.80 per 1,000 pounds. Generally the item of compensation to the manager comprises somewhat more than 60 per cent of the total local expenses.

The item of freight has not been given consideration in this discussion, for the reason that it varies with every association, and an average of all freight paid by all these associations would be meaningless and misleading.



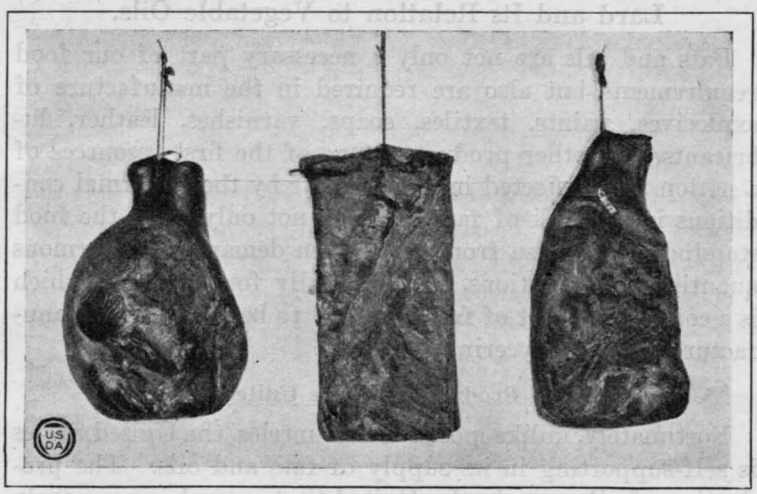
CUTS OF PORK, HOME METHODS.

FIG. 52.—Views of meat and skin sides of hog carcass. The cuts are: 1, Ham. 2, Side. 3, Loin. 4, Shoulder. 5, Head. 6, Butt. 7, Leaf lard. 8, Ribs. 9, Fat back. 10, Feet. The line separating 7 and 8 from 9 on the meat side corresponds to the line separating 2 and 3 on the skin side.

Farm Slaughter for Home Meat Supply.

Farm slaughtering represents one of the methods of bringing hogs to the market. Statistics are not available to show the quantity of home-slaughtered compared with other pork that is consumed on farms. The aggregate of the meat prepared on farms for home consumption, however, is enormous. In addition, large numbers of hogs are slaughtered on farms and sold as dressed carcasses or as pork and pork products, both fresh and cured.

Home-cured pork products differ in some respects from those prepared for commercial purposes. Packing houses must cater to the public's demands, which at the present



WELL-TRIMMED SMOKED MEATS.

FIG. 53.—Greater uniformity in flavor and quality is found in smoothly trimmed hams, bacons, and shoulders than in roughly trimmed pieces. Thin, ragged edges tend to become dry and hard and the fat to become rancid.

time call for mild-cured, lightly smoked meats of light weights. The farm product ordinarily represents heavier meat, more heavily salted and smoked. The packing-house product is more uniform in trim, weight, degree of cure, and smoke than the farm-cured product. Farm-cured hams are generally superior to farm-cured shoulders or bacon.

On farms the meat is cured to keep for long periods of time. In many cases some of it is kept from the slaughtering season of one year until the slaughtering season of the following year. It is necessary for packing-house products

to be preserved only sufficiently to enable them to be transported through wholesale and retail houses to the consumer for final consumption.

Farm practices in the curing of meats, like those of the packing houses are represented both by the dry-salt or dry sugar-cure method and the sweet-pickle or brine method. Dry sugar-cured hams are probably more generally prepared on farms than are sweet-pickled or brine-cured hams, and their quality is rather consistently good.

There is opportunity for the extension of approved methods of curing and smoking meats throughout the country to provide high-class products for use in the farm homes.

Lard and Its Relation to Vegetable Oils.

Fats and oils are not only a necessary part of our food requirements but also are required in the manufacture of explosives, paints, textiles, soaps, varnishes, leather, lubricants, and other products. One of the first resources of a nation to be affected in time of war by the abnormal conditions is its stock of fats and oils, not only from the food standpoint, but also from the sudden demand for enormous quantities of munitions, and especially for glycerin (which is a component part of fats and oils) to be used in the manufacture of nitroglycerin.

Potential Production in the United States.

Fortunately, unlike most other countries, the United States is self-supporting in its supply of fats and oils. The production of oil crops in the United States can be enormously increased over what it now is, both by more intensive farming and by the utilization of large areas which are available and suitable for cultivation of oil-producing crops. Our principal source of vegetable oil is cotton seed, but peanuts, soy beans, and sunflower seed also yield oils which can be used for edible and technical purposes. The production of cottonseed oil at present amounts to over 1,000,000,000 pounds annually. Some expansion is possible also in the production of lard, which in recent years has amounted to a total of over 2 billion pounds.

Substitutes for Lard.

Lard substitutes are variously known as lard compound, vegetable shortening, vegetable cooking compound, and simi-

lar terms. The lard compound is a mixture of lard or lard stearin with vegetable oils, while the so-called lard substitutes consist entirely of vegetable oils. For the purpose of discussion, both classes of these compounds will be considered under the term of lard substitutes. It is estimated that about 93 per cent of the lard substitutes consist of vegetable oils. Cottonseed oil is the principal one used in these substitutes, although very considerable quantities of peanut, soy bean, and corn oils are used. In 1920 it was estimated that about 80 per cent of the output of crude cottonseed oil in the United States, after refining, went into the manufacture of these products. The following table gives the production of lard and lard substitutes for a period of years. No data for lard substitutes are available except for the years given.

TABLE 7.—*Production of lard and lard substitutes in the United States.*

Year.	Lard.[1]	Lard substitutes.	Total production.	Per cent of lard substitutes to total production.
	Pounds.	*Pounds.*	*Pounds.*	*Per cent.*
1912	1,643,000,000	[2] 877,000,000	2,520,000,000	35
1914	1,652,000,000	[2] 1,137,000,000	2,789,000,000	41
1916	1,973,000,000	[2] 1,027,000,000	3,000,000,000	34
1917	1,577,000,000	[2] 1,173,000,000	2,750,000,000	43
1918	2,015,000,000	[2] 1,146,000,000	3,161,000,000	36
1920	2,022,000,000	[3] 1,000,000,000	3,022,000,000	33

[1] Figures compiled by Bureau of Animal Industry.
[2] Supplement to United States Department of Agriculture Bulletin 769.
[3] Estimated.

It is apparent from Table 7 that lard occupies the most important place among the fats.

Table 8 gives the amount of vegetable oils consumed by the lard-substitute industry. The figures include the imported oils.

TABLE 8.—*Vegetable oils used in the manufacture of lard substitutes.*

[Thousand pounds, i. e., 000 omitted.]

Year.	Cottonseed oil.	Corn oil.	Vegetable oil stearin.	Miscellaneous.	Total.
1912	866,696	None.	180	8,105	874,981
1914	1,033,142	None.	611	9,193	1,042,946
1916	919,447	13,105	4,007	45,537	982,096
1917	1,069,214	4,166	17,140	64,847	1,155,367
1918[1]	1,015,051	2,188	19,904	104,187	1,141,330

[1] No data available after 1918.

The miscellaneous oils given in Table 8 are chiefly those of peanut and soy bean, although, beginning with 1917 coconut oil was also used in making lard substitutes as seen in Table 9, which shows the portion of imported oils used in the manufacture of these products.

TABLE 9.—*Imported vegetable oils used in manufacture of lard substitutes.*

[Thousand pounds, i. e., 000 omitted.]

Year.	Coconut oil.	Peanut oil.	Soy-bean oil.	Total.
1912	None.	1,687	None.	1,687
1914	None.	2,144	1,585	3,729
1916	None.	17,869	14,247	32,116
1917	5,545	12,209	34,351	52,105
1918	13,408	27,912	56,517	97,837

Statistics later than 1918 on the imported vegetable oils entering into the manufacture of lard substitutes are not available. It may be remarked, however, a heavy decline took place in 1921 as the total importation of peanut oil had fallen to 3,021,000 pounds and of soy-bean oil to 17,283,000 pounds, and only a portion of these imports entered into lard substitutes because both of these oils were utilized in large amounts for other manufactures. The total quantity of vegetable oils imported in 1921 constituted only about 1 per cent of the consumption of fats and oils in the United States.

TABLE 10.—*Exports of some edible oil products.*

[From Bureau of Foreign and Domestic Commerce, Department of Commerce.]

Year.	Cottonseed oil.	Vegetable stearin.	Lard compounds.	Lard.	Neutral lard.[1]
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1916	266,529,000	None.	52,843,311	427,011,338	34,426,590
1917	158,911,767	1,321,773	56,359,393	444,769,540	7,576,240
1918	100,779,981	1,226,127	31,278.382	392,506,355	4,258,529
1919	178,709,033	782,467	128,157,327	724,771,383	17,395,888
1920	159,400,618	5,138,225	44,195,842	587,224,549	23,202,027
1921	252,591,916	Not reported.	Not reported.	868,932,856	23,950,789

[1] Neutral lard is made from the first grades of leaf fat by cooking in much the same manner as the kettle-rendered lard, with the exception that it is heated at a lower temperature, so that the finished product retains practically no hog flavor. It is used almost exclusively in the manufacture of oleomargarin.

Table 10 shows the business of exporting lard is, with few exceptions, increasing from year to year. It appears that the larger the quantity of lard substitutes made, the greater is the quantity of lard available for export.

International Trade in Pork and Pork Products.

Among the countries of the world, the United States is the greatest exporter of pork and pork products. Although China produces a great number of hogs, the population is so large that it consumes nearly the entire production. (Fig. 1.) The most important competitor of the United States is Denmark. Denmark, the Netherlands, and Sweden produce a surplus of pork of good quality and have markets near at hand. Canada is also a competitor in an advantageous position. Australia exports a small amount, mostly to near-by markets. Argentina and Brazil are new competitors in our export markets. Before the World War Brazil exported no pork and Argentina but a very small quantity. These two countries are more distant from markets but may prove to be strong competitors in the European trade.

The pork-importing countries have large industrial populations. The United Kingdom imports more than half of the pork and pork products her people consume.[3] Germany is both a large producer and consumer of pork and lard, a part of which she buys abroad. In 1921 the United States shipped more lard to Germany than to any other country. Cuba and Mexico are regular customers that also take large quantities of lard. Cuba is an important market for pork in all forms. The United Kingdom is the principal foreign market for our bacon, hams, and shoulders. (Fig. 54.)

The Trend of Exports.

From the beginning of national existence the United States has had a surplus of pork for export. In 1790, the first year for which statistics are available, the export was not large, but in relation to the population and to the trade of that day it was important. In a review of exports from 1790 to 1922 alternating periods of expansion and depression may be noted. (See Fig. 55.) Periods of expansion occurred in 1794–1804, 1819–1833, 1840–1849, 1854–1864, 1870–1884, 1890–

[3] Exports of pork and pork products are also discussed on pages ——.

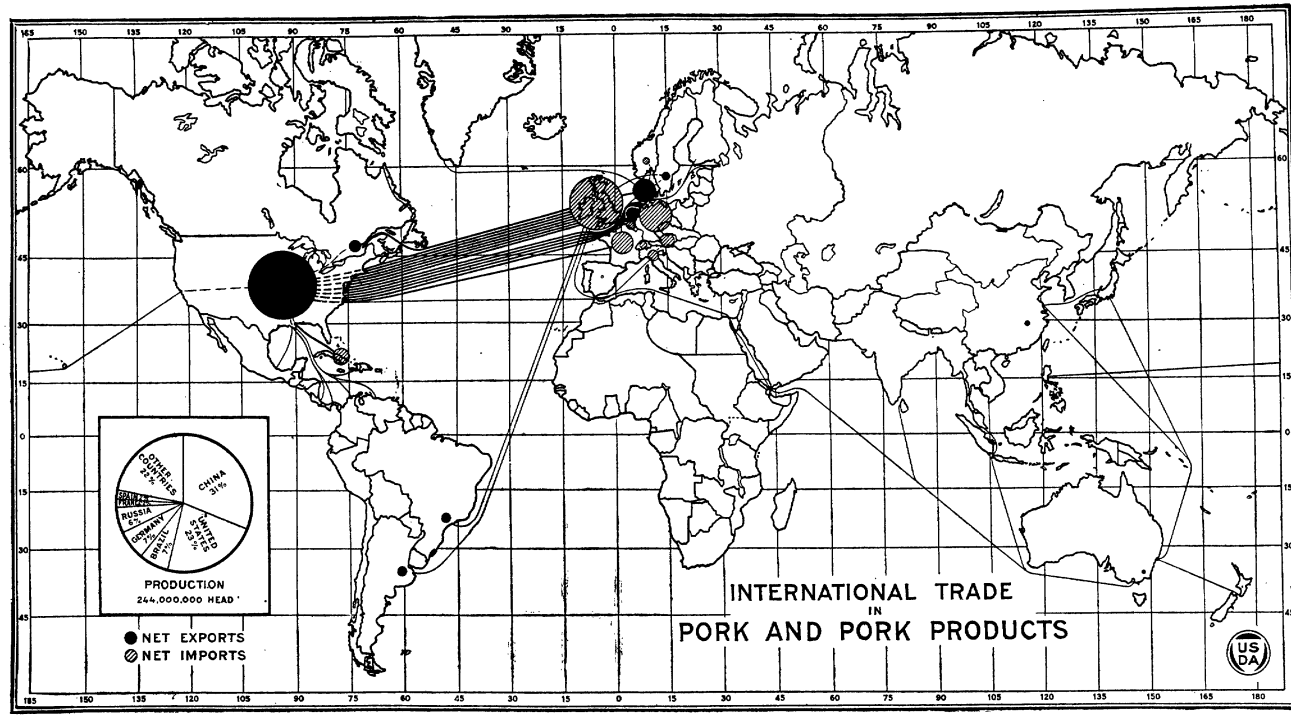


FIG. 54.—The United States is the great surplus pork-producing country of the world and industrial Europe is the great market for the surplus pork. In the bacon market Denmark and Sweden are important competitors. Argentina and Brazil are new competitors. China and Australia export small amounts to their oriental neighbors.

1899, and 1915–1919. After each period of expansion there has been a period of depression, more or less marked.

The reasons for these periods of expansion and depression in exports are to be found in cycles of production, rate of development of hog-producing areas, growth of population, and varying foreign demands. The Napoleonic Wars gave some stimulus to exports. This was followed by a period in which war upon the seas disturbed and discouraged the foreign trade of the United States. The export trade began to recover soon after the close of the Napoleonic wars, but did not develop very rapidly until after 1840. The period from 1840 to 1899 was one of very rapid expansion in agriculture in this country and of manufacturing in western Europe. It may be noted that, with the exception of three short periods of depression, this was a long period of rapid growth in the export surplus of pork and pork products.

The longest and most marked period of depression was 1900–1914. In this long pre-war period home consumption was rapidly gaining on production and it seemed likely that in a few years the exportable surplus would disappear.

The World War greatly increased the demand in Europe for pork and pork products and higher prices induced a large increase in the exports, thus demonstrating the extraordinary elasticity of the producing power of the United States. It remains to be seen whether or not the trend of exports will continue upward or will resume the downward trend as in the period 1900–1914. Recovery and further industrial expansion of Europe, without further expansion of pork production outside the United States, would strengthen the demand so much as to encourage farmers in the United States to maintain and even increase the export surplus brought out by the war. On the other hand, a slack in the demand from abroad and increasing population in this country would soon reduce the export surplus to a negligible quantity.

The Outlook.

The World War demonstrated the elasticity of hog production in the United States. The probable future development must be considered on the basis of a normal peace-time consumption of pork and pork products in the United States and the demand of our foreign markets. It is reasonable to expect that the production of hogs will recover in those

European countries where the number had been greatly reduced during the war. Additional factors influencing production of pork and pork products are the size of the feed crops and hog diseases.

Production of pork is determined, not only by the number slaughtered, but also by the weights and dressing percentages of the hogs. Since 1907 the reports of meat inspection, together with census data, have furnished a basis for more accurately estimating the annual production of pork. The trend of production since 1907 has been but slightly upward, as is shown in Table 11.

TABLE 11.—*Estimated production of pork, lard, and edible offal.*

Year.	Pork, exclusive of lard.	Lard.	Total, including lard and edible offal.
	Pounds.	*Pounds.*	*Pounds.*
1900	.....	.....	9,286,245,000
1907	7,491,000,000	1,693,000,000	.....
1908	8,226,000,000	1,834,000,000	.....
1909	6,690,000,000	1,506,000,000	9,532,453,000
1910	5,881,000,000	1,344,000,000	.....
1911	7,511,000,000	1,717,000,000	.....
1912	7,189,000,000	1,643,000,000	.....
1913	7,492,000,000	1,713,000,000	.....
1914	7,228,000,000	1,652,000,000	.....
1915	8,050,000,000	1,840,000,000	.....
1916	8,634,000,000	1,973,000,000	12,268,010,000
1917	6,901,000,000	1,577,000,000	9,805,989,000
1918	8,854,000,000	2,015,000,000	12,571,909,000
1919	8,933,000,000	2,089,000,000	12,748,350,000
1920	8,153,000,000	2,022,000,000	11,814,791,000
1921	8,487,000,000	2,095,000,000	12,225,737,000

Relation of Production to Population.

The number of hogs and human population, 1840 to 1860, shows that the increase in the number of hogs during this period was not in proportion to the increase in population. The Civil War caused a great reduction in the number of hogs, but by 1871 hog production had recovered from the effects of that war. From 1871 to 1882 production increased greatly. Since 1882 hogs have not increased with the growth in the population of the country. In 1882 there were 120 hogs per 100 people, there are now only about 50 hogs to 100 people. A large export surplus existed for many years, but previous to the World War it was dimin-

EXPORTS OF LARD AND PORK, 1794-1922.

[Average of five-year periods ending in year designated.]

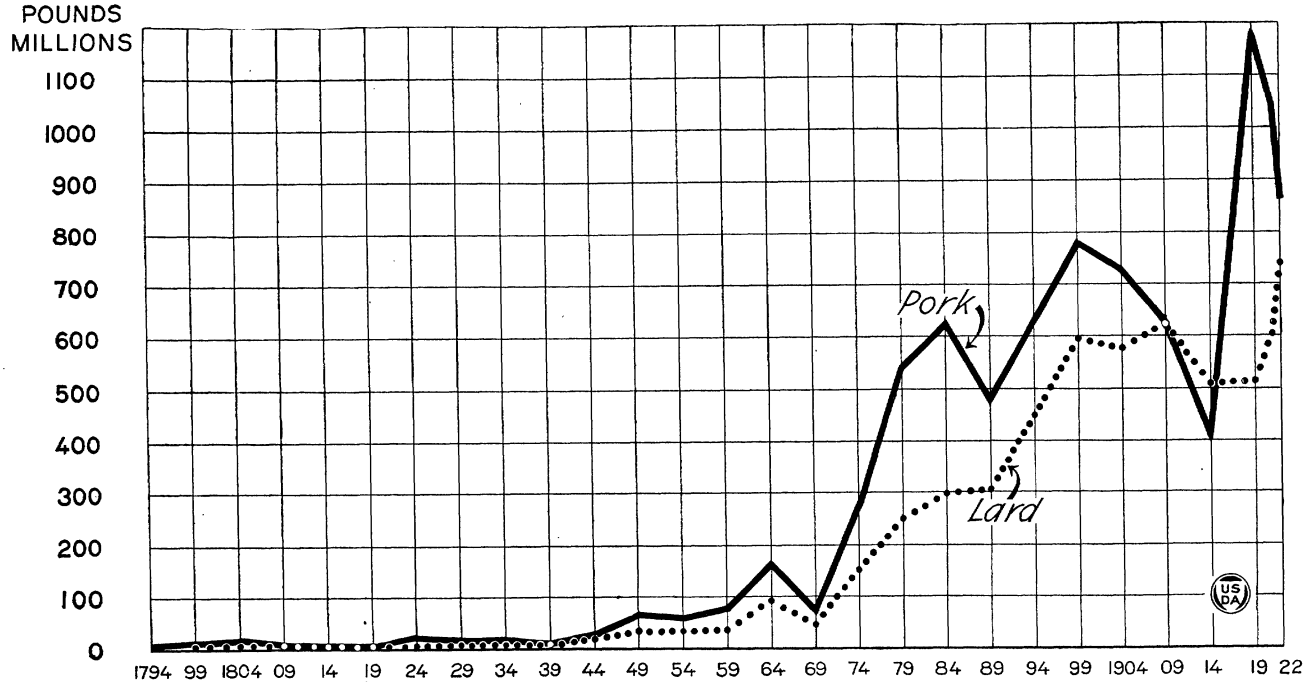


FIG. 55.—The United States has always been an exporter of pork and lard. Since 1869 the exports have increased enormously. Average annual exports of pork for the five years ending in 1869 were 70,905,000 pounds, compared with exports during the peak period from 1915 to 1919 of 1,179,287,000 pounds annually. From 1909 to 1914 the average annual exports of lard exceeded those of pork.

ishing. The war stimulated a great increase in exports, partly at the cost of a reduction in the per capita consumption in this country. If the present tendency of our population to increase more rapidly than hog production continues, the exportable surplus will again diminish.

It is probable also that the domestic demand will not increase in the same ratio as population. Since the limits of the Corn Belt have been reached the number of hogs in the United States has fluctuated from year to year but has not shown a tendency to increase to any considerable extent.

POPULATION AND NUMBER OF HOGS, UNITED STATES, 1840–1922.

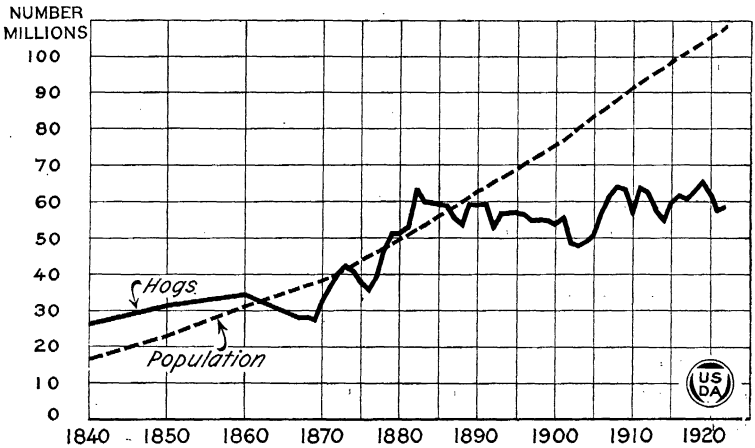


FIG. 56.—Whereas population has continued to increase, the number of hogs in the country has remained in the neighborhood of 60,000,000 since 1883. From 1840 until 1890 there was approximately one hog per person in the United States, whereas now there is little more than half a hog per person.

However, there are many possibilities for further expansion outside the Corn Belt. The South can produce corn and hogs and with a better system of cotton growing there will be an increased acreage of feeds used in the production of hogs, and in consequence the hog business will probably expand in that section. Hog production in Michigan, Wisconsin, and Minnesota may expand with the further development of corn production as a result of improvement in varieties to meet climatic conditions in those States. There may also be increased production in the territory west of these States, due to probable increased production and utilization of feeds necessary in the growing of hogs.

Any expansion of hog production into areas outside those now furnishing the bulk of our supply will depend upon the ability of these outlying areas to compete with the hog producer of the Corn Belt.

Foreign Competition and Demand.

Uncertain factors affecting our exports of pork and pork products are the future development of the hog industry in South America and the future demands of European importers. Will the industrial population of western Europe continue to increase indefinitely? If the growth of industrial population is retarded, hog production in Europe may develop to the point of more nearly supplying Europe's needs.

Until the industries of the European nations have more fully resumed peace-time conditions and until the monetary situation has been materially strengthened, it is probable that there will be an unstable demand for the products of the American hog from the markets of Europe.

The hog industry of the United States as now established is a reasonably safe and a profitable one. Nevertheless, the number of hogs is susceptible to greater fluctuations than is the case with other classes of live stock, one of the drawbacks of the industry being the tendency to expand or contract production with changes in price or quantity of the feeds available.

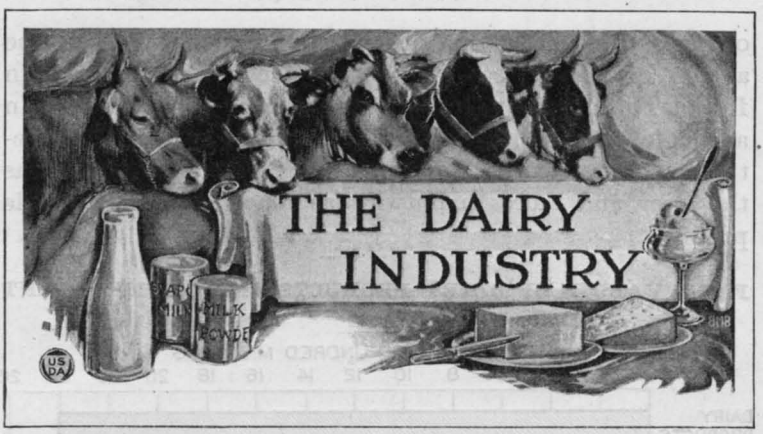
Hog growers should follow sound business methods and study foreign and domestic demands for pork and pork products and regulate production accordingly. When this is done violent fluctuations in prices for live hogs will be materially lessened. The plan of breeding an increased number of sows when feed prices are low and failing to breed the usual number when feed prices are high frequently results in disturbing the market equilibrium. A normal production each year will enable the competent hog grower to realize fair average profits and tend to stabilize the hog industry.

Tariff Duties on Swine, Pork, and Pork Products.

A summary of the tariff acts since 1789 with reference to import duties on swine, pork, and pork products follows:

TABLE 12.—*Rates of duty on imports of hogs and hog products under the Constitution.*

Date of act (and date when effective).	Rates.
July 4, 1789 (Aug. 1, 1789)	5 per cent.
Aug. 10, 1790 (Jan. 1, 1791)	5 per cent.
May 2, 1792 (July 1, 1792)	7½ per cent, of which 2½ per cent temporary.
Feb. 27, 1793)	Swine for breeding, free.
June 7, 1794 (July 1, 1794)	10 per cent, of which 5 per cent temporary.
May 13, 1800 (July 1, 1800)	12½ per cent, of which 7½ per cent temporary.
Mar. 26, 1804 (July 1, 1804)	15 per cent, of which 10 per cent temporary.
July 1, 1812 (July 1, 1812)	Existing permanent rates doubled until 1 year after the war.
Apr. 27, 1816 (July 1, 1816)	Free.
May 22, 1824 (July 1, 1824)	Hams and bacon, lard, 3 cents per pound; pork, 2 cents per pound.
July 14, 1832	Free.
(Mar. 4, 1833)	Existing rates remain.
Sept. 11, 1841 (Oct. 1, 1841)	Swine for breeding, free.
Aug. 30, 1842 (Aug. 31, 1842)	Hams and bacon, 3 cents per pound; prepared meats, 25 per cent; other, 20 per cent. Pork, 2 cents per pound.
July 30, 1846 (Dec. 2, 1846)	Hams and bacon, pork, lard, other, 20 per cent.
Mar. 3, 1857 (July 1, 1857)	Meats, 30 per cent; hams and bacon, pork, lard, other, 15 per cent.
Mar. 2, 1861 (Apr. 2, 1861)	Swine, free; hams and bacon, lard, 2 cents per pound; pork, 1 cent per pound; other, unmanufactured, 10 per cent; manufactured, 20 per cent.
May 16, 1866 (May 16, 1866)	Swine, 20 per cent.
July 14, 1870 (Jan. 1, 1871)	Swine, 20 per cent; for breeding, free.
Mar. 3, 1883 (July 1, 1883)	Swine for breeding, free; other swine, 20 per cent; hams and bacon, lard, 2 cents per pound; pork, 1 cent per pound; other, unmanufactured, 10 per cent; manufactured, 20 per cent.
Oct. 1, 1890 (Oct. 6, 1890)	Swine for breeding, free; other swine, $1.50 per head; hams and bacon, 5 cents per pound; lard, 2 cents per pound; pork, 2 cents per pound; other, unmanufactured, 10 per cent; manufactured, 20 per cent.
Aug. 27, 1894 (Aug. 1, 1894)	Swine for breeding, free; other swine, 20 per cent; lard, 1 cent per pound; pork, fresh, 20 per cent; prepared or preserved, 20 per cent.
July 24, 1897 (July 24, 1897)	Swine, registered pure breds, free; other swine, $1.50 per head; hams and bacon, 5 cents per pound; lard, 2 cents per pound; pork, fresh, 2 cents per pound; prepared or preserved, 25 per cent.
Aug. 5, 1909 (Aug. 6, 1909)	Swine, registered pure breds, free; other swine, $1.50 per head; hams and bacons, 4 cents per pound; lard, 1½ cents per pound; pork, fresh, 1½ cents per pound; prepared or preserved, 25 per cent.
Oct. 3, 1913 (Oct. 4, 1913)	Swine, free; hams and bacon, lard, lard compounds and substitutes, pork, fresh, prepared or preserved, free.
May 27, 1921 (May 28, 1921)	Swine for breeding, free; pork, fresh or frozen, 2 cents per pound; meats of all kinds, prepared or preserved, 25 per cent; other rates remain as before.
Sept. 21, 1922 (Sept. 22, 1922)	Swine, registered pure breds for breeding, free; other swine, ½ cent per pound; fresh pork, ¾ cent per pound; hams, bacon, and shoulders and other prepared or preserved pork, 2 cents per pound; lard, 1 cent per pound; lard compounds and substitutes, 4 cents per pound; other pork products, prepared or preserved, 20 per cent. All rates subject to change by the President after investigation of cost of production, domestic and foreign.



By C. W. Larson, *Chief, Dairy Division, Bureau of Animal Industry;* L. M. Davis, *Assistant in Marketing;* C. A. Juve, *Chief Accountant;* O. C. Stine, *Agricultural Economist, Bureau of Agricultural Economics;* A. E. Wight, *Assistant Chief, Tuberculosis Eradication Division;* A. J. Pistor, *In Charge of Eastern Division, Meat Inspection Division, Bureau of Animal Industry;* and C. F. Langworthy, *Chief, Office of Home Economics, States Relations Service.*

The Importance of Dairying.

An adequate supply of milk is of vital importance to every consumer. From the time the first cows were brought to this country by the early settlers there has been a steady, and at times a rapid, increase in the development of the dairy business, until now there are more than 30,000,000 dairy cattle in the United States. These animals are cared for on about 4,500,000 farms, or approximately 70 per cent of all the farms in this country. Our dairy cows are producing vital food products which form a large and important part of the diet of our entire population and for which consumers pay more than $3,000,000,000 a year, or about $30 per person.

There are several reasons why dairying has become so important in this country:

(1) The dairy cow economically converts pasture grasses, dry and succulent roughage, and the by-products of many different kinds of grain into milk, that most excellent food for man. The dairy cow does well when a large proportion

of her ration comes from these products. Only through the agency of animals can roughage be converted into human food. The great purpose of agricultural production is an adequate food supply. For feed eaten the dairy cow returns more than three times as much digestible protein as the steer and more than twice as much energy in edible products.

FARM VALUES OF DAIRY PRODUCTS AND OF IMPORTANT CROPS, 1921.

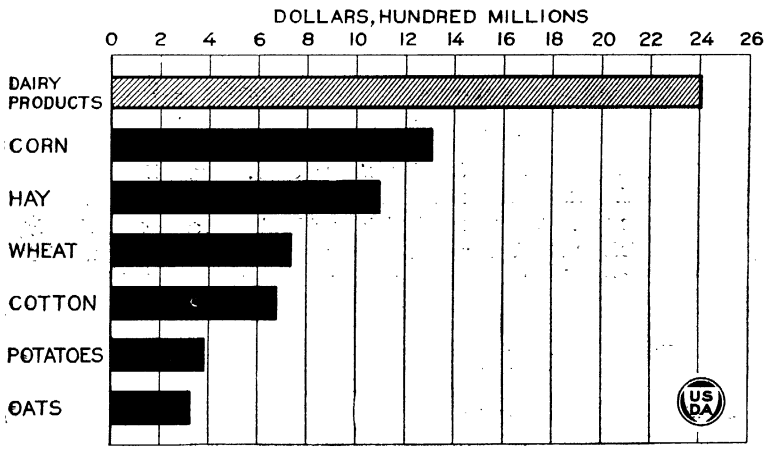


FIG. 1.—The leading crop in 1921 was the corn crop which had a farm value of $1,302,670,000. The farm value of dairy products for the same year is estimated at $2,410,000,000. The dairy products represented 45.1 per cent of the total value of all animal products.

(2) As our western ranches were divided into farms, it became necessary to cultivate the land more thoroughly and to practice more intensive agriculture. With this change came a need for live-stock that could be maintained under this system. The dairy cow found a place in this shift of agriculture and live-stock production from the range to the more intensive system, largely because she produced more human food per acre.

(3) In order to maintain soil fertility, it is necessary to keep live stock on a large proportion of our farms. The constant growing of grains and other crops depletes the fertility of the soil. The amount of fertilizer ingredients sold off the farm in dairy products is so slight that the amount

brought to the farm in the form of purchased concentrate feeds often more than compensates for the loss. The yields of crops on farms where dairy cattle form an important part of the farming enterprise have been maintained and frequently increased.

(4) Dairying can not be expanded rapidly. Only a slow growth is possible. Favorable years have not stimulated

THE FARM ANIMALS. NUMBER AND VALUE. UNITED STATES, JANUARY 1, 1920.

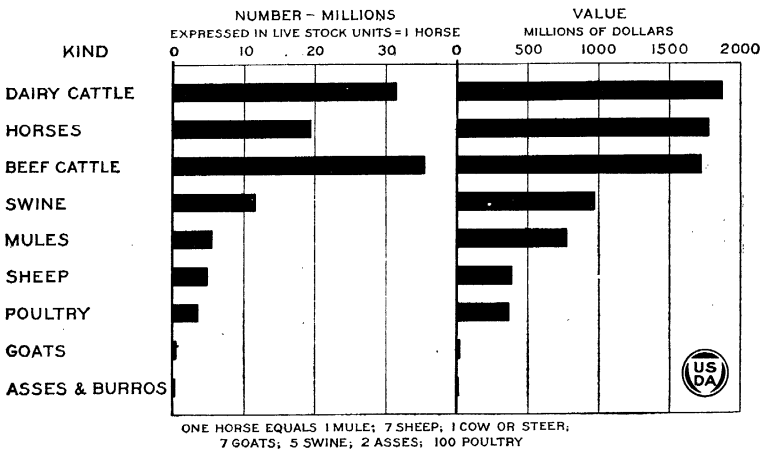


FIG. 2.—Dairy cattle in 1920 led in value all classes of livestock in the United States. There were, however, 35,288,100 beef cattle as compared with 31,364,459 dairy cattle. In the previous censuses cattle were divided into two classes: Milk cows and other cattle, the latter including beef cattle of all ages, dairy young stock up to 2 years of age, and also the dairy bulls. The census of 1910 showed 20,625,000 milk cows and 41,178,000 other cattle. In this same classification there were on January 1, 1920, 23,722,000 milk cows and 43,398,000 other cattle.

production to a point where overproduction seriously retards future progress. Many persons have been encouraged because the enterprise was stable and the income regular. An increased number of calves raised in any particular year due to favorable conditions will two or three years later have a tendency to increase materially the number of cows available for milk production, but the stimulation is always foreseen. It is not possible, therefore, to have very great fluctuations in the number of dairy animals. Production may, however, be influenced materially by feeding. When prices of dairy products are relatively high, it is advantageous to feed more heavily.

(5) The keeping of a few dairy cows on general farms has made it possible to utilize labor to advantage and to furnish a cash income as a side line. It also gives an income throughout the year.

(6) The price of dairy products is unusually uniform from year to year as compared with the prices of other farm products. While this limits great profits at times, it also largely eliminates great losses. Dairying, therefore, is a stable type of production.

(7) Dairy cattle which, for one reason or another are no longer desired for milk production, can be slaughtered for meat. These cattle, together with the veal calves from our dairy herds, furnish more than one-fourth of the beef and veal supply.

(8) The opportunities for increasing the capital stock and additional income through the sale of pure-bred dairy cattle, especially when animals of unusual production are bred, have offered a further stimulus to the development of the industry.

Dairy production is therefore important because of its favorable relation to the production of crops, the maintenance of soil fertility, and the seasonal distribution of labor; because of its large total income from the sale of products; because of its stabilizing effect on agriculture in general; because of the large part of our meat that is supplied as a by-product of dairying; and because milk and its products are so important in the proper nourishment of our people.

Dairy Products in the Diet.

Fifty years ago the keeping of cows in small towns and even in large cities was common, but as the towns built up and cows were crowded out, the delivery of milk to urban customers from the surrounding country became an established practice. The fact that milk was so generally consumed where it was produced meant that milk and its products, especially cream and butter, were used in such abundance in some localities as would seem extravagant to the average housekeeper to-day. In other regions, particularly in the Southern States, the consumption of milk was then probably much less than now. No statistics are available as to the average amount of milk consumed per capita in

the United States as a whole at that period, but it is probable that the amount is greater now than it was then. The use made of the milk has changed with changing conditions, of which the most important is the transportation of milk and other products from place of production to a distant place of use.

For recent years data of milk consumption are more abundant. During the year 1918 dietary studies were made by the Department of Agriculture in all parts of the United States among families considered representative of different types of communities, racial stocks, incomes, and occupations. Five hundred of these studies have been carefully analyzed. They show that, of the total amount of

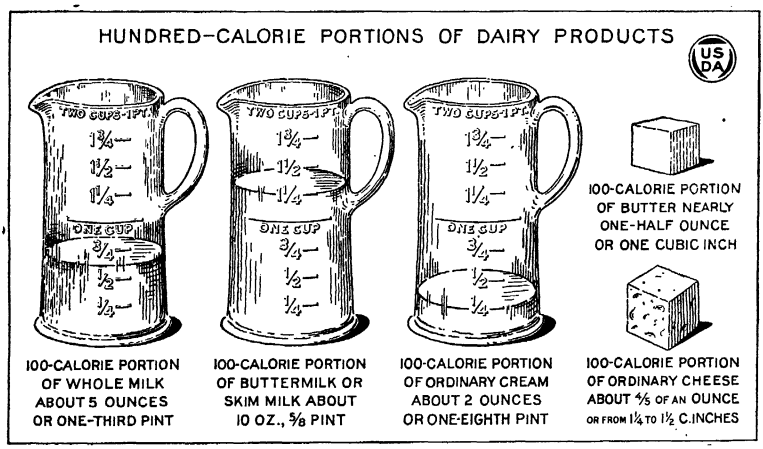


FIG. 3.—Quick methods of calculating the value of foods are useful. One of these depends upon the 100-calorie portion as a unit. This is satisfactory so long as it is understood that the diet must include enough kinds of food to provide all the necessary ingredients. The accompanying chart shows 100-calorie portions of milk and some of its products. In making use of this unit one must remember that the average adult usually needs about 2,700 calories of food daily. All 100-calorie portions, as the name implies, are equal in fuel value. But some 100-calorie portions furnish protein more abundantly, some vitamins, some mineral substances, and some other important food constituents. All these must be considered in determining their relative values. The quantity of vitamin A can not be shown because no one yet knows how to measure it, except relatively, but one can always reckon that milk fat is rich in it. The chart shows also the weight of each 100-calorie portion. With this fact in mind it is easy for the housekeeper to estimate how much she is paying per 100-calorie portion for the various dairy products and also what other necessary food constituents she is getting in return for her money.

money paid for food, a little more than one-fifth—or to be exact, 20.7 per cent—was spent for dairy products. Of this nearly one-third was spent for butter and the remainder principally for milk, with a little for cream and cheese.

The question naturally arises, what actual nourishment did these families receive in exchange for the money so spent? Did they get one-fifth of all the substances needed for the nourishment of their bodies, and one-fifth of the energy needed for their work? It is impossible, of course, to answer these questions definitely, for human bodies need a great variety of substances, some of which—the vitamines—can not be accurately measured. The diet of most people is made up of a number of food materials, and some of the necessary nutrients are supplied by one and some by another. No one food or group of foods should be thought of entirely apart from the others with which it is associated in the diet. It is, however, wise to try to determine what return each food makes for the money spent.

One of the constant needs of the human body is fuel. There are cheap body fuels and costly body fuels. Did the 500 families who spent one-fifth of their food money for milk and other dairy products get one-fifth of the needed fuel or energy in return? The records show that they got not only one-fifth, but almost as much again, or about 38 per cent. Considered then as a source of fuel or energy, dairy products as a group are economical foods.

The human machine has many other needs than that for fuel. It must be supplied with protein in order to form the protein of its tissues and to keep this protein in good condition. The dietary studies to which reference has been made show that 17.7 per cent of the protein consumed by the families studied was obtained from milk. This is more significant than it appears to be at first sight, for the protein of milk, like that of other animal foods, is believed to be more economically used by the body than the protein of vegetable foods, so that 17.7 per cent of the total protein represents more than this percentage of the protein that is available for tissue making.

Dairy products, particularly milk, are also depended on for a very large percentage of the lime needed in the diet of

people of all ages, especially children. The dairy products which are rich in fat are also rich in vitamin A, without which children fail of satisfactory general development. Without milk the diet is not necessarily wholly lacking in this important vitamin, for it is found also in egg yolks and green-leaf vegetables, as well as in some other foods; but when milk, butter, and cream are regularly used no more thought need be given by the mother to this important factor in the diet.

Consumption of Dairy Products.

The records show a noticeable increase in consumption of dairy products in both rural and urban districts, due in part

YEARLY PER CAPITA CONSUMPTION OF WHOLE MILK.

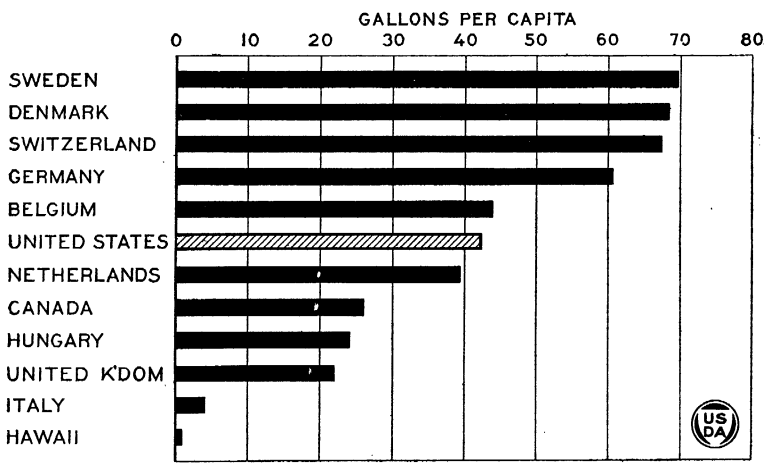


FIG. 4.—The per capita consumption data upon which the above chart is based are those nearest to 1914 that are available. They are not all for the same year. The per capita consumption of milk has increased in the United States from 42 gallons in 1914 to 49 gallons in 1921. The average consumption of milk and cream in cities in the United States was obtained from reports from 300 cities with a total population of 33,676,563, nearly one-third of the population of the United States. On the basis of this survey, the average quantity of whole milk consumed per person in the cities was estimated at 0.668 of a pint daily, and, in addition, the consumption of cream accounted for the utilization of 0.167 of a pint of milk, making a total equivalent to 0.835 of a pint of whole milk. Combining the rural and urban consumption, the average per capita consumption of whole milk as milk and cream for household purposes was 1.08 pints daily. This is equal to 49 gallons of milk annually, which is the largest annual per capita consumption on record in this country.

to the better quality of products now delivered to the consumer and also because of the increased knowledge on the part of the consuming public of the value of dairy products as food. Before methods of handling milk had been so well worked out, it was not possible to deliver to the city consumer a uniform product of high quality. This is now possible, and in many cities the consumption of milk per capita is greater than in some rural districts.

During the last three or four years educational campaigns have been conducted in many cities to increase the consumption of milk. Health officials, schools, and various agencies have assisted in these campaigns because of the belief that it was to the advantage of the people that a larger quantity be consumed. Surveys showed that in many districts the amount of milk consumed was inadequate, and as a result of this educational work the consumption in several large cities

YEARLY PER CAPITA CONSUMPTION OF BUTTER.

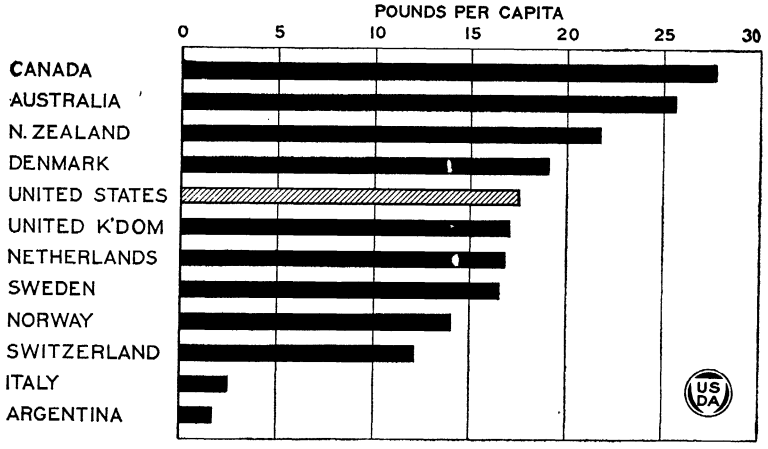


FIG. 5.—The per capita consumption data upon which the above chart is based are those nearest to 1914 that are available; they are not all for the same year. Several of the Nations that consumed more milk per capita consumed less butter than the United States. In 1921 the quantity of creamery butter manufactured in the United States was 1,054,938,000 pounds, an increase over 1920 of 191,360,000 pounds. The total production of farm and factory butter, exclusive of whey butter, for the year 1921, is estimated to have amounted to 1,705,438,000 pounds, or an average per capita consumption of 16.1 pounds.

has been increased as much as 10 to 20 per cent, and the increases maintained. The average consumption of milk in the cities of this country is a little less than a pint a day for each person.

Similar campaigns are being conducted in rural districts, and it is probable that during the coming years the consumption of milk will be materially increased throughout the country.

The daily consumption of milk in the household does not vary so much as the consumption of many other products. It is usual for a family to take a pint, a quart, or whatever quantity is customarily used, and this amount, or approximately this amount, is purchased regularly. The amount consumed, therefore, is affected only to a slight degree by fluctuations in price. This is not true of butter and some of the other products of milk. The average consumption of milk in the United States last year was estimated at about 49 gallons per capita.

At the present time the quantity of butter consumed in this country is also increasing. For the year 1921 the consump-

YEARLY PER CAPITA CONSUMPTION OF CHEESE.

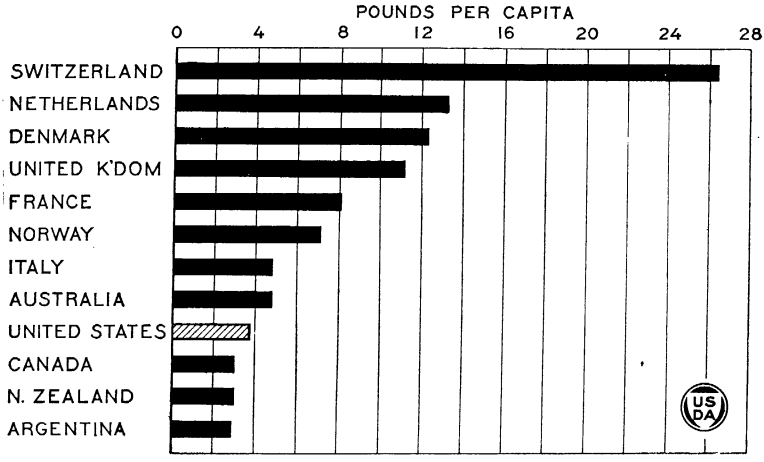


FIG. 6.—The per capita consumption data upon which the above chart is based are those nearest to 1914 that are available; they are not all for the same year. The people of the United States are not large consumers of cheese. Many Nations consume more, some twice or three times as much. The Swiss consume nearly seven times as much cheese per capita as the people of the United States.

tion was 16.1 pounds per capita, which was a 10 per cent increase in consumption over the previous year.

Although the American people are large eaters of butter, compared with European peoples, they consume a relatively

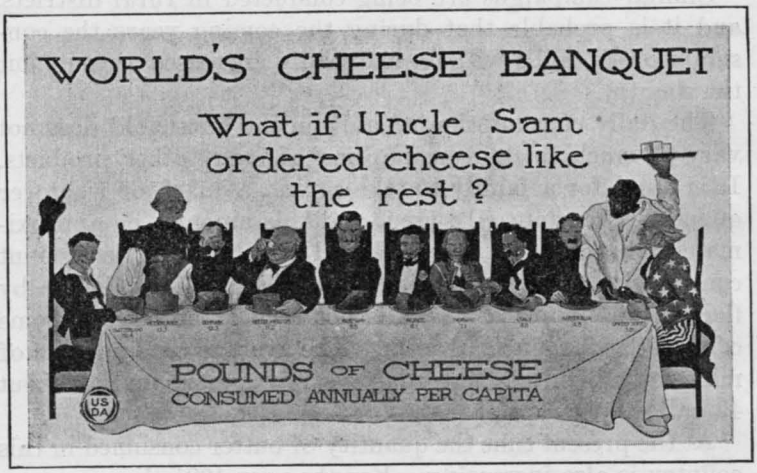


FIG. 7.—If Uncle Sam ordered as much cheese as the Dane, the Englishman, the Hollander, German, or Frenchman, or one-half as much as the Swiss, it would create a market for 9,000,000,000 more pounds of milk than at present.

small amount of cheese. The consumption of cheese is approximately 3.8 pounds per person, while in some European countries the consumption is four or five times this amount. Cheese of the American Cheddar type is chiefly manufactured in this country, but there is a demand for cheese of foreign varieties, especially by persons who have come from other countries. In the years preceding the war more than 60,000,000 pounds of cheese, or approximately one-fifth as much as was produced of all varieties in this country, was imported annually.

Increasing the consumption of cheese offers large opportunities for development of the dairy industry. If the people of this country would consume as much cheese per capita as the Dane, the Englishman, the Hollander, the German, or the Frenchman, or half as much as the Swiss, it would create a market for 9,000,000,000 pounds of milk more than is required at the present time.

The development of the canned-milk industry, which includes evaporated and condensed milk, has been rapid during the last 10 years, as much milk being required for these products now as for cheese. The foreign demand during the war increased greatly; and although the export demand for canned milk has greatly decreased, consumption in this country is growing, and new uses are constantly being found for condensed and evaporated milk in various other foods. The average annual consumption of this product at the present time is a little more than 10 pounds per capita.

The manufacture of ice cream has also become important in recent years. It is estimated that at least 2¼ gallons per capita are now consumed in the United States each year.

Milk powder and other products are finding new uses and are becoming increasingly important in the diet of American people.

How Milk Is Utilized.

The estimated production of milk in the United States in 1921 was approximately 99,000,000,000 pounds. On the

USES OF MILK, 1921.

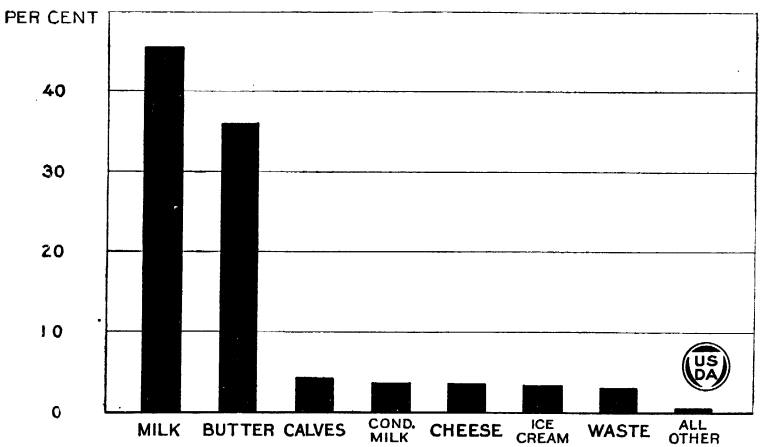


FIG. 8.—It is estimated that 98,862,276,000 pounds of milk were produced in 1921 and that 45.66 per cent was used for household purposes, chiefly for direct consumption as milk; 47.03 per cent was used in the manufacture of products, 4.31 per cent was fed to calves and the balance of 3 per cent was either lost, wasted, or included in unspecified uses. In the manufactured products, 36,21 per cent was used for the manufacture of butter, 3.7 per cent for condensed and evaporated milk, 3.59 per cent for cheese, and 3.39 per cent for ice cream.

MILK USED IN THE PRODUCTION OF FACTORY BUTTER, CHEESE, AND CONDENSED MILK, 1909-1921.

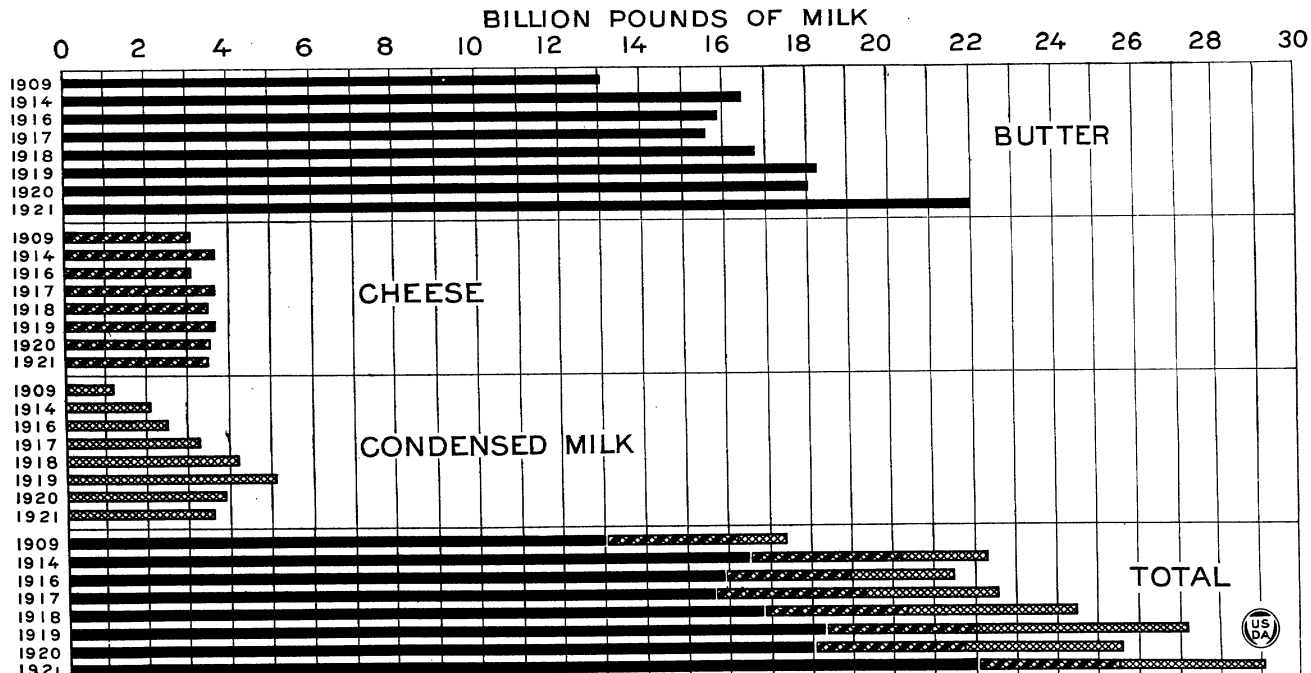


FIG. 9.—This graph shows the quantity of milk required for the production of three dairy products. It was calculated on a basis of 21 pounds of milk per pound of butter made, 10 pounds of milk per pound of cheese, and 2½ pounds of milk per pound of condensed milk. The latter includes evaporated milk. The rapid expansion of condensed milk manufacture was stimulated by the demand for this product during the war.

TABLE 1.—*Production and uses of milk in the United States, 1920 and 1921.*[1]

Product.	Milk used per unit of product.	1920			1921		
		Quantity of product manufactured.	Whole milk used.	Per cent of total milk.	Quantity of product manufactured.	Whole milk used.	Per cent of total milk.
Milk for manufacturing:	*Pounds.*	*Pounds.*	*Pounds.*	*Per cent.*	*Pounds.*	*Pounds.*	*Per cent.*
Creamery butter	21	863,577,000	18,135,117,000	20.226	1,054,938,000	22,153,698,000	22.408
Farm butter	21	675,000,000	14,175,000,000	15.810	650,000,000	13,650,000,000	13.807
Cheese (all kinds)	10	362,431,000	3,624,310,000	4.042	[2] 355,838,000	3,558,380,000	3.599
Condensed and evaporated milk	2.5	1,578,015,000	3,945,038,000	4.400	1,464,163,000	3,660,408,000	3.703
Powdered milk	8	10,334,000	82,672,000	.092	4,243,000	33,944,000	.034
Powdered cream	19	309,000	5,871,000	.007	130,000	2,470,000	.002
Malted milk	2.2	19,715,000	43,373,000	.048	15,652,000	34,434,000	.035
Sterilized milk (canned)	1	5,623,000	5,623,000	.006	5,074,000	5,074,000	.005
Milk chocolate	.....	.....	[3] 60,000,000	.067	.....	[3] 40,000,000	.041
Oleomargarin	.065	370,163,000	24,256,000	.027	211,867,000	([4])	.....
Ice cream	[5] 13.75	[6] 260,000,000	3,575,000,000	3.987	[6] 244,000,000	3,355,000,000	3.396
Total milk used in manufacturing	.....	.....	43,676,260,000	48.712	.....	46,493,408,000	47.030
Milk for household purposes	.....	[7] 43	39,090,000,000	43.599	[7] 49	45,143,000,000	45.660
Milk fed to calves	.....	[8] 200	4,202,000,000	4.687	[8] 200	4,260,000,000	4.310
Waste, loss, and unspecified uses	.....	.....	2,689,000,000	3.000	.....	2,965,868,000	3.000
Grand total	.....	.....	89,657,260,000	99.998	.....	[9] 98,862,276,000	100.000

[1] Figures for manufactured products for both years are from reports to the U. S. Bureau of Markets and Crop Estimates; other figures based on surveys.
[2] Includes 6,000,000 pounds of farm-made cheese.
[3] A large quantity of milk chocolate was made from powdered, condensed, and evaporated milk.
[4] Omitted in 1921 because of negligible amount of whole milk used.
[5] Batch-made ice cream averages 6 pounds per gallon, and continuous machine-made weighs 5 pounds per gallon; average amount of milk to make 1 gallon of ice cream taken at 13.75 pounds.
[6] Gallons.
[7] Gallons per capita. Population estimated on basis of the last census at 105,708,770 in 1920, and 107,125,729 in 1921.
[8] Pounds per calf. Calves estimated as 90 per cent of dairy cows. Calves slaughtered at birth estimated at 5 per cent of dairy cows. Calves fed estimated as 85 per cent of dairy cows.
[9] Represents annual production of 25,061,000 cows, averaging 3,945 pounds of milk per cow.

basis of 25,000,000 dairy cows, the average production per cow, therefore, was about 4,000 pounds. With our present population, there is available about 920 pounds of milk for each person, either in the form of milk or some of the various products of milk.

Forty-five and six-tenths per cent of the total milk is used for household purposes. This includes the milk for direct consumption, both in the city and in the country, and milk used for cooking purposes. The next largest quantity is that used for making butter, approximately 36 per cent being used for this product; 22 per cent for creamery butter, and 14 per cent for farm butter. The manufacture of cheese, condensed milk, and ice cream, and the feeding of calves each require about 4 per cent of the total milk produced. The remaining 3.4 per cent is used for various products such as milk powder, malted milk, and others less important, and includes milk lost in the process of manufacture or otherwise wasted. In the manufacture of butter only the butter fat is utilized, and there remain as by-products skim milk and buttermilk, which are not utilized to the fullest advantage.

With milk for direct consumption and for the manufacture of condensed and evaporated milk, the whole milk is used and there is no waste. On the other hand, when milk is used for buttermaking, only about one-third of the milk constituents other than water is utilized, leaving two-thirds to be utilized in other ways. In cheesemaking, some of the fat, nearly all of the sugar, and an appreciable portion of the protein remain in the whey and are used inefficiently as a feed or are wasted entirely. Skim milk, buttermilk, and whey are not wasted when they are fed to animals, but since 100 pounds of skim milk, containing about 9 pounds of solids, of which 3 pounds are protein, are required to make about 4.8 pounds of dressed pork, it can not be considered an efficient method of utilization. At the present time, however, only a small part of our butter is made in creameries which utilize all the milk ingredients. The effect of a system by which skim milk and buttermilk could be converted profitably into marketable products would be far-reaching. As dairying develops and uses are found for the skim milk and buttermilk, the business of dairying will im-

prove. A most marked effect of bringing the whole milk to the creamery would come from the improvement in the quality of the products.

There is some fluctuation from year to year, and from season to season, in the relative amounts of milk used for these various purposes depending upon the relative prices of the products and the demand. When, for instance, the price of condensed milk falls to a certain point, there is a tendency to divert the milk from that product to butter or cheese, depending upon the relative prices for these products, and facilities for manufacturing them.

Geography of Production of Dairy Products.

In the main, the production of dairy products follows very closely the cow population; but the particular product sold or manufactured is dependent upon a number of geographical, climatic, and economic factors. Cows are kept more generally in those sections where hay is grown extensively, where grains are relatively cheap, or where climatic conditions favor the maintenance of green pastures.

The Northeastern States, because of favorable conditions, are an important hay-producing region. Furthermore, a relatively large summer rainfall encourages abundant pasturage, thus providing cheap feed and minimizing summer work. As a result, large numbers of cows are kept in that section.

In the Central West, where grain is grown extensively, and prices are relatively cheap, dairying also flourishes. The growing and milling of grains is the source of a large number of farm roughages and mill by-products for which the dairy cow provides a ready and profitable market.

Other factors, such as proximity to large groups of consumers, high prices for dairy products, and favorable weather conditions also serve to foster dairying.

Market milk is the largest item in the grand total of milk produced in the United States. At the present time nearly the whole of New England, a large part of southern New York, and eastern Pennsylvania have developed their dairy industries principally along the line of producing milk for the large eastern cities. The area of butter and cheese pro-

duction has been pushed back year after year by the higher price paid for market milk, until now milk is shipped into New York City from the farthest parts of the State.

This same condition prevails in the North Central States near the large cities. Northern Ohio, Indiana, Illinois, and southern Michigan, Wisconsin, and Minnesota sell large quantities of whole milk for household consumption in cities having inadequate local supplies.

What is true of the large populous centers is true also of the smaller cities. Milk for domestic consumption commands a higher price and takes precedence over all other dairy products.

Butter being a less perishable product than whole milk is produced beyond the areas affected by the market-milk competition and principally in the regions where feed is cheapest. The improved refrigerator-car service has permitted the establishment of butter factories throughout the North Central States, in the Mississippi Valley, and even on the western coast. In the Middle West the trend has been toward centralizer creameries which collect cream and make butter in large plants located at selected transportation centers.

Farm butter, which amounts to about 40 per cent of the total butter production of the United States, is still made on about half the farms of the country.

Cheese.—Farm-made cheese is now produced only in a few of the Northern and Eastern States, the total quantity, about 6,000,000 pounds, being only about 2 per cent of the cheese produced in the United States.

Cheese is easily transported, keeps well at ordinary temperatures, and can be made economically in small factories. Cheese factories therefore can be operated in regions where the creamery would not be practicable.

It is noticeable that the cheese factories are located in the northern section of the country where there are cool nights and an abundance of cold water. It is true that cheesemaking has been carried on very successfully in high altitudes in the far Western States and in the mountains of North Carolina, Virginia, and Tennessee. Practically two-thirds of the cheese is made in Wisconsin.

Condensed and evaporated milk.—Milk condenseries are located in 31 States and the production for the year 1921 indicates the following in rank as producers: Wisconsin, New York, Michigan, Pennsylvania, Illinois, Washington, California, and Ohio. Condenseries have generally been located where dairying has been well developed and large quantities of milk are available.

Casein.—Casein is produced from skim milk and buttermilk, both of which are by-products of buttermaking; however, much casein is made from milk skimmed in the production of cream for city trade. California makes the most skim-milk casein, with New York second and Vermont third.

Ice cream.—Ice cream is made in all cities and many villages, and is shipped from the larger cities to places where the local supply is insufficient. However, much more ice cream is made in the Northern States than in the Southern. In addition large quantities are made in the home.

Milk chocolate.—Milk products are used extensively in milk chocolate and other confections. The principal States making these products are New York and Pennsylvania.

Powders.—Milk powder, cream powder, and skim-milk powder are made chiefly in New York, California, Pennsylvania, Illinois, Michigan, Washington, and Wisconsin. The greatest quantity of malted milk is made in Wisconsin. However, there are also factories in New York, Colorado, Ohio, and Illinois.

Condensed and dried buttermilk are made principally in Nebraska, California, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, and Missouri. These are States where there are large creameries.

Milk sugar is usually made from cheese and casein whey from factories located in New York, Vermont, Ohio, California, and Michigan.

Development of Dairying in the United States.

Cows were part of the necessary equipment for establishing permanent settlements in the New World. The same cows produced work stock, beef, milk, butter, and cheese for the settler and his family. As commerce and manufacturing developed villages and towns became too large to be supplied

only from the cows that could be maintained on the village common and near-by grazing grounds. Trade developed a demand for butter and cheese to provision ships, to supply

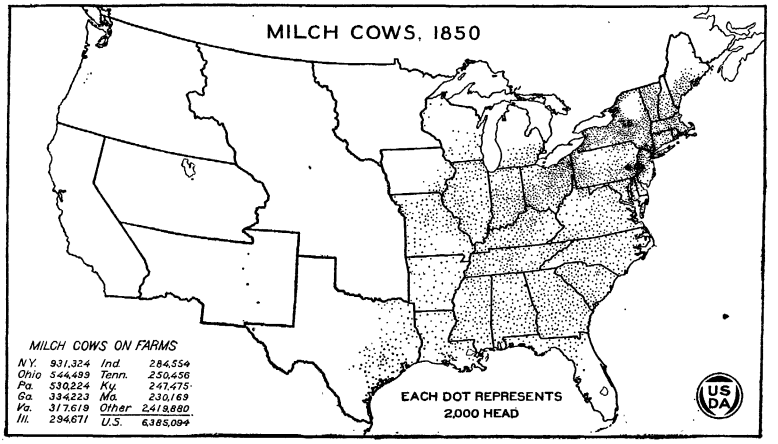


FIG. 10.—In 1850 cows were numerous in southern New England, Vermont, southern and central New York, in northern New Jersey, in southeastern Pennsylvania, and in northeastern Ohio. Outside of these areas they were quite evenly distributed over the settled part of the United States.

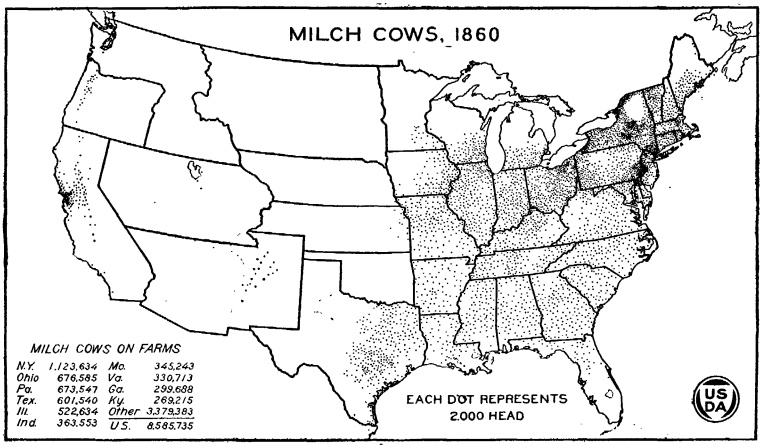


FIG. 11.—By 1860 there had been a great increase in the number of cows in the Pacific Coast States and in the Upper Mississippi Valley. The beginnings of the development of new important dairy centers may be noted in northern Illinois and southern Wisconsin. The number of cows decreased in parts of the Cotton Belt. Many of the cows reported in Texas, also in some of the western States, were only breeding stock.

the West Indies and the needs of the continental colonies not producing enough for their own use.

The date when the first cattle were permanently established

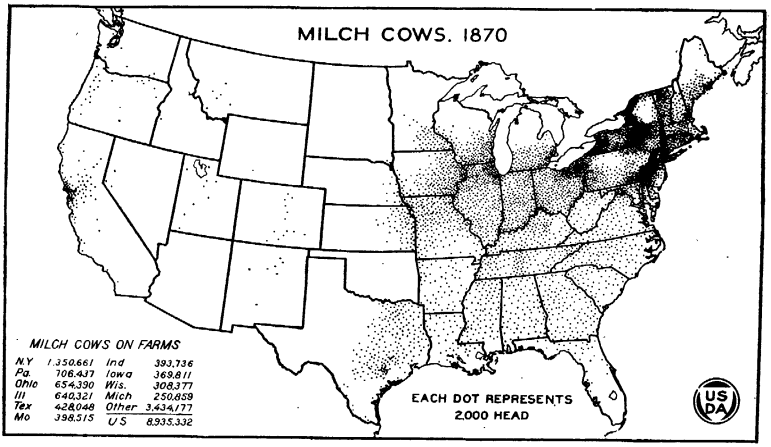


FIG. 12.—There were only 350,000 more cows reported in 1870 than in 1860. The South had not recovered from the Civil War. New England also had fewer cows. Increases in other northern States had more than offset reductions in the South and in New England. The greatest gains were made in New York, Illinois, Wisconsin, Iowa, Minnesota, Kansas, and Michigan.

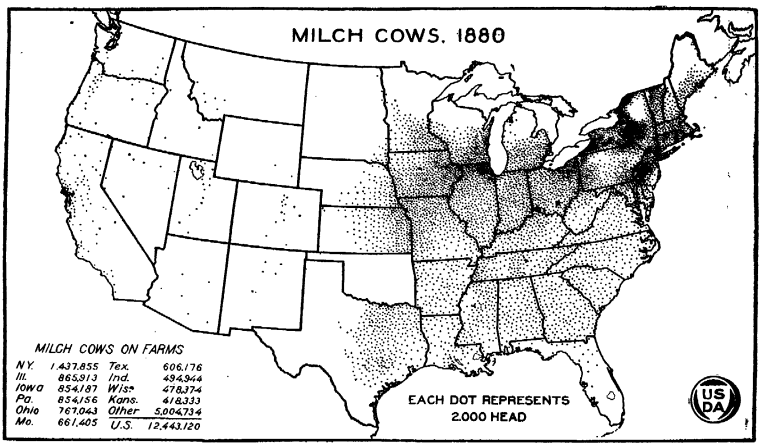


FIG. 13.—Between 1870 and 1880 the number of cows increased nearly 50 per cent. The greatest increases were in Iowa, Kansas, Illinois, Wisconsin, and Minnesota. By 1880 nearly all of the States had recovered from the Civil War depression in number of cows. The westward movement had reached the semi-arid Great Plains.

in the United States is still in doubt. Cattle were landed at Vera Cruz, Mexico, in 1525, and produced what were later known as "Texas" cattle, but it is not known when they

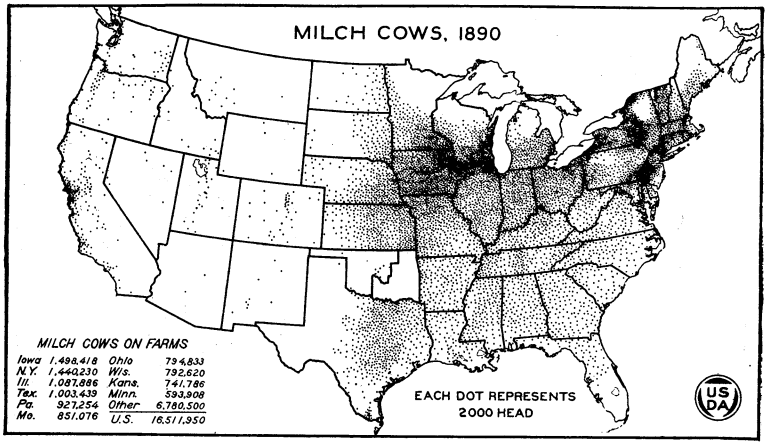


FIG. 14.—By 1890 Chicago had become the market center for the greatest dairy region of the United States. In number of cows Iowa ranked first, New York was a close second, and Illinois ranked third. Dairying had almost entirely displaced wheat growing in southern Wisconsin and northern Iowa and was beginning to take the place of wheat on farms in southeastern Minnesota.

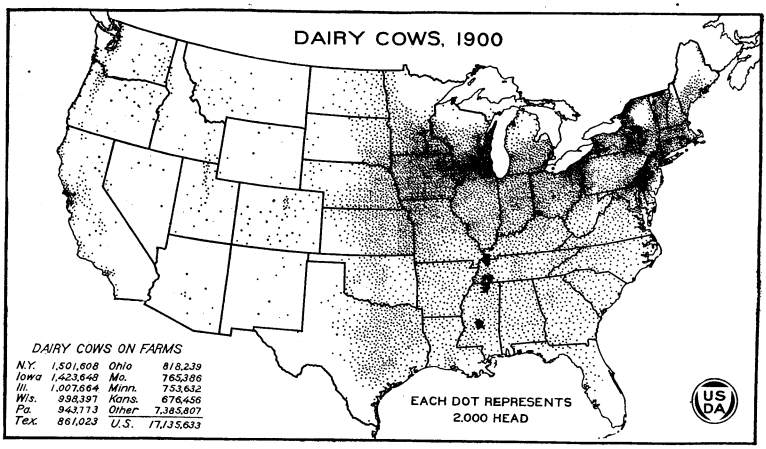


FIG. 15.—The census enumerated separately the cows kept principally for milk for the first time in 1900. The exclusion of cows kept principally for raising calves reduced the number in some of the principal beef-producing States. The greatest increase in the decade 1890–1900 was made in Wisconsin. In some of the eastern States the number of cows had begun to decline.

reached the border of the United States. It is definitely known that cattle were landed at Jamestown, Va., in May, 1611, and that one bull and three cows were landed at Plymouth, Mass., in 1624.

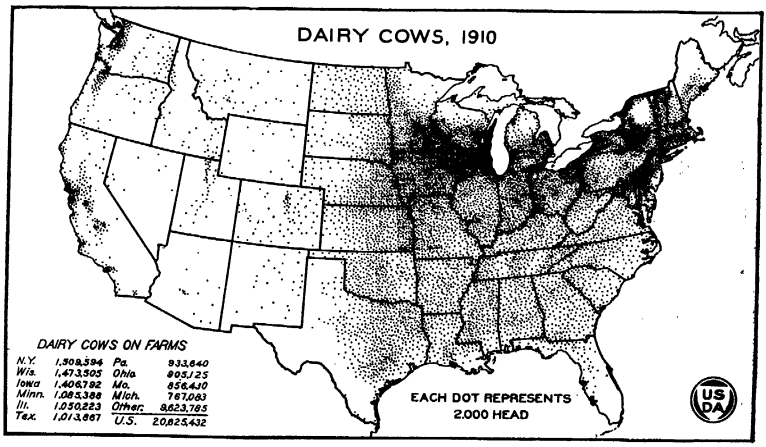


FIG. 16.—A marked increase in dairy cows may be noted in the Pacific Coast States. Wisconsin continued to increase the number of cows taking second place. Minnesota dairying was also developing rapidly. Cows were decreasing in southern New England. The figures for 1910 are not strictly comparable with those for 1900, since the 1910 census included younger cows than were included in 1900.

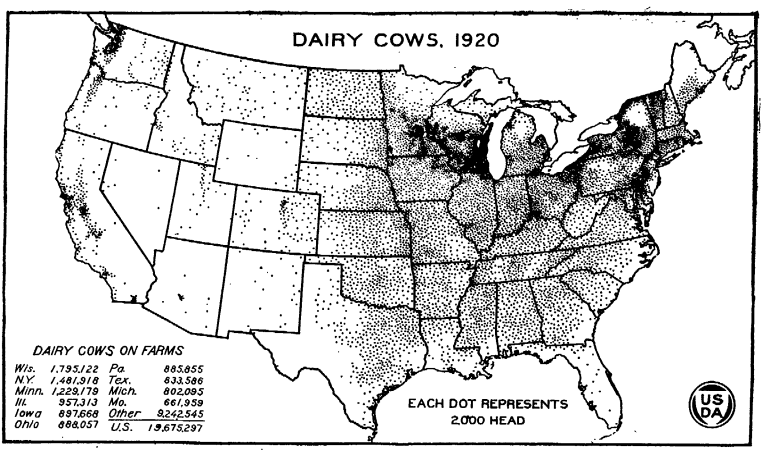


FIG. 17.—In number of cows Wisconsin took first rank among the dairy States in 1920; Minnesota was third, New York being second. Some of the eastern States continued to reduce. What may be called the dairy belt extends from the coast north of Maryland and north of the Corn Belt west to the semi-arid Great Plains. The eastern part of this belt suffers from competition with the West where feed is more abundant and cheaper.

In the West there appears no authentic history as to the first cattle, but the friars at the various settlements had large herds at an early date.

These early herds were not well cared for either as to proper feed or shelter; however, they continued to multiply and spread over the country.

The export statistics of 1790 furnished the first definite measure of the productivity of dairying in the United States. These statistics indicate that the New England States, New York, and Pennsylvania were producing considerable amounts of butter and cheese in addition to what was con-

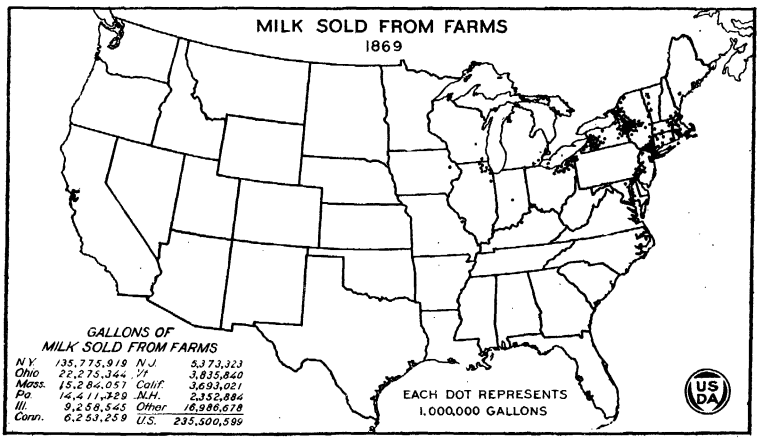


FIG. 18.—Probably the greater part of the milk sold from farms in 1869 was whole milk for cities. Some of it went to noncooperative cheese factories. Compare with maps of cheese made on farms 1869.

sumed at home. Other States contributed small amounts to the export trade, which in the year named amounted to about 670,000 pounds of butter and 145,000 pounds of cheese. The average exports of the three years, 1790–1792, were 948,000 pounds of butter and 133,000 pounds of cheese. This is not a very large amount, but relative to the population of the country at that time this export was important.

By 1790 a few cities had become large enough to furnish markets for considerable amounts of butter and milk. New York had a population of 33,000, Philadelphia 28,000, and Boston 18,000. All the milk that was needed by these cities

could be produced near by and peddled by the producers. After the War of 1812, manufacturing and commercial centers grew rapidly along the coast. Butter and cheese production developed in the back country as transportation

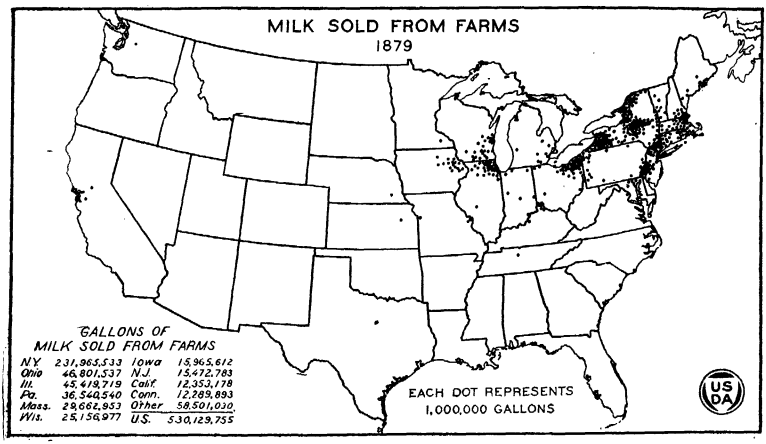


FIG. 19.—The milk supply zones about the larger cities expanded between 1869 and 1879. Note the Philadelphia, New York, Boston, and Chicago areas. Cleveland and Buffalo took some of the milk from northeastern Ohio and western New York, but most of it went to cheese factories.

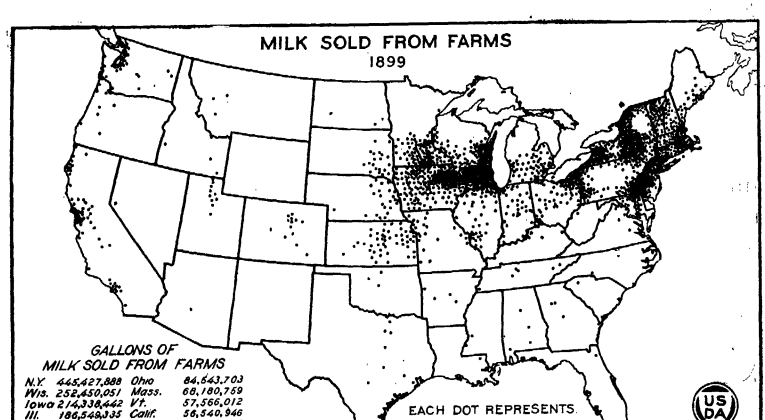


FIG. 20.—The whole milk supply zones of some of the great cities had spread out over large areas by 1899. Boston drew milk from most of New England. New York City drew milk from central and eastern New York, Vermont, and western Massachusetts and Connecticut. In the East most of the milk sold went to the cities, whereas in the West much of it went to cheese and butter factories and some to condensaries.

developed. The opening of the Erie Canal and other canals connecting Lakes Erie, Champlain, and Ontario with the Hudson River encouraged the development of dairying for butter and cheese in up-State New York, Vermont, and Ohio.

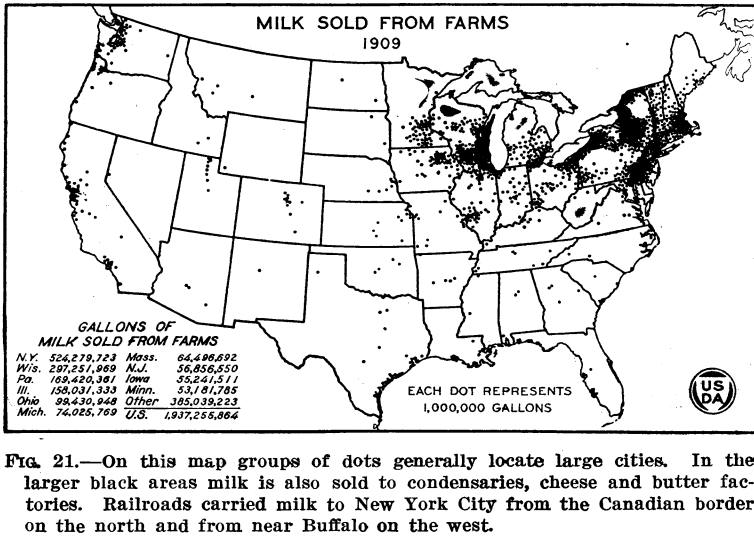


FIG. 21.—On this map groups of dots generally locate large cities. In the larger black areas milk is also sold to condensaries, cheese and butter factories. Railroads carried milk to New York City from the Canadian border on the north and from near Buffalo on the west.

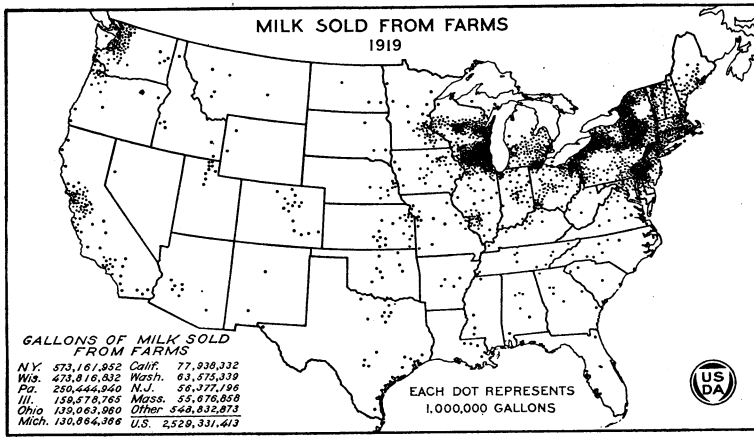


FIG. 22.—The amount of milk sold from farms, as in 1899 and 1909, is concentrated north of the Ohio and east of the Mississippi rivers. The major portion of the whole milk sold from farms is for direct urban consumption or for manufacture in cheese factories and condensaries.

The census of 1840 reported the value of dairy products as $33,787,000, which in terms of the 1913 dollar would be about $28,900,000, or a little greater than the value of the dairy products of Iowa in 1919, reduced to the same mone-

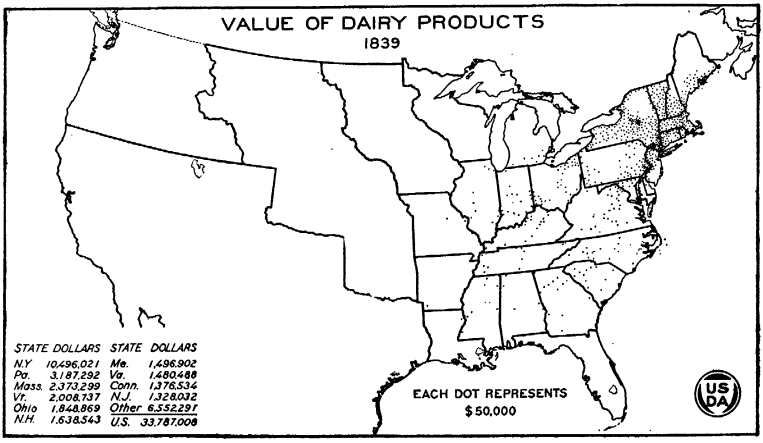


FIG. 23.—The value of dairy products is the only measure of dairying available for 1839. The most important centers of production were in the vicinity of Boston, western Connecticut, vicinity of New York City, in the Mohawk Valley of central New York, and in the vicinity of Philadelphia on both sides of the Delaware River.

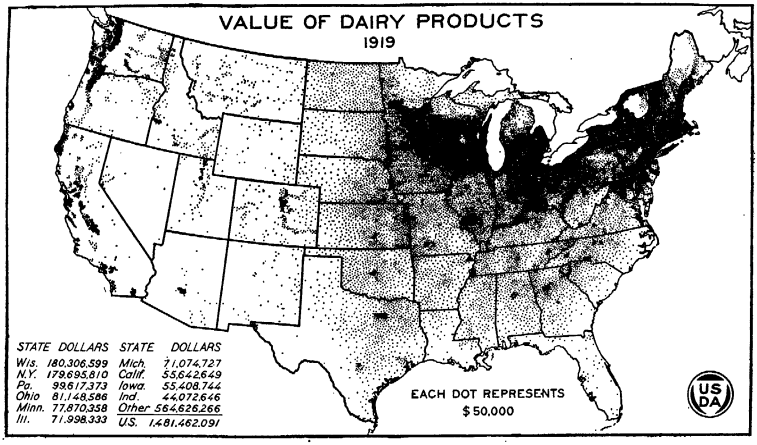


FIG. 24.—This map presents a striking contrast to the map for 1839. The value of the dairy products of the Rocky Mountain States in 1919 was greater than that of the United States in 1839. Prices were much inflated in 1919, $50,000 being equivalent to about $28,400 in 1839, which makes the difference appear greater than it actually is. The following maps will show steps in the changes between 1839 and 1919.

tary basis. New York produced over one-third of the reported total value of dairy products in 1840. The accompanying map shows how dairying was connected up with the larger cities and transportation routes.

The decade 1840–1850 witnessed the beginning of railroad transportation of milk. As a city grows and the demand for milk increases, the area supplying the city must be

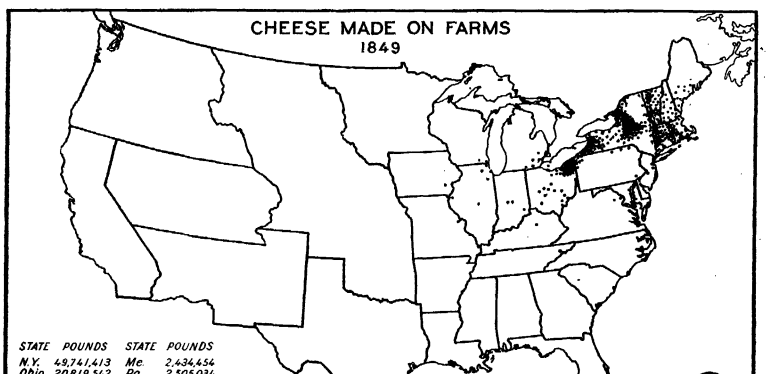


FIG. 25.—Western New England, central and western New York and northeastern Ohio were the important cheese producing regions in 1849. Cheese production was the pioneer form of commercial dairying in the cooler climates. Dairies near large cities sold milk or butter.

expanded, which increases the distance the milk has to be transported. In 1840 the population of New York City amounted to 312,000, and taking in the territory now included in New York City, over 390,000. A city of this size can use a large amount of milk. The railroad was a new means of transportation, and the first shipment of milk by rail recorded was made as an experiment in 1842 from Chester, Orange County, N. Y., to New York City. The experiment was satisfactory and shipments were continued. In a few years railroad transportation became an important factor in the development of dairying for the sale of whole milk to large cities.

The growth of cities, with increasing demands for milk, butter, and cheese led to the development of a highly specialized dairy business in certain localities. The development of dairying had a part in the evolution, sometimes called revolution, in farming in New England and New York. The first task of the farmer on new land in these States was generally to clear a little land in order that he might raise a little grain and enough feed for a cow. As the area of open or cleared land increased and land became available for pasture, the number of live stock, generally cattle for beef, or sheep, was increased. Following the Napoleonic wars and the War of 1812, sheep raising gradually gave way to cattle and dairying for butter and cheese, with hog production as a side line. The beef types of cattle were gradually superseded by the dairy type and as the whole-milk market zone expanded hog production was abandoned.

The demands for greater quantities of milk and its products caused the attention of dairymen to be directed toward the improvement of the dairy cow. Attention was given to better care, shelter, and feed, and the special dairy breeds received more consideration. Importations of Jerseys, Guernseys, Holsteins, and Ayrshires increased.

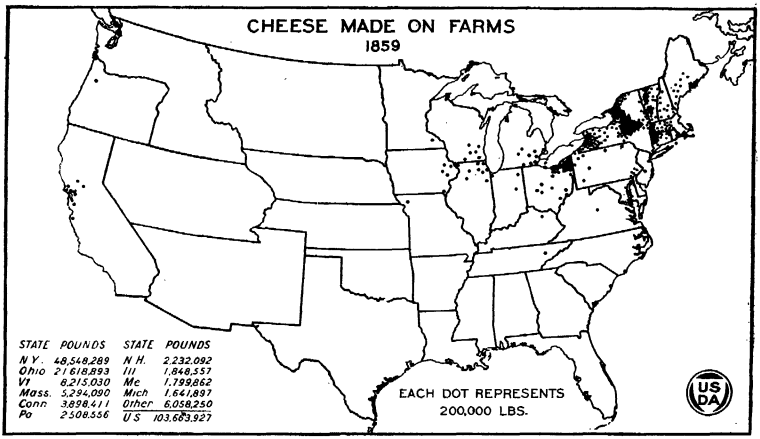


FIG. 26.—Some cheese was reported from California and Oregon for 1859. Minnesota was another new State to report about 200,000 pounds of cheese. Increases may be noted in Wisconsin, Iowa, and Michigan, on the other hand, reductions in New England.

The Mohawk Valley, in New York State, was a great wheat-producing area, but wheat production moved on along the canal, leaving this valley to dairying. These changes were effected through competition of other areas producing

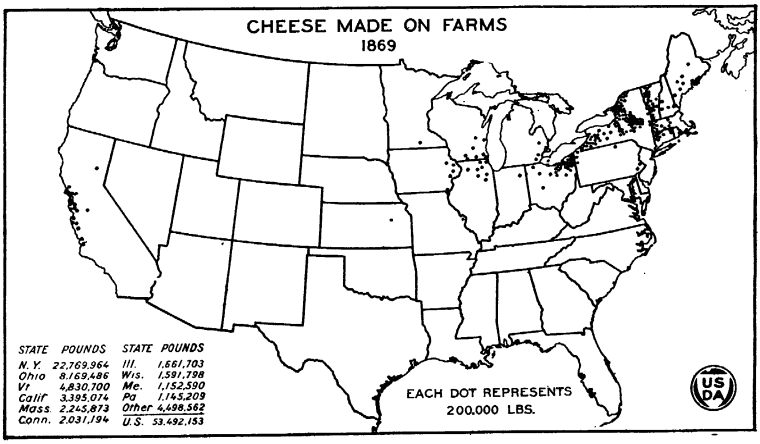


FIG. 27.—The farm production of cheese in 1869 was only half that of 1859. Cheese production had increased, but two-thirds of the product was prepared in factories which are not represented on this map. Farm production continued to be important in western New England, central New York and northeastern Ohio.

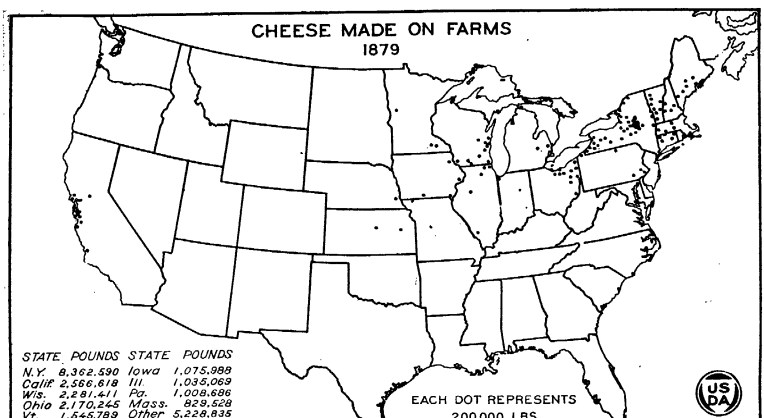


FIG. 28.—By 1879 cheese production on the farm had dwindled to one-ninth of the total production. The old centers of farm production, however, can still be recognized. A dot appears for the first time in Nebraska, also in the Red River Valley of Minnesota.

wheat, corn, sheep, and hogs, on the one hand, and through the development, on the other hand, of a greater demand for dairy products.

Farmers moving west often transported the type of farming they had learned in the East. Many of the New

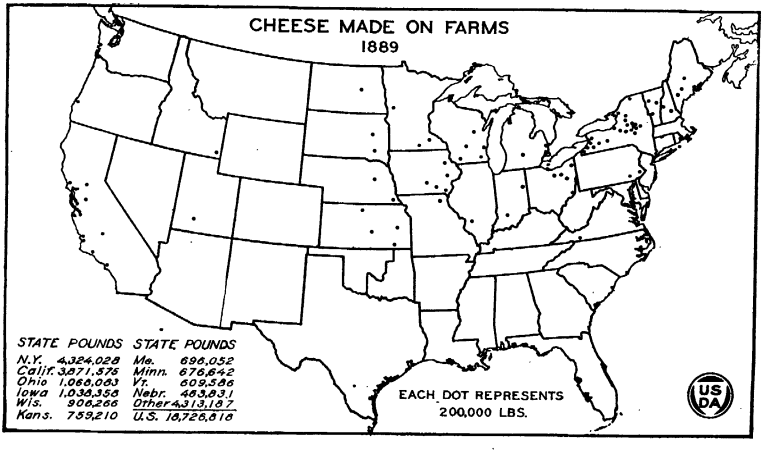


FIG. 29.—North Dakota, Idaho, and Utah each reported about 200,000 pounds of cheese for 1889. Kansas and Nebraska doubled their farm production since 1879, and Iowa increased its production slightly. Elsewhere farm cheese production generally continued to decrease.

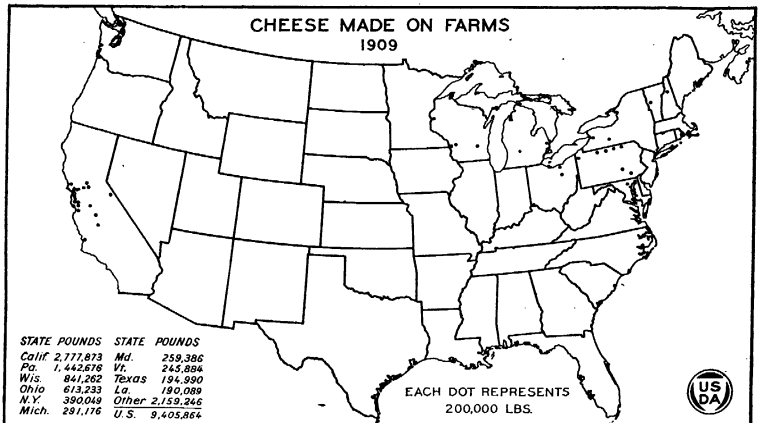


FIG. 30.—Farm cheese production had almost completely disappeared from most States by 1909. It is interesting to note that many farmers of California continued to make cheese. Farmers along the northern border of Pennsylvania seem to be reviving the industry.

England farmers moved to western New York and to northeastern Ohio. The "Western Reserve" of Ohio became a second New England. Both sheep farmers and dairy farmers settled in this region, but, as in New England, sheep farming soon yielded to dairy farming. In 1849 northeastern Ohio was an important cheese-producing area and some cheese was being produced farther westward in Michigan, Iowa, and Illinois. The farm production of cheese was probably at its maximum about this time.

The factory production of cheese developed earlier than the factory production of butter. Although the factory production of cheese was not reported by the census of manufactures in 1850, there is evidence that by that date factory production was becoming fairly well established. In Connecticut it is recorded that at least one man was buying curd from neighbors and manufacturing a special brand of cheese for the market. Several factories were in operation in Ohio before 1850. The cooperative manufacture of cheese developed to some extent in New York in the next decade. The census of 1850 showed a decrease in the farm production of cheese. By 1869 factory production made up 67 per cent of the total and since then farm production has continually decreased until it has become a negligible quantity.

Condensing of milk had been in an experimental stage since 1800, but it was not patented until 1856. Milk powder was first made about 1810, although it was not until the World War that its manufacture became extensive.

The production of butter was also moving westward. Central and western New York had become important producers of butter as early as 1840. By 1850 Michigan had begun shipping butter to the East. Farm production of butter as reported by the census increased from 313,000,000 pounds in 1849 to 460,000,000 pounds in 1859.

The Civil War disturbed dairying as well as many other farm enterprises. The southern market for butter and cheese was partly cut off during much of the war. The war also greatly reduced the purchasing power of the South. The withdrawal of labor from the farm was also an important factor in reducing dairy production. By 1870 there had been some recovery. Many of the Eastern and Southern

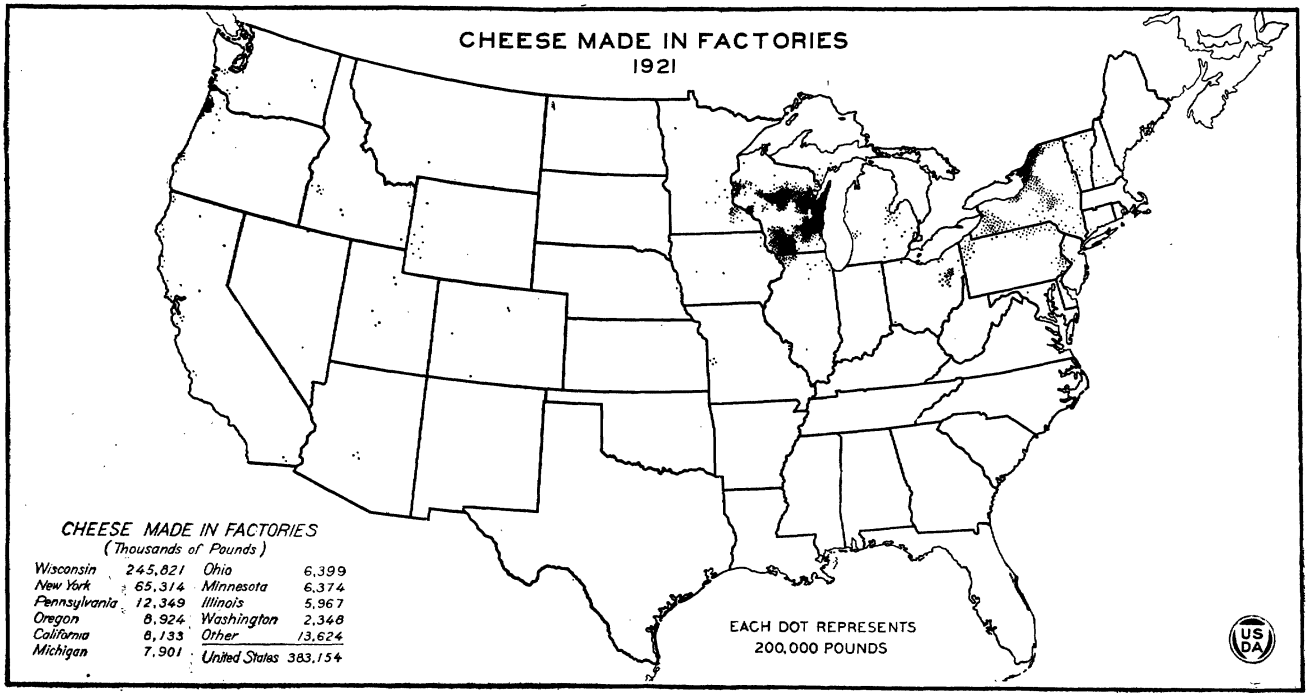


FIG. 31.—Practically all the cheese is now made in factories, only 6,000,000 pounds in 1919, or less than 2 per cent of the total production of the United States, being made on farms. About two-thirds of the cheese is made in Wisconsin, and half of the remainder in New York. Cheese production has developed in those parts of Wisconsin and New York having less than 150 days in the growing season, except along the lake shores, and in the central, sandy portion of Wisconsin, which has poor pastures. The short, cool season favors summer pasture and cheese production, just as silage, winter dairying, butter making, skim milk, hogs, and corn complete the economic cycle in the warmer belt to the South.

States had not recovered, but in some of the Western States the number of cows had increased very rapidly in the short period following the war.

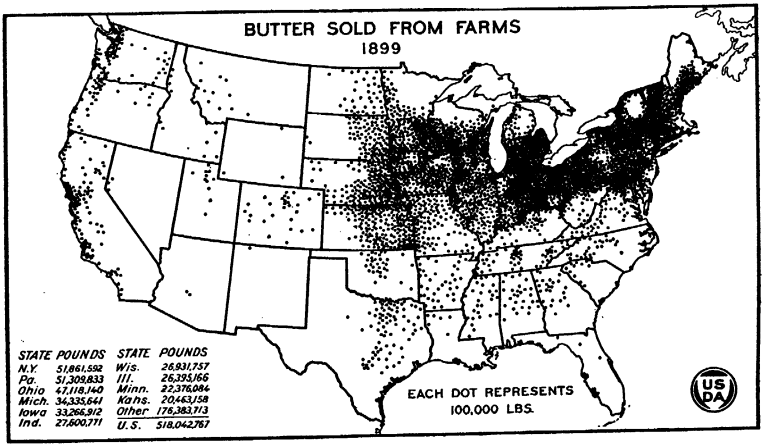


FIG. 32.—This map marks well the areas of commercial dairying. In the South as a rule cows were kept only to supply home needs. Much of the butter and all of the cheese consumed in the South was produced in the North. The farm production of butter for market in 1899 was in the hay and pasture region of the northeastern and Lake States, with a less dense production in the Corn Belt.

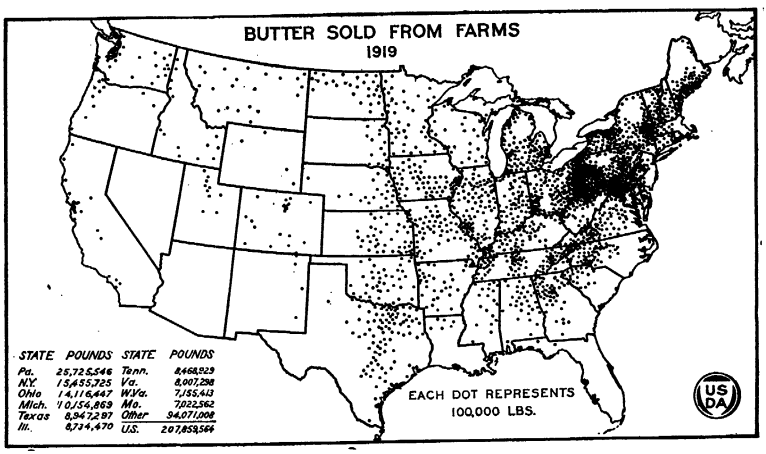


FIG. 33.—Most of the butter now used in the United States is made in factories. Farm production persists to some extent in hilly and mountainous regions in the East. West of Ohio factory production is general, except in occasional small areas. Wherever topography is very rough and cows are not numerous, gathering milk or cream for a factory may not be feasible.

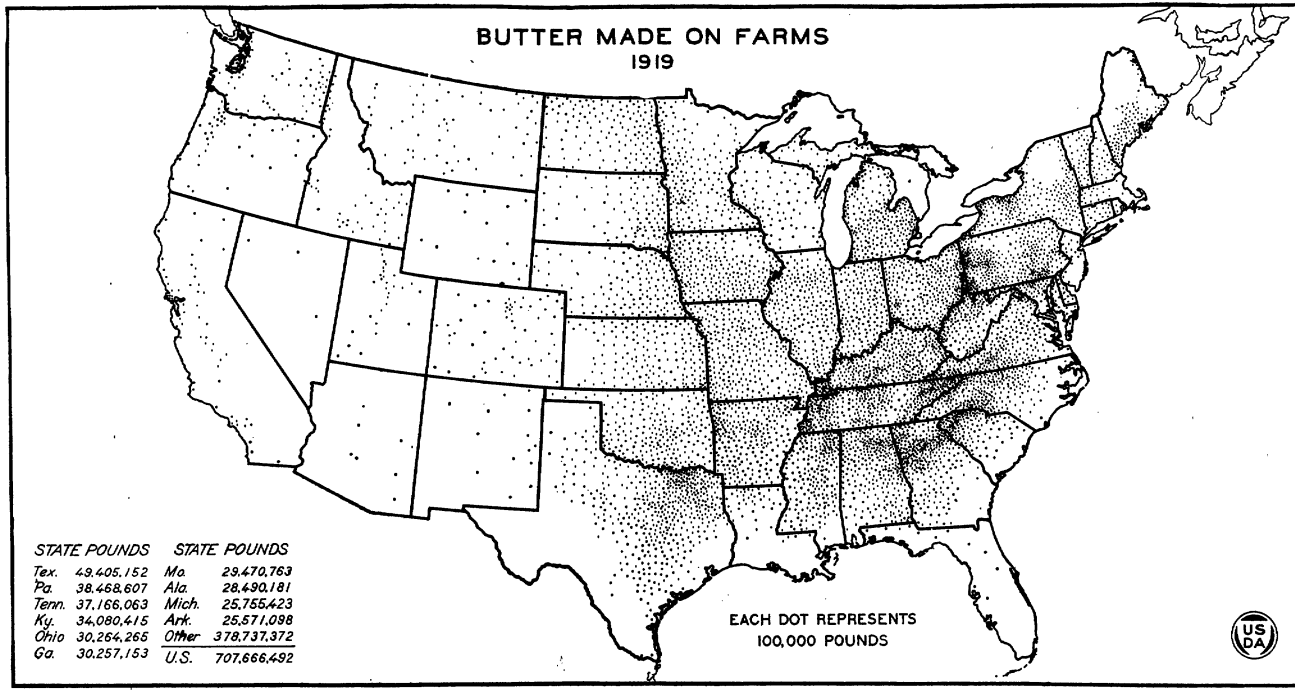


FIG. 34.—Butter made on farms in 1919 constituted 43 per cent of the total production of 1,646,171,874 pounds reported by the census. The areas of densest production of farm butter, it will be noted, are (1) the Piedmont Plateau, extending from eastern Pennsylvania to Alabama; (2) the Tennessee River Valley of northern Alabama and eastern Tennessee; (3) the upper Ohio River basin; (4) the western portion of Kentucky and Tennessee; and (5) the northeastern portion of Texas. It is notable how little butter is made on farms in Wisconsin and Minnesota, where the factory system is well developed. Over half of the farms in the United States made butter in 1919, but less than one-third of the butter made was sold. Most of this farm butter sold was consumed in the locality where it was produced.

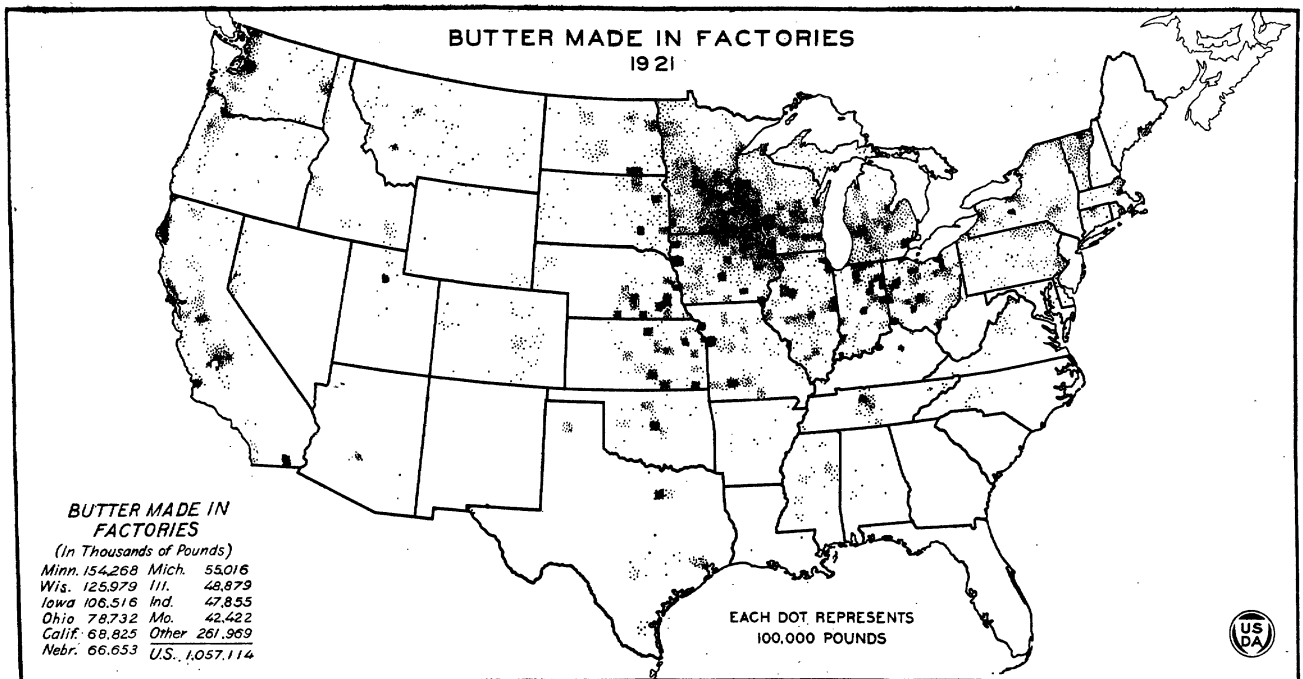


FIG. 35.—Most of the factory butter is made in the hay and pasture region, especially in the western portion, in the Corn Belt, and in the Pacific Coast Regions. The spotted character of the map, especially in the Corn Belt, indicates the concentration of butter-making in a relatively few cities to which the cream is shipped from the farms. Whereas only half as much butter was sold by the farmers of the United States in 1919 as in 1909, the amount of butter fat sold increased 74 per cent and of cream sold 50 per cent.

The 20 years 1870–1890 was a period of rapid development in the dairy industry in the United States. Scientific methods were being applied to all branches of dairying. The use of the thermometer became general. The centrifugal separator was invented in Sweden and brought to the United States in 1882. Large numbers of dairy organizations were started. The Babcock test for measuring the quantity of fat in milk was given to the world in 1890. Silos were first con-

NUMBER OF DAIRY COWS IN RELATION TO NUMBER OF PEOPLE, 1850–1920.

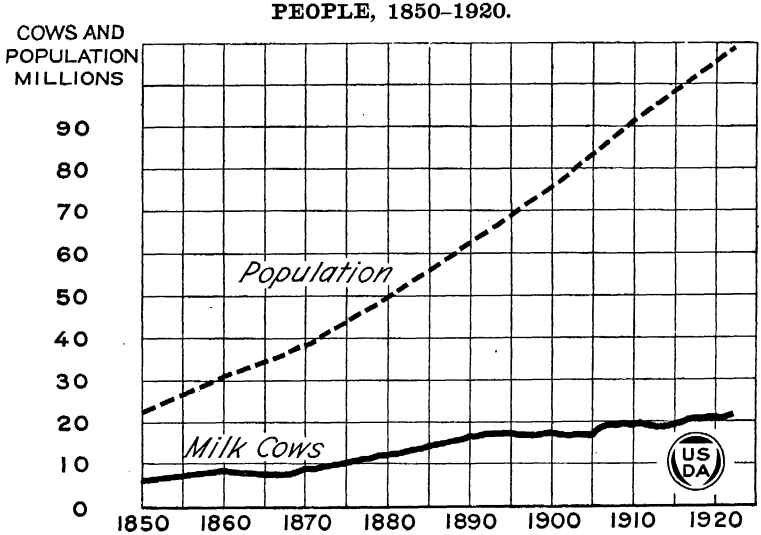


FIG. 36.—In 1850 there were about 6,400,000 dairy cows, and in 1920 there were 23,722,000 dairy cows. In 1850 the population was 23,200,000 while in 1920 it was 105,710,000. In 1850 there were 275 cows per 1,000 population, while in 1920 there were only 215 per 1,000 persons.

structed in 1873 in the United States and the refrigerator cars first used in 1875.

It is the only period of any great duration when the number of cows has increased in proportion to the population. In the 20 years the number of cows in the country doubled. In 1870 there were 231 dairy cows per 1,000 people. This ratio increased until 1890 when there were 262 dairy cows per 1,000 persons. Since that time, however, the ratio has become wider. Dairying largely displaced wheat growing in northern Illinois and Wisconsin, in eastern and northern Iowa, and began to encroach upon the wheat growing in southeastern Minnesota.

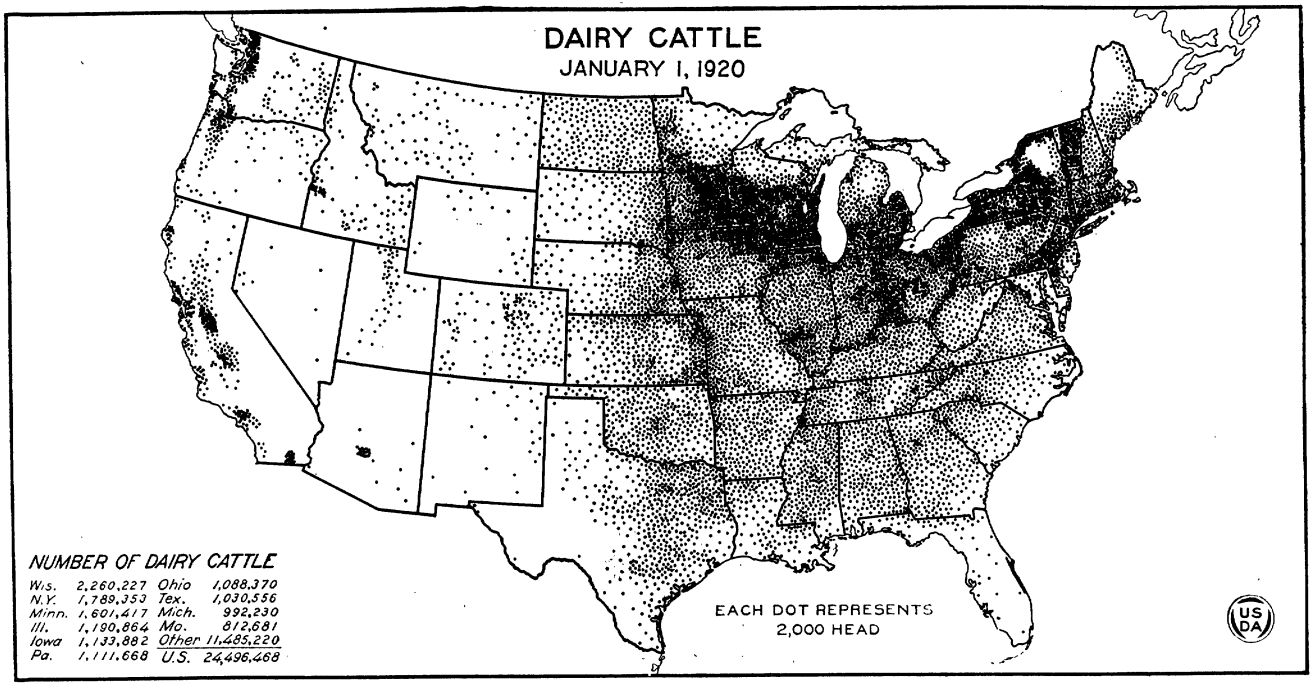


FIG. 37.—Distribution of dairy cattle in the United States in 1920. Each dot represents 2,000 head. Nearly half the dairy cattle are in the hay and pasture region and the adjacent northern and eastern margin of the Corn Belt. Nine-tenths of the dairy cattle are in the East.

At this point it may be noted that the westward movement from New England to Iowa has followed a course just north of the most important winter-wheat producing areas and along the northern border of the great Corn Belt. This is the zone in which corn frequently does not mature before frost, in which winter wheat frequently freezes out, and in which spring-sown wheat is very susceptible to rust and for other reasons does not yield well. The climate of this belt or zone is well suited to dairying. Consequently, dairying fits admirably into the agriculture of this region.

Although the great expansion of the industry has been west of the Alleghany Mountains, the East also has con-

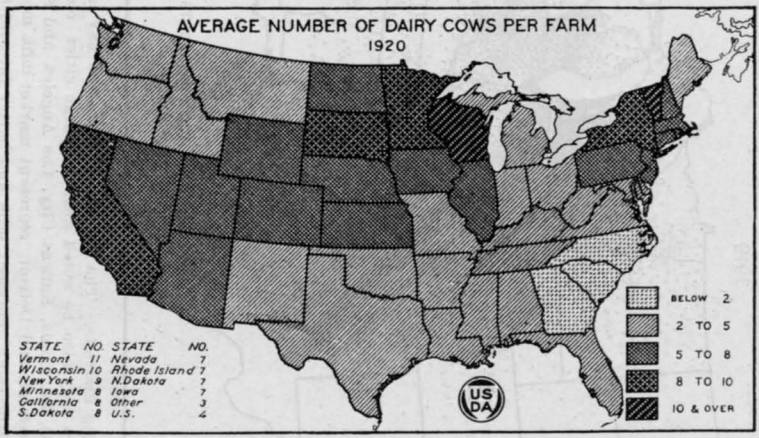


FIG. 38.—The average number of dairy cows per farm varies greatly. Wisconsin has 13.6 per farm, Vermont 11.3 per farm, followed by New York with 8.9, Minnesota 8.3, California and South Dakota each with 7.6. The average decreases to 1.6 per farm in South Carolina.

tinued to develop. The East not only has increased the number of cows but has made great progress also in improving the quality of the dairy herds.

During the last years of the century—that is, from 1895 to 1900—the hand separator was the oustanding factor in dairy development. These were small machines for removing the cream from fresh milk, and were bought by farmers who skimmed the cream and delivered it to the creameries instead of delivering the whole milk, or gravity cream, as had been the practice. Hand-separator cream

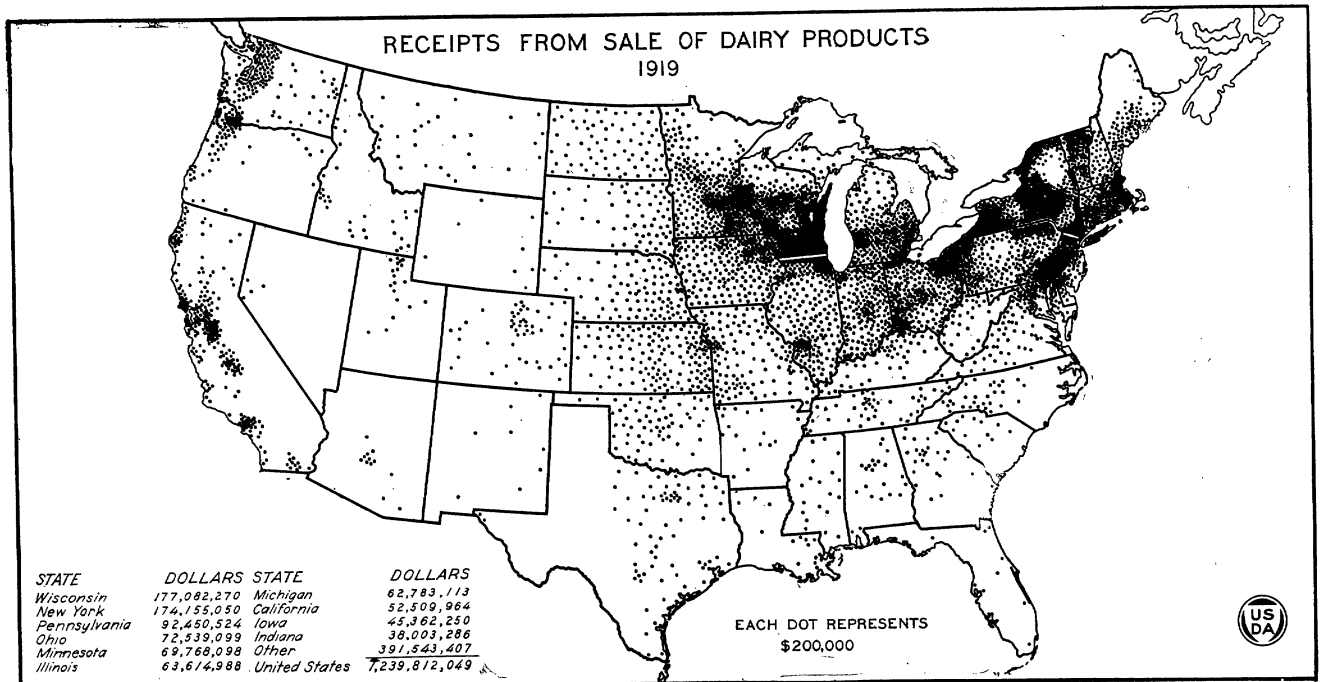


FIG. 39.—This map shows the commercial dairying districts. The concentration in the hay and pasture region is much greater than that of dairy cattle. Commercial dairy centers may also be noted near the large cities outside this region, notably Philadelphia, Baltimore, Washington, Cincinnati, Indianapolis, St. Louis, Kansas City, Los Angeles, and San Francisco. These, as also the centers adjoining New York City, Boston, Buffalo, Cleveland, and Detroit, represent market milk mostly; while the larger districts in central and northern New York, in Wisconsin, and in Minnesota represent milk and butter fat sold to creameries and cheese factories largely. The value of dairy products consumed on the farm is estimated by the census at about $240,000,000.

could be shipped long distances by railroad. This gave the opportunity for the growth of the centralizer system, which consists of a large central plant to which the cream is shipped and churned into butter. The system gave opportunity to the sparsely settled districts where there was not sufficient cream to support a creamery.

Although ice cream was served to George Washington, the twentieth century marks the great expansion in factory production of ice cream. The milking machine was invented earlier but its perfection and widespread use came in the second decade of the twentieth century. The first bull association was established in 1908.

The Production of Dairy Cattle.

Efficiency of Dairy Cattle.

The efficient dairy herd must be composed of high-producing cows. Large yields of milk and butter fat per cow are therefore the aim of most dairymen and also of most

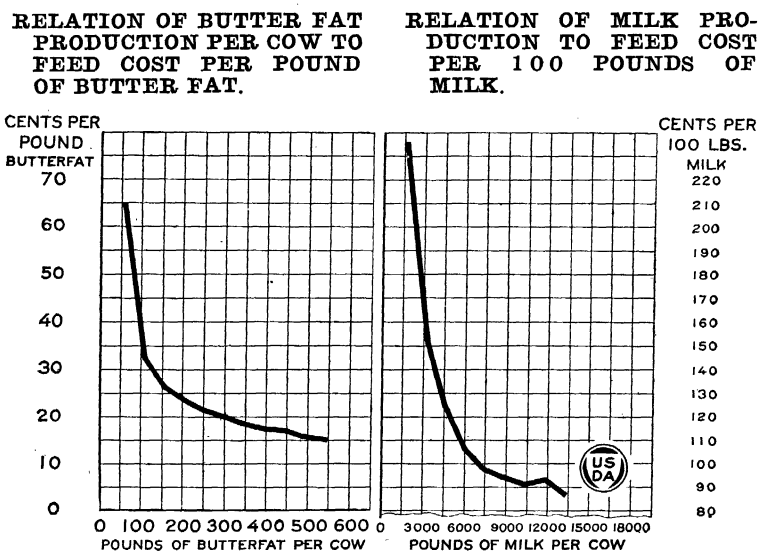


FIG. 40.—The first part of the chart shows a rapid decrease in the feed cost per pound of butter fat as butter fat production per cow increased from 100 pounds to 500 pounds. The second part of the chart shows a rapid decrease in the feed cost per 100 pounds of milk as the milk production per cow increased from 3,000 pounds to 13,500 pounds. In both cases the greatest saving in feed cost occurred as production advanced from a low average to a medium average per cow. Based on 18,014 cow-testing association records of butter-fat production and 3,220 records of milk production.

breeders of dairy cattle, because it is self-evident that the income from a dairy depends ultimately on the earning capacity of the individual cows in the herd.

A study of yearly butter fat and income records of 18,014 cow-testing association cows for the period 1910 to 1920 showed a rapid and almost uniform increase in income over cost of feed as production increased. For every breed and for every age of every breed, high production, when large groups were considered, was always accompanied by large average income over cost of feed.

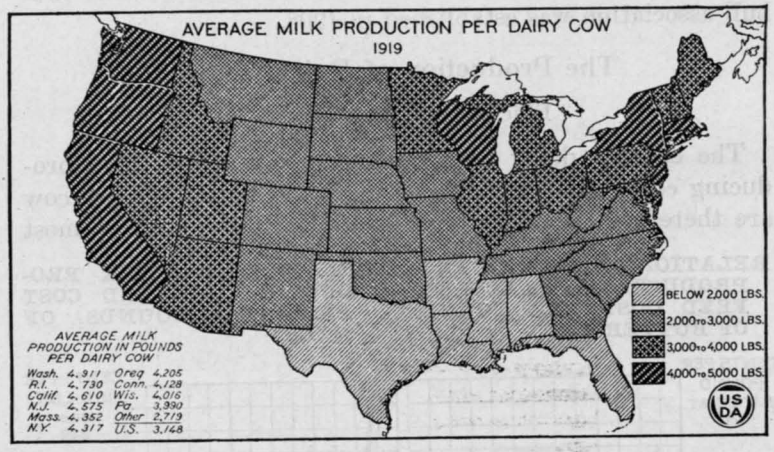


FIG. 41.—The above chart shows the average milk production per dairy cow for each State in the Union in 1919. The average production per cow is very low in the Gulf States and Arkansas and high in the Pacific Coast States, in Wisconsin, in New York, New Jersey, and southern New England.

These records showed that the cows giving 100 pounds of butter fat a year produced an average income for the farmer above feed cost of about $10; at 200 pounds of butter fat a year the income above feed cost averaged about $42; at 300 pounds a year the income averaged about $72; and at 400 pounds of butter fat the average income was about $106 a year per cow. While the cows in the last class averaged four times as much in production as those in the first, they gave an average income over cost of feed that was more than ten times as great. A tabulation of the records of dairy cows from those districts where the product was sold as whole milk showed similar results. In all cases

the high-producing groups were the profitable producers from the standpoint of income over cost of feed.

The groups of high-producing cows were also the groups that produced milk and butter fat economically from the standpoint of cost of feed per pound of butter fat or per 100 pounds of milk.

As production increased from the lowest-producing to the highest-producing groups, the feed cost per unit of production went down, rapidly at first but more slowly as produc-

AVERAGE MILK PRODUCTION PER COW IN DIFFERENT COUNTRIES.

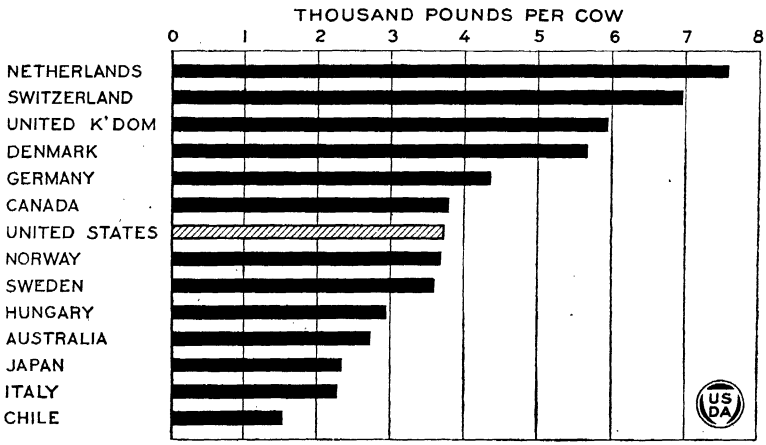


FIG. 42.—The milk-production figures upon which the above chart is based are those nearest to 1914 that are available; they are not all for the same year. The United States stands seventh in the list in average production per cow, our production being only about one-half what it is in the Netherlands. The production of milk in the United States can be greatly increased without increasing the number of dairy cattle.

tion reached a high average. In the economical production of milk and butter fat, the largest gains are to be obtained through the culling out of those cows that produce less than 4,000 pounds of milk containing less than 160 pounds of butter fat.

It has been estimated that the average dairy cow in this country produces yearly about 4,000 pounds of milk containing about 160 pounds of butter fat. Selection, feeding, and breeding could double this low average. With double the present average production, fewer cows would furnish the present supply of dairy products at much less cost.

The income over cost of feed is one of the best measures of a cow's efficiency, and the cows that averaged 400 pounds of butter fat a year had about two and one-half times the income over cost of feed per cow as those that produced only half that much. All studies that have been made of dairy cattle indicate that where other things are equal the economical producers are always comparatively high producers.

Breeding Dairy Cattle.

How to breed to insure the getting of calves that when grown to maturity will be economical and profitable producers is a most important problem. The thought given to breeding by many farmers is limited to seeing that their cows freshen regularly, thus regulating the flow of milk; and while the continuous and regular breeding of the herd is an economic necessity, it does not solve the problem of the producing ability of the next generation. In most cases the producing capacity of the next generation is dependent on the ability of the sire to transmit uniformly high production to his daughters.

Grade bulls, whose dams were the best cows in their respective herds and whose sires were chosen on the same basis as themselves, still head many dairy herds. Once in a while a grade bull chosen in this manner may sire some very good animals, but as a rule, because of the number of poor-producing ancestors in his pedigree the chances are against his being able to improve the producing ability of the herd. It is because of this lack of uniformity of producing ability in the hereditary make-up of the ancestry of the grade bull that he is likely not to prove prepotent in transmitting uniformly high milk and butter-fat-producing capacity. And it is because of the likelihood of there being greater and more uniform excellence in the hereditary make-up of the pure-bred bull that he is more likely to prove prepotent in improving the producing ability of the next generation.

Nor can we depend absolutely on the pure-bred bull proving prepotent. The pure bred is more likely to be prepotent than the grade, but there are a great many poor pure breds, and so careful selection must be made within the pure breds. Even with the best and most careful selection there are many

disappointments, indicating the great care and time required in breeding before the hereditary streams become pure for any one characteristic, such as producing ability.

In the selection of young bulls in the past a great deal of weight has been given to the record of the dam. Perhaps more emphasis has been put on the record of the dam than on any other, or probably all other considerations; and it is natural that this should be so, for the fact that a cow is a great producer must indicate that in her hereditary make-up she must have at least a part of the factors that determine high production. It would seem, unfortunately, that the dam's high-producing ability does not necessarily indicate, however, that she does not have any of the factors that determine low production in her hereditary make-up; and that if these factors determining low-producing ability are present in the make-up of the high-producing cow she will probably transmit low-producing ability to a part of her offspring. While it does not seem possible to determine the hereditary make-up of the cow on her production record alone, it is probable, in the case of a sire that has had a considerable number of daughters that have proved to be uniformly high producers, that the hereditary make-up is pretty nearly pure for the factors governing high production. It is the discovery and use of such prepotent sires that constitutes the most important and the surest steps in breeding progress.

If it is necessary to select a young, untried bull, the safest course is to select a son of a tried prepotent sire out of a dam with a good record, and who was also a daughter of a tried prepotent sire. This practice of the widest use of these prepotent sires and their progeny, which have proved by their breeding performance that they have in their hereditary make-up only the factors that govern high production, appears to be more important than all other theories of breeding, such as the mating of closely or fairly closely related animals. One of the most important principles in breeding is that the breeding performance of an individual depends entirely upon the combination of factors it received from its parents, and through them from its ancestry, at the time of conception. If, for milk- and butter-fat producing ability, it happened to receive all factors that will determine

low production, then it will transmit low production to its offspring, regardless of the number of great-producing ancestors it may have.

Pure-bred Dairy Cattle.

There were 916,602 head of registered pure-bred cattle of the dairy breeds in the United States in 1920. Of these pure-bred dairy cattle, 57.7 per cent were Holstein-Friesians, 25.3 per cent were Jerseys, 8.7 per cent were Guernseys, 3.3 per cent were Ayrshires, 0.9 per cent were Brown Swiss, and

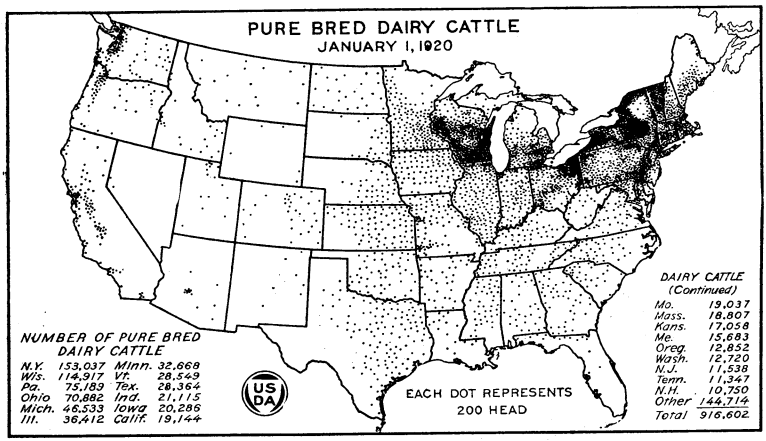


FIG. 43.—Pure-bred dairy cattle are found in greatest numbers in the Northern and Northeastern States, but they are gaining rapidly in the Central, Southern, and Pacific Coast States, and are also to be found on most of the irrigated projects in the Rocky Mountain States. Pure-bred dairy cattle are widely distributed over the United States, as shown by the geographical location of the 12 States having the greatest numbers, with New York first, Wisconsin second, Texas ninth, and California twelfth. Outside of Texas, more pure-bred dairy cattle are found in Tennessee than in any other Southern State.

4.1 per cent were classed as "all other breeds," with an explanation stating that this "includes animals reported as pure bred, with breed not specified."

These 916,602 pure breds constitute only 2.92 per cent of the 31,364,459 dairy cattle reported on farms in 1920. These pure-bred dairy cattle are widely distributed over the United States, there being but very few States that do not have representatives of all of the five breeds. There would be a tremendous economic gain to the dairy industry if more of our grade dairy cattle could be replaced by pure breds. The

scrub and grade dairy cattle are, however, being gradually but slowly improved by the use of pure-bred bulls. Only

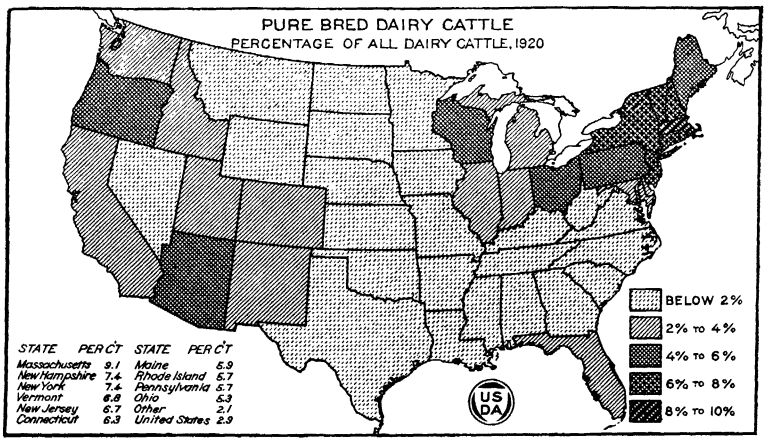


FIG. 44.—Only one State (Massachusetts) has more than 8 per cent of her dairy cattle pure bred. New York, Vermont, New Hampshire, Connecticut, and New Jersey have more than 6 per cent but less than 8 per cent, while Rhode Island, Pennsylvania, Ohio, Wisconsin, Oregon, Maine, and Arizona have more than 4 per cent but less than 6 per cent. About 58 per cent of the registered dairy cattle in the United States are Holstein-Friesians, 25 per cent are Jerseys, 9 per cent are Guernseys, 3 per cent are Ayrshires, and 1 per cent are Brown Swiss, the remainder being unspecified.

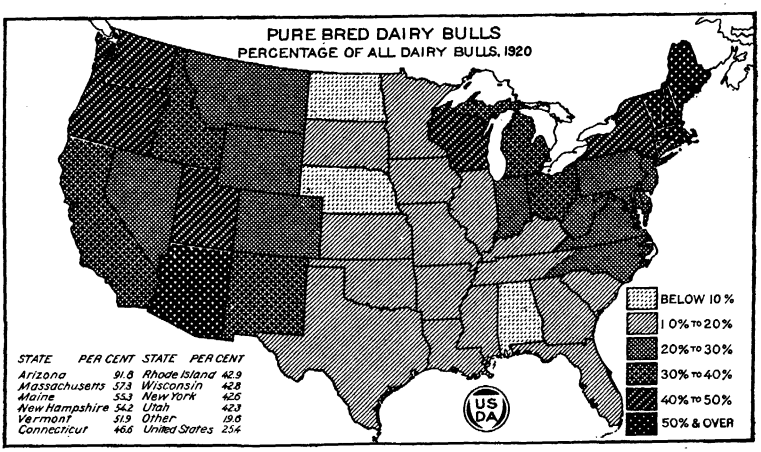


FIG. 45.—Maine, New Hampshire, Vermont, Massachusetts, and Arizona have more than 50 per cent of their dairy bulls pure bred. New York, Connecticut, Rhode Island, Wisconsin, Utah, Oregon, and Washington have 40 to 50 per cent. For the most part those States with the largest percentage of their dairy cattle pure bred have the largest percentage of their dairy bulls pure bred, and also have the largest average production of milk and butter fat per cow.

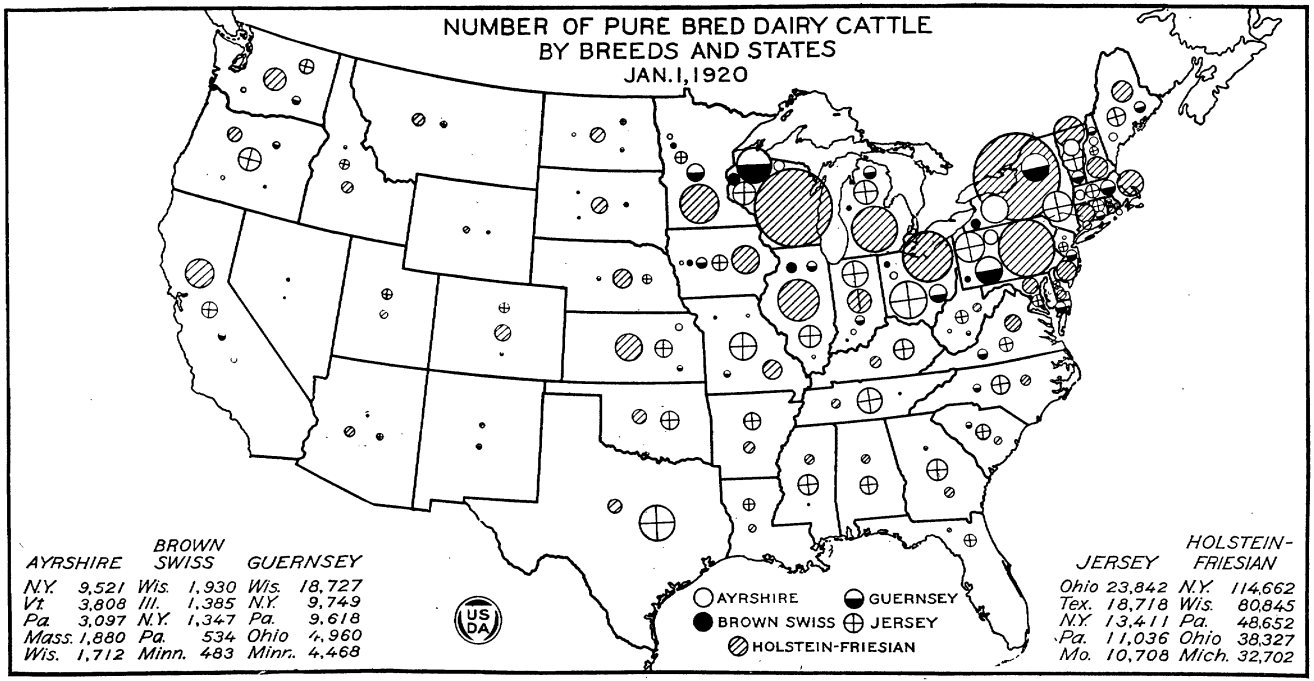


FIG. 46.—The Jersey breed predominates in the Southern States and the Holstein-Friesian breed in the Northern States. The total numbers by breeds are as follows: Ayrshires, 30,509; Brown Swiss, 8,283; Guernseys, 79,446; Holstein-Friesians, 528,621; Jerseys, 231,834; and all other breeds, 37,909, making a total of 916,602 pure-bred dairy cattle.

about 25 per cent of the dairy bulls 1 year old or over are pure bred. The fact that 75 per cent of the dairy bulls in use are either grades or scrubs—in either case bulls from ancestry that has not been bred generation after generation for large and economical production of milk and butter fat—accounts for the low average production per cow in this country.

In 1921 there were less than 80,000 pure-bred bull calves registered by the breed associations. But this probably does

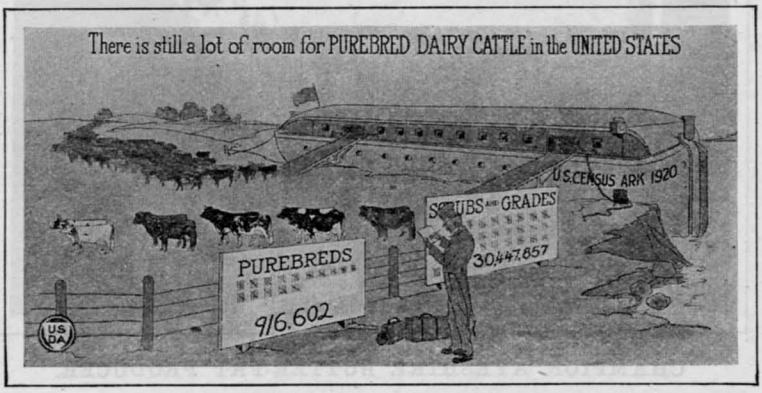
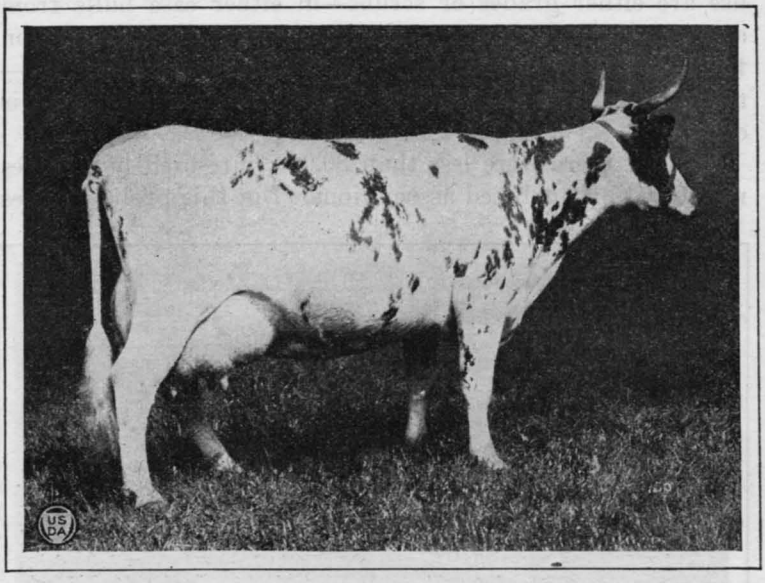


FIG. 47.—The census of 1920 showed that while there were 31,364,459 total dairy cattle, only 916,602, or less than 3 per cent, were pure bred (registered).

not represent half the pure-bred bulls born in 1921. The 80,000 or more that were not registered, in addition to a part of those that were registered, were probably slaughtered because their breeders were not able to market them profitably. This is because the average farmer is not yet convinced of the advantages to be derived from the use of pure-bred sires. If every pure-bred bull calf born in this country were raised, it would take a three or four years' crop of calves to replace the grade and scrub bulls (which number approximately 600,000) that are being used in dairy herds. When it is considered that not all pure-bred calves are worthy of being used, even on grade herds, and allowance is made for the normal death rate and other factors that enter to cut down the number of pure-bred bulls raised, the above estimate of a three- or four-year crop of bulls could safely be

increased to a five- or six-year output of pure-bred bulls that would be required to replace the scrub bulls.



CHAMPION AYRSHIRE BUTTER-FAT PRODUCER.

FIG. 48.—The first champion producer of the Ayrshire breed was Rena Myrtle, who made a record in 1896 of 12,172 pounds of milk and 467.9 pounds of butter fat. Lily of Willowmoor, whose picture is shown above, now holds the record for butter fat production. Her record was made in 1914, when she produced in 365 days 22,596 pounds of milk and 955.56 pounds of butter fat. This record had not been exceeded up to December 1, 1922.

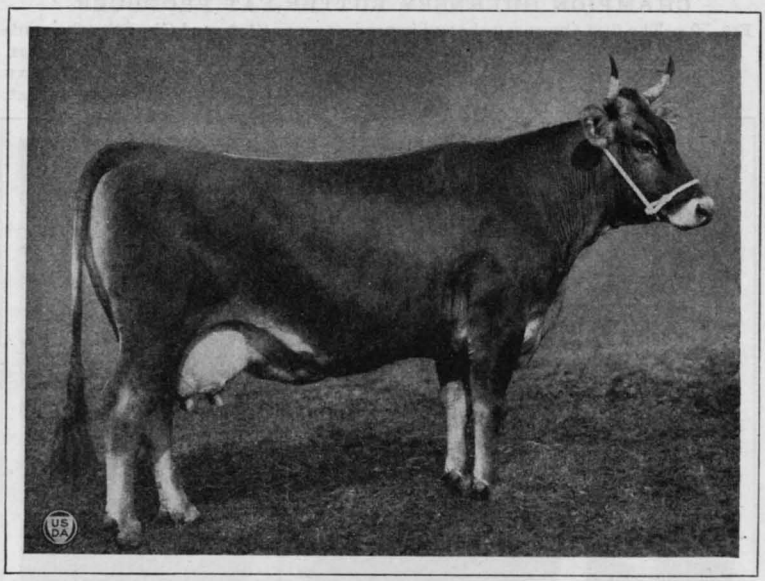
Those States that have the largest average milk yield per cow also have the largest percentage of pure-bred dairy cattle and the largest percentage of pure-bred bulls. The group of States in which the average production per cow was 4,427 pounds had 5.5 per cent of their dairy cattle pure bred and 42.5 per cent of their dairy bulls pure bred, while those States in which the average production per cow was 1,606 pounds had but 1.4 per cent of their dairy cattle pure bred and only 12.6 per cent of their dairy bulls pure bred.

There is opportunity for breeders of pure-bred dairy cattle. With only about 3 per cent of our dairy cattle pure bred, and even with an increasing interest in pure breds, a long time will be required to get a large proportion of our dairy cattle pure bred. As the number of breeders of pure-

bred cattle increase, the competition and demand for the better class of pure breds will increase proportionately. The fact that the breeder of dairy cattle can definitely measure his success by the increase in milk production makes the breeding of dairy cattle most fascinating.

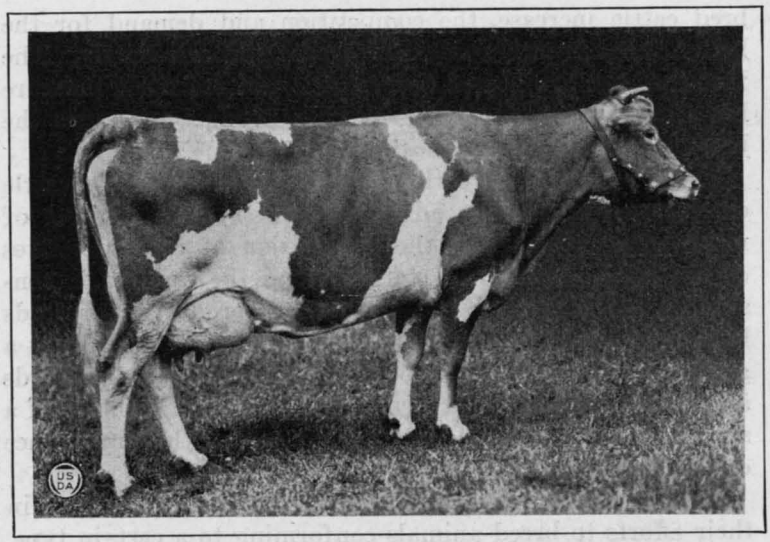
There are now more than 10,000 pure-bred dairy cattle on yearly test for the advanced registry and register of merit—conducted under the supervision of representatives of the State experiment stations—and the number is constantly increasing. Some wonderful production records have been made by individuals of each breed. There is a growing interest in the production records of entire herds and especially in the performance of all the daughters of a sire, because of the greater appreciation of the importance of the prepotent sire.

However, there is danger that dairy-cattle breeders, in their efforts to breed animals conforming to a certain type,



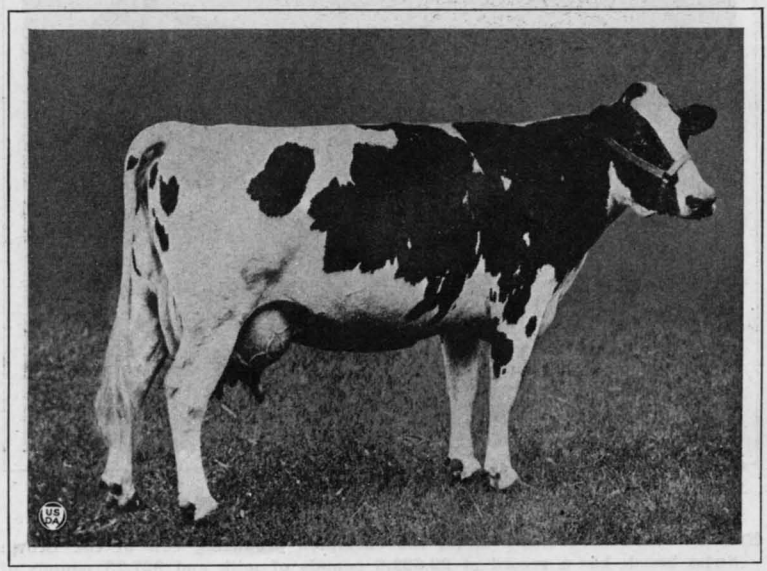
CHAMPION BROWN SWISS BUTTER-FAT PRODUCER.

FIG. 49.—Hawthorn Dairy Maid, the champion producing cow of the Brown Swiss breed, has a record of 22,622.6 pounds of milk and 927.23 pounds of butter fat. The record was completed in 1922, and had not been exceeded up to December 1, 1922. This cow was also second in the aged-cow class at the National Dairy Show in 1922, when judged on conformation and appearance and not on production.



CHAMPION GUERNSEY BUTTER-FAT PRODUCER.

FIG. 50.—The first Guernsey champion producer was Glenwood Girl 6th, who made a record in 1901 of 12,187.33 pounds of milk and 572.3 pounds of butter fat. The present champion producer is Countess Prue, whose picture is shown above. Her record is 18,626.9 pounds of milk and 1,103.28 pounds of butter fat.



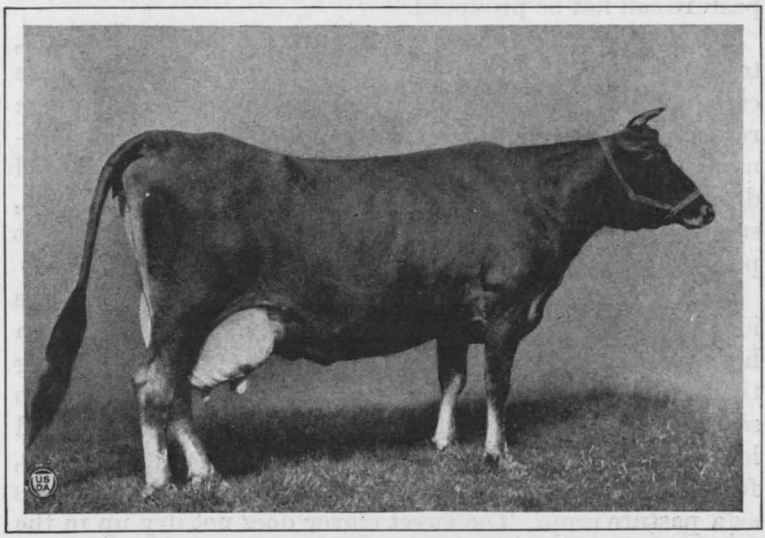
CHAMPION HOLSTEIN-FRIESIAN BUTTER-FAT PRODUCER.

FIG. 51.—The first champion producing Holstein cow whose record was made under the supervision of an experiment station and by the Babcock test was Belle Sarcastic, who made a record in 1897 of 23,189.6 pounds of milk and 721.68 pounds of butter fat. The present champion is Duchess Skylark Ormsby, whose picture is shown above. Her record, made in 1915, is 27,761 pounds of milk and 1,205.09 pounds of butter fat.

may forget the real goal of dairy-cattle breeding, which is large and economical milk and butter-fat-producing ability. On the whole, dairy-cattle breeding is on a sounder, saner basis than ever before; and with the responsibility of the improvement of 97.1 per cent of our dairy cattle resting on 2.9 per cent it is important that our dairy-cattle breeders use every possible means to supply only the best of breeding stock.

Feeding Dairy Cattle.

The dairyman's success in production depends largely upon three factors—the man, the feed, and the cow. As a



CHAMPION JERSEY BUTTER-FAT PRODUCER.

FIG. 52.—The first Jersey cow to make a world's record under Register of Merit regulations and by the Babcock test was Dolly's Valentine, who in 1899 produced 10,218.3 pounds of milk and 578.7 pounds of butter fat. The present champion is Lad's Iota, whose picture is shown above, and who produced 18,632 pounds of milk and 1,048.07 pounds of butter fat. The record was made in 1922, and had not been exceeded up to December 1, 1922.

grower of feeds he must produce suitable crops at a cost which will furnish food nutrients for less than they can be purchased. As a dairyman, he must select suitable feeds that will furnish the nutrients at the lowest cost, and so balance the ration as to provide the cow with the different

nutrients in the right form and quantity. The ability of the cow to handle a large quantity of feed and to turn it into milk is equally important.

In most sections the cheapest of all feed is pasture, because it furnishes a balanced ration at low cost, and because the cow does her own harvesting. In general, pasture does not produce so much feed to the acre as forage crops, especially alfalfa and corn, but the cost of production as regards labor is less than that of crops harvested. A great variety of plants may be used for pasture, and aside from the mountainous and arid regions of the West there is probably no section of considerable size in the United States where good pasture can not be produced.

Pasture is often located on that part of the farm too wet, too stony, or too rough for other purposes. It has to take care of itself. Fertilizer is used elsewhere. For these reasons the carrying capacity is usually far from the maximum. In late summer the pastures often become short and dry and are not sufficiently supplemented with other green, succulent forage. In comparatively few cases is the fullest possible use made of pastures.

Because of the low returns from the ordinary pasture, the idea has become rather prevalent that the use of pasture on high-priced land is not advisable. Instead of improving the pastures, the dairyman in many instances has turned to soiling or silage for summer feeding. The price of land and labor largely determine the practice to follow. In Illinois, for instance, sweet clover is taking the place of blue grass as a pasture crop. The sweet clover does not dry up in the summer, and it is possible to keep two cows instead of one to the acre throughout the season. Probably there is no section of the humid part of the country where the native grasses can not be improved upon either by supplementing or by substituting other grasses and clovers.

For winter feeding, leguminous hay of some sort should be raised in most localities, first, because it supplies the protein and minerals so indispensable to continuous milk production, and, secondly, because it enriches the soil. Of all the hays, alfalfa must be accorded first rank. It is more palatable, more efficient as a producer of milk, and will

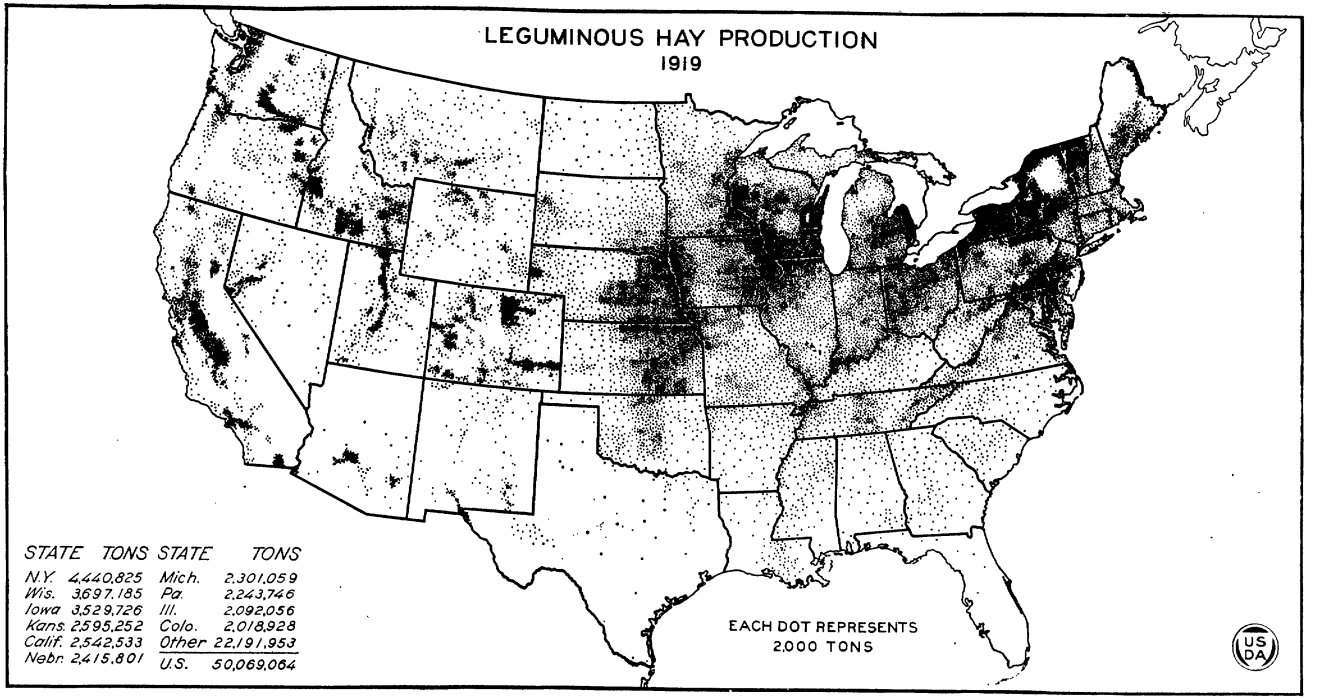


FIG. 53.—Leguminous hays are splendid feed for dairy animals, and where they can be grown successfully are replacing other hays. West of the Missouri River the leguminous hay is almost wholly alfalfa, east of the Missouri and north of the Cotton Belt it is mostly timothy and clover mixed and clover alone. Clover includes red, alsike, and crimson clover and several other legumes of less importance. The scattered dots in the Cotton Belt represent mostly cowpeas and soybeans cut for hay, and lespedeza.

usually yield much more to the acre. Of the common legumes red clover must be ranked second in importance as a milk producer. Of the annual legumes, soy beans seem to make a better hay than cowpeas. The proportion of leaves and seed, the most valuable parts of the plant, is greater and the plant is more easily cured. Cowpeas yield about the same as soy beans. In harvesting they lose their leaves so readily that the hay is often stemmy.

Silage is one of our best feeds. Corn makes the most palatable silage and is one of our heaviest yielders of food nutrients. Putting it into the silo enables it to be more completely utilized than harvesting in any other way. Where corn can be grown successfully, there is no need to look further for a silage crop. In certain regions where corn will not do well sunflowers have been used with good results, also oats and vetch. Silage is very palatable and its succulent nature is thought to be of benefit to the cow. It appears that in many instances the heavy-producing cows are fed so much silage as to limit the quantity of hay consumed to a point below the needs of the cow.

In addition to roughage cows need some concentrated feed, as it is impossible for them to consume sufficient rough feed to produce a maximum flow of milk. Dairymen can often raise corn or barley, oats, and sometimes soy beans, and thus materially reduce their expenditures for the purchase of feed.

The old advice of 1 pound of grain to 3 pounds of milk testing 4 per cent fat, a little less for thinner milk, a little more for richer milk, and all the hay and silage the cow will eat, still holds good in most localities. In this connection it should be remembered that the higher the selling price of milk, the more liberally a cow can be fed grain with profit.

As the legume hays are rich in lime it is advised that at least 1 pound of hay be supplied for each 4 pounds of milk, with a minimum of 6 pounds to the cow per day.

Cows in milk may be likened to work horses. It is not economical to keep a cow too fat and it is equally unprofitable to permit her to get too thin; but she should be kept in good working condition.

New Discoveries in Feeding.

Experiments in nutrition in the last few years have resulted in the discovery of new principles in nutrition, many of which are important in the proper feeding of dairy cattle. It has been found that an adequate diet must contain certain mineral ingredients and certain organic compounds whose exact chemical nature is still unknown, and which have been called vitamins. It is quite possible to make up a diet from ordinary feedstuffs which will contain sufficient protein and energy, and yet be deficient in either minerals or vitamins or both.

There is every reason for believing that the whole subject of feeding for the maintenance of high milk yields can be very much simplified as compared to the systems of feeding now practiced, and also great economies introduced into feeding practices, by a systematic study of the mineral and vitamin contents of dairy feeds and of the relation of these to milk production. It seems probable also that the mineral and vitamin contents of dairy feeds may be found to have an important bearing on the breeding vigor, or reproductive ability, of dairy cattle. These studies are under way and results of considerable practical importance have been obtained. It is not feasible to give a full account of these here, but as an example it has been shown that high-producing dairy cows suffer from a shortage of lime unless they are fed much larger amounts of legume hay than is customary in many parts of the country, and that there is a vitamin in fresh, green feed which will probably promote the assimilation of lime by milking animals. It has also been shown that there are differences in the values of protein for feeding dairy cows.

Dairy Sanitation.

In early days the population of the United States was essentially rural, and dairy products were produced close to the place of consumption. Most families kept cows, and those that did not secured milk from neighbors. As villages grew into cities milk production was forced farther away, while the consuming public became proportionately greater. When milk reached the consumer it was often

sour or spoiled, because methods of production were crude and transportation was slow. Furthermore, products manufactured from such milk were often of inferior grade. These occurrences naturally somewhat restricted the use of dairy products. Physicians also observed that only milk of high quality was satisfactory for use by infants and children.

The growing complexities of the situation brought out very forcibly the necessity of utilizing better methods of producing and distributing milk. Fortunately the science of bacteriology developed coincidently with this need. Bacteriorological studies pointed out the imperfections and indicated remedies.

At first progress was slow. Dairymen did not fully understand the importance of the new era, and investigators themselves often had to change their opinions as new facts came to light. When knowledge became more definite and widespread an understanding ensued which led to rapid improvements in sanitation.

The production of the first certified milk, in 1893, under the supervision of a medical commission, created an added interest in dairy sanitation. Further research work so clarified our knowledge of the subject that the fundamentals of sanitary milk production were established. These fundamentals protect the consumer to the fullest extent, at the same time entailing the minimum restriction on the dairyman.

The improvement of sanitary conditions on dairy farms has been amazing. Comfortable, sanitary stables are the rule rather than the exception; cattle diseases have been carefully studied and vigorously combated, efficient dairy machinery has been developed, and cleanly methods are widely applied.

The discovery that heat would kill harmful, disease-producing bacteria in milk led to the widespread application of pasteurization, in which process milk is heated to 145° F. and held at that temperature for at least 30 minutes. Pasteurization is one of the greatest safeguards of our modern milk supply. It has also greatly aided in the manufacture of dairy products of higher grade. The delivery of milk in sterilized bottles has eliminated many of the objectionable features of milk distribution.

The extension of refrigeration and transportation facilities has enabled the dairy farmer to ship milk greater distances and insure the manufacture of more satisfactory products. This improvement in quality has resulted in an increase in the consumption of dairy products, due to their uniformity, greater safety, and increased palatability.

These changes, together with modern sanitary practices, require a greater expenditure of money for equipment and additional labor. This is true not only of production but of transportation and distribution. Milk is now being shipped 400 to 500 miles, necessitating considerable expense for refrigeration and transportation. Upon reaching the city, this milk must be prepared, bottled, and delivered to the consumer's door in a sanitary manner. These things naturally add to the cost of milk, but the cost is not excessive when the service rendered and the factors of safety are considered.

Dairy farmers are realizing that the stability of the industry rests largely upon the economy and wholesomeness of high-grade milk and cream. This is shown by the rapid trend toward higher degrees of sanitation wherever dairy products are produced or handled.

Legal Control of Dairy Products.

Keeping step with the changes in methods of milk production, regulations for the control of dairy products have undergone evolution. The distribution of milk is largely of such a localized nature that the regulatory features of the Federal food and drugs act do not apply and, accordingly, milk for direct consumption is controlled, in a large part, by State laws and local ordinances. Many products made from milk have, however, been defined and standardized in the interest of purity, uniformity, and proper labeling.

In addition to sanitary requirements, the control of dairy products takes into account questions of butter-fat content, amount of moisture, degree of concentration in the case of evaporated and dried milks, processes and organisms used in the manufacture of various cheeses, together with a consideration of methods of handling and packaging.

Meat Production From Dairy Live Stock.

The production of meat, although considered in the dairy industry as secondary to milk production, is nevertheless a highly important factor in the dairy business. The quantity of meat from this source is a substantial and considerable part of the total production of the country and may be divided into two general classes, (1) the beef obtained from the discarded cows, bulls, and some heifers and steers of dairy breeding, and (2) the veal from the calves. About 17 per cent of the matured dairy animals are slaughtered each year. If this percentage is applied to the number of matured dairy cattle reported on farms by the last census, and the average live weights and dressing yields are used in calculating the beef production, the result shows about 1,502,450,000 pounds of carcass beef produced from dairy cattle during the year 1920. This quantity represents more than 23 per cent of the total beef production of the United States for that year. Probably 80 per cent of all the calves slaughtered are of dairy breeding. If this percentage is applied to the total number of calves slaughtered in 1920 and the resulting figure multiplied by the average live weight and dressing yields, the amount of veal produced by dairy calves is about 560,647,000 pounds for the year 1920.

The principal conditions which cause dairy cows to be discarded for milk-production purposes are: Old age, disease, physical defects, low milk yield, and sterility. Many old dairy cows and others that are unprofitable as milk producers are fattened for a short period and then sold for beef. When properly fed such cows make rapid gains, although the tendency is to accumulate fat externally and in the body cavities rather than to produce a well-marbled flesh. Such cows may be sold in the butcher grades but a large proportion properly belong in the cutter class. Such cutter animals furnish loins, ribs, and perhaps some other cuts, which are sold in the retail market trade or to the cheaper class of hotels and restaurants. A small proportion of dairy cows which, because of some physical defect or some other reason, are slaughtered at an early age produce good cow beef. The cows which are marketed direct from the dairies in a thin, paunchy condition yield a very low dressing percentage and are placed in the canner class.

About 85 per cent of the cow carcasses are graded as common or lower, and the meat is used largely in the preparation of sausage and canned meat.

Bulls are usually discarded for dairy purposes because of old age, uncontrollable or vicious behavior, or because they are no longer desired for breeding purposes. They are seldom suitable for dressed beef, as the meat of old bulls is coarse grained, dark colored, and has practically no marbling. A large percentage of the rounds are cured and prepared as dried or smoked beef and the remaining portions of the carcasses used for sausage.

While the quality of the beef produced from mature cows and bulls is of lower grade, this is not necessarily true with respect to veal obtained from dairy calves. Probably 95 per cent of the male and 50 per cent of the female dairy calves are slaughtered as calves. Most of these animals, if properly handled and slaughtered while young, produce a high grade of veal. The veal obtained from such calves above the age of 2 months is seldom equal to that obtained from calves of the beef type, largely because of the narrow back, light loin, and small hind quarter.

A number of the bull calves are castrated and eventually are marketed as fat steers. Investigations show that steers of dairy breeding may be fed so as to make satisfactory gains and compare favorably with beef steers in this respect, but they are generally less desirable than beef steers because their increased weight does not appear in the region of the most desirable meat cuts such as the back, loin, and hind quarters. Although beef produced from dairy cattle is generally inferior in quality to that from cattle of the strictly beef breeds, it is produced as a by-product of the dairy industry and aids in supplying a large demand by those persons who can not afford to pay for the better quality of beef furnished by the well-fattened cattle of the beef breeds.

Since a large part of the animals of dairy origin which are slaughtered are old or may be more or less diseased it is eminently important that they be examined before slaughter and that a careful post-mortem inspection be made by persons qualified to conduct such inspections in order to eliminate carcasses and parts which are unsound, unhealthful, or otherwise unfit for human food.

Tuberculosis.

Animal tuberculosis is considered to be the most serious disease that confronts the American farmer. The eradication of tuberculosis is an important economic problem to the cattle owner and dairyman, as well as an important matter from the public health standpoint. The existence of the disease is responsible for heavy financial loss to the owners of infected herds and enormous losses are sustained through the condemnation of beef and pork on account of tuberculosis. The annual expenditure of the States and Nation in suppressing the disease amounts to about $7,000,000.

Improper housing and care are contributory causes of the spread of tuberculosis among cattle, but the most important factors in its dissemination are tuberculous cattle and milk fed raw to animals. The disease is usually slow in development. It is detected by the proper use of the tuberculin tests.

It is true that tuberculosis exists to but a very slight extent in many of the States, but in them the cattle owner is in danger of having his cattle become infected if he introduces cattle into his herd from outside sources without taking every precaution. The centers of infection in those slightly infected areas will, of course, become greater unless means are taken to check the disease. It is essential that any one in the business of raising or handling cattle of any sort, especially in the sections of the country where tuberculosis exists to any appreciable extent, take steps to eradicate the disease from his herd, if he has not already done so and to inform himself fully as to the precautions necessary to prevent the introduction of the disease into his herd.

With reference to the probable extent of bovine tuberculosis in the United States it is interesting to note that in 46.4 per cent of the total area, which area contains 41.2 per cent of all cattle in the United States, only 0.6 per cent of the cattle are believed to be tuberculous. The disease is believed not to exist to more than 10 per cent in but 5.5 per cent of the total area of the United States where 15.3 per cent of the cattle population is located.

The eradication of tuberculosis from cattle is largely a governmental problem, but the cooperation and support of the live-stock owners is necessary to make it a success.

Prior to 1917 considerable official and unofficial tuberculosis-eradication work was taken up in various parts of the country, but the cooperative campaign by the State and Federal Governments was not organized until 1917. The following table shows the tremendous gain in the cooperative work:

TABLE 2.—*Tuberculin testing of cattle, fiscal years 1917 to 1922.*

Year.	Herds tested.	Cattle tested.	Reactors found.	
			Number.	*Per cent.*
1917	.....	20,101	645	3.2
1918	.....	134,143	6,544	4.9
1919	.....	329,873	13,528	4.1
1920	40,348	700,670	28,709	4.1
1921	86,687	1,366,358	53,768	3.9
1922	195,220	2,384,236	82,569	3.5

This testing is voluntary on the part of the cattle owners in most instances; in fact, the Department of Agriculture on August 1, 1922, had a waiting list of approximately 64,700 farmers who desired to have their herds tested. There were on that date 227,050 herds containing 2,718,402 cattle under supervision, of which 17,017 herds and 384,395 cattle were accredited, and 175,413 herds containing 1,639,-407 cattle had passed one successful tuberculin test.

State indemnity partially reimbursing the owner for his reacting cattle is paid in all but six States. The Federal department also partially indemnifies owners of tuberculous cattle in those States which pay an equal amount.

The "accredited-herd plan" put into effect in December, 1917, has proved to be one of the important steps in the cooperative campaign. Out of it has grown what is known as the "area plan," which means the tuberculin testing of all cattle within a definite area or section of the country; usually a county is taken as a unit. The area project is becoming very popular, and the outlook for complete eradication of bovine tuberculosis is hopeful.

Eradication of Cattle Ticks.

Cattle ticks are a great hindrance to the development of the dairy industry in areas where the tick is found. So well known is this parasite and the damage it does that it is hardly necessary to explain that the tick is the carrier of the deadly disease variously known as Texas fever, tick fever, or splenetic fever, and murrain.

Without the tick there can be no fever, and hence the gigantic efforts to rid large areas of the United States from the ravages of this pest. The dipping vat and arsenical solution which is used in it for killing the ticks on cows is only a little less familiar than the ticks themselves. The method of dipping cattle through vats containing this solution has made it so practicable and feasible to rid cattle in whole areas of ticks that the possibility of accomplishing this great task is no longer in doubt.

Much evidence has accrued to show the increased value of live stock which has been freed of ticks, both in pounds of meat and gallons of milk produced; also numerous instances are constantly occurring in localities in every State where cattle ticks exist which show that the desire to engage in dairy farming is a strong incentive to tick eradication, and that the eradication of ticks makes more profitable dairying possible.

The damage that cattle ticks do to the dairy industry of the South and other areas infested with ticks has been measured by experiments conducted by the department in sections typical of the tick-infested territory of the Southern States. For instance, cows lightly infested with ticks produced 18.6 per cent less milk than cows kept free from ticks; and cows heavily infested produced 42.4 per cent less milk than cows that carried no ticks. Another important factor brought out by these experiments somewhat upset the common belief regarding immunity from tick fever of cows that have previously carried ticks.

When it is borne in mind that 944,187 cows were in the territory infested with ticks at the time the 1920 census was taken and that their average annual production was only 183 gallons, or about 1,573 pounds, of milk, it can readily

be seen what a financial gain an increase of 18.6 per cent, due to eradicating even a light infestation of ticks, would amount to in one year.

In 1906 the United States Department of Agriculture began cooperative work with the States in eradicating the tick. At that time 729,852 square miles of territory were infested. From that date until December 10, 1921, a total area of 523,837 square miles, or 72 per cent of the entire territory, had been released from Federal quarantine for controlling damage done by cattle ticks.

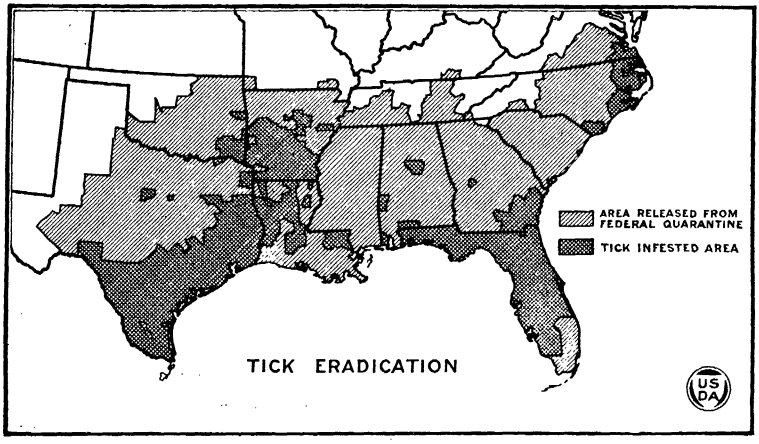


FIG. 54.—In 1906 there were 728,565 square miles infested with cattle ticks. At the present time this area has been reduced to 210,393 square miles, a release of 518,172 square miles. This has been accomplished by the cooperation of the United States Department of Agriculture with the various States. The States and counties have appropriated approximately three times as much as the Federal Government. In addition to this, the individual dairymen have expended an immense amount of time and energy. This has resulted in a great advance in dairying in the Southern States, a large reduction in losses from death by Texas fever, and an increased milk and butter-fat production per cow.

The eradication of the cattle tick from the Southern States and the prevention of its spread to other areas is a problem of prime importance. The elimination of the tick will give a very great impetus to dairying in the South, where this industry will aid in placing agriculture on a more stable and profitable basis.

The Cost of Milk Production.

A decade ago there were but few figures regarding the cost of producing milk. At that time dairying was developing very rapidly in many sections of the country, and little thought was given to cost of production. The chief competition among dairy farmers in some sections seemed to be a desire to report the lowest production cost of the community. This in itself was very commendable, but many dairymen overlooked some of the costs entirely, while other costs were estimated very much too low. Thus, it was common at the time to hear, for instance, that manure paid for labor and the calf paid the cost of keeping the bull. Because of the increasing building costs, barns appreciated in value, and hence no charge for shelter was thought necessary. Some also thought of only "out of pocket" cost, and therefore did not believe it necessary to include the value of unpaid labor nor home-grown feeds.

With the price upheaval in 1917 and 1918 things suddenly took a different turn, and farmers, as well as some others, went to the other extreme in their cost computations. Both extremes were perhaps equally detrimental to permanent dairy progress, for the one led to dangerous contentment, while the other discouraged and made many despondent who were perhaps really making satisfactory profits. Indirectly the latter extreme did, however, produce some wholesome results, in that it aroused an honest desire in both producers and consumers to know the real facts. This stimulated the investigations on dairy costs in most of the producing centers of the country.

The results of a few representative investigations carried out by the Department of Agriculture are shown in Table 3, while Table 4 gives the unit requirements of feeds and labor. These figures are based on carefully kept records. The person who is thinking of entering the dairy business ought to find these figures valuable as a basis for making estimates of probable costs, while the farmer who has records for his own farm will find these averages useful as measuring sticks for determining his own efficiency.

TABLE 3.— *Cost of producing 100 pounds of milk in 1921.*

Item.	Vermont.	Delaware.	Louisiana.	Indiana.	Nebraska.	Washington.
Average yearly milk production per cow ....pounds..	5,252	5,439	3,106	6,937	5,823	7,833
Butter fat in milk....per cent..	3.9	3.6	4.4	3.8	3.7	3.7
Feed:						
Grain....	$0.40	$0.67	$1.06	$0.45	$0.23	$0.23
Hauling and grinding grain....	.01	.01	.07	.02	.01	.01
Hay and other dry roughage....	.83	.29	.17	.30	.31	.28
Silage and other succulent roughage..	.41	.17	.14	.25	.09	.18
Bedding....	.01	.03	.0004	.02	.01	.01
Pasture....	.11	.27	.18	.15	.38	.29
Labor:						
Human....	.41	.34	.47	.30	.33	.36
Horse....	.06	.05	.07	.02	.01	.01
Overhead and other costs....	.48	1.01	.98	.39	.88	.46
Total cost....	2.72	2.84	3.14	1.90	2.25	1.83

Table 3 shows that the chief costs of producing milk are feed and labor, these two items making up usually about 70 to 80 per cent of the total costs. Furthermore, these factors are of special interest because they are under direct control of the dairyman, which makes them the chief means of increasing or decreasing the yearly output to whatever combination will return the biggest profits.

Total "other costs" which include interest, depreciation, taxes, insurance, upkeep, and repairs on buildings, similar items on equipment, and interest, taxes, depreciation, and insurance on cattle, are based on more or less permanent investments and therefore remain more constant year after year. "Other costs" per cow or per 100 pounds of milk will increase or decrease as the number of cows kept or the pounds of milk produced are increased or decreased.

These facts have resulted in what is known as "milk-cost formulas" which consist of the average pounds for each of the three types of feed used, namely, hay, grain, and silage, and also the hours of man labor per 100 pounds of milk produced. Table 5 illustrates the use of such formulas for computing costs of producing 100 pounds.

COST FACTORS IN SIX MARKET-MILK SECTIONS, 1921.

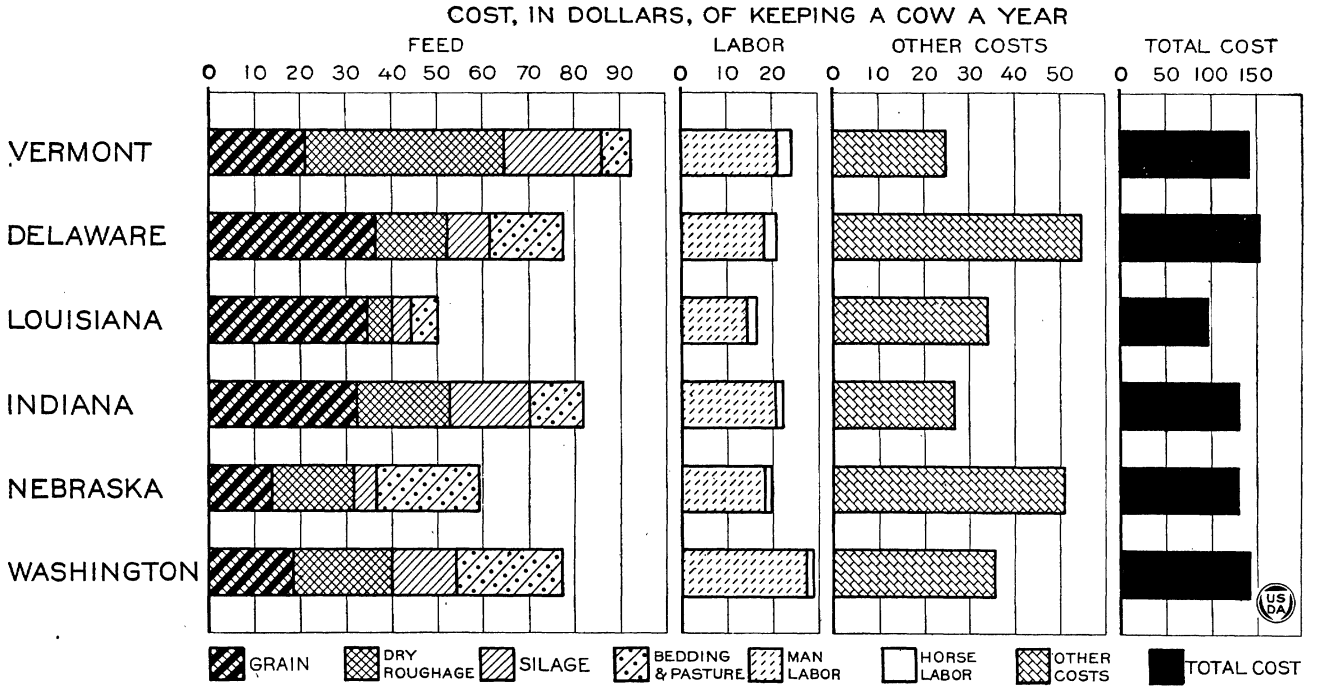


FIG. 55.—The length of the bars represents the cost in dollars of keeping one cow for the year 1921 in six different States. The data on which these graphs are based are contained in Department Bulletins 923, 1,101, 955, 858, 972, and 919. The unit requirements contained in these bulletins have been applied to 1921 on the basis of the Department's figures for feed and labor values in the various States for that year.

COST FACTORS IN SIX MARKET-MILK SECTIONS, 1921.

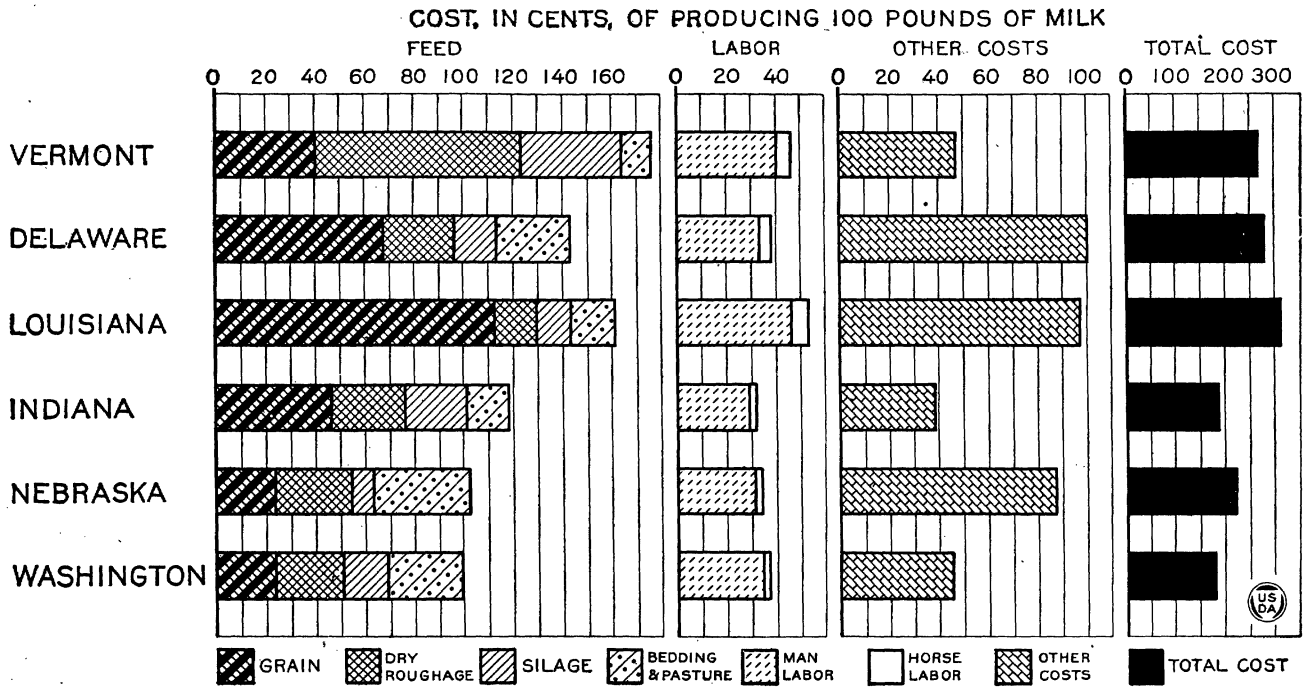


FIG. 56.—The figure represents the cost of producing 100 pounds of milk in the six States shown in Fig. 55, and was compiled from the same sources. It is of interest to note that some States, where the cost of keeping a cow was low, had a high cost per 100 pounds of milk. This was due to low production per cow.

35143°—YBK 1922——23 + 24

TABLE 4.—*Unit requirements for producing 100 pounds of milk.*

Item.	Vermont.		Delaware.		Louisiana.		Indiana.		Nebraska.		Washington.	
Average yearly milk production per cow.....pounds..	5,252		5,439		3,106		6,937		5,823		7,833	
Butter fat in milk.....per cent..	3.9		3.6		4.4		3.8		3.7		3.7	
Feed:	*Winter.*	*Summer.*	*Winter.*	*Summer.*	*Winter.*	*Summer.*	*Winter.*	*Summer.*	*Winter.*	*Summer.*	*Winter.*	*Summer.*
Grain.....pounds..	33.1	8.7	53.7	15.5	72.4	52.5	38.6	20.0	41.2	11.0	29.4	5.2
Hay and other dry roughage .....pounds..	129.9	18.7	114.2	6.5	38.3	1.0	66.8	27.4	95.3	51.2	92.9	7.5
Silage and other succulent roughage.....pounds..	191.3	27.8	91.0	10.3	78.4	8.1	147.6	60.1	93.6	29.3	143.3	40.4
Hauling and grinding concentrates.....	$0.02	$0.005	$0.01	$0.002	$0.095	$0.05	$0.03	$0.014	$0.016	$0.004	$0.022	$0.003
Bedding.....pounds..	11.2	.....	17.9	3.4	0.3	.....	20.3	.....	11.1	0.5	9.0	0.1
Pasture.....	.....	[1] 0.10	$0.06	$0.480	$0.155	$0.197	.....	[1] 0.04	$0.108	$0.653	.....	[1] 0.025
Labor:												
Human.....hours..	2.7	2.0	2.6	2.5	5.8	5.0	2.5	2.2	2.0	1.9	1.9	1.3
Horse.....do....	.6	.4	.5	.4	.9	.7	.3	.2	.06	.08	.01	.015
Overhead and other costs.....	$0.555	$0.425	$1.030	$0.98	$1.22	$0.803	$0.385	$0.393	$0.869	$0.889	$0.576	$0.406

[1] Of an acre.

The expense of keeping dry cows was charged to the season in which the dry period occurred.

TABLE 5.—*Unit cost of producing 100 pounds of milk.*

Item.	Amount.	Estimated rate.	Unit cost.
	Pounds.	*Per ton.*	
Grain	38.6	$30	$0.58
Hay	66.8	15	.50
Silage	147.6	7	.44
Total feed			1.52
	Hours.	*Per hour.*	
Labor	2.5	.20	.50
Total feed and labor			2.02
Add 25 per cent of feed and labor for other costs			.50
Total cost			2.52

Because of the fact that so much of the costs entering into milk production are noncash, there have been a great many differences of opinion as to how these costs should be valued and just which of them should be included, but this has now, generally speaking, been fairly well worked out. At present perhaps the greatest danger lies in faulty interpretation of milk-cost data. So far as the consumer is concerned, he will undoubtedly have to pay a price for milk which will give the farmer a fair return for all the factors included in these tables; for if he does not, the farmer will eventually turn to other lines of production.

Before the individual farmer can make a correct decision as to whether he is making or losing money in any particular year, he should give close study to the differences in the character of the various cost items. For instance, on most farms there are at least three distinct types of feeds used: First, purchased; second, marketable home-grown feeds; and third, noncommercial, consisting largely of permanent pasture and by-products of other enterprises like straw, corn stover, damaged hay, beet tops, etc. The first two represent actual money and are therefore costs that must be covered by the return before dairy profits begin, but the third group is of a radically different nature. Of course, most of the items in this group could perhaps be sold, or, in the case of pasture, rented out, but generally they receive their value only by being used for live stock on the farm

where they are produced, and hence any return for them over and above the probable return by the next alternative might logically be considered profits.

The labor demand of dairying is strikingly different from that of other enterprises, and because it is so different this matter requires careful attention, for it undoubtedly explains the presence or absence of this enterprise on many farms. Generally speaking, a dairy herd requires a larger amount of labor than any other class of live stock, and com-

DISTRIBUTION OF LABOR ON A DAIRY HERD.

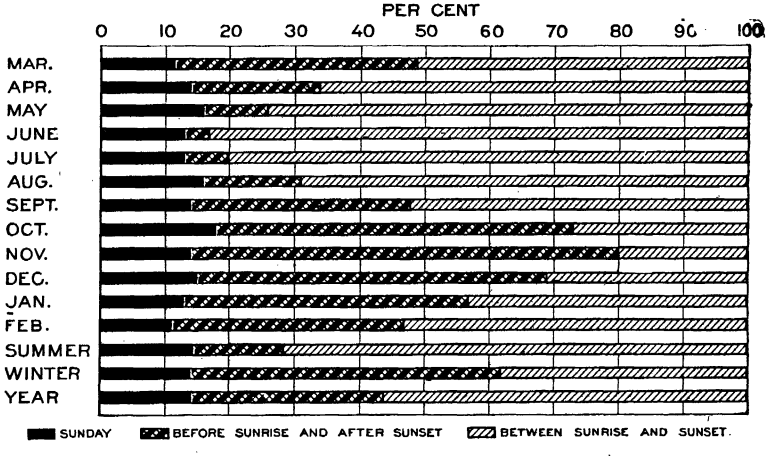


FIG. 57.—Much of the labor on a dairy farm is performed on Sundays and before sunrise and after sunset. This is especially true during the winter months when the days are short. Only daylight labor in the dairy can be considered as competing with farm labor in other branches of agriculture. Thus dairying furnishes an opportunity to convert much unproductive into productive time.

pared with crops its labor demand differs greatly in the time of the day the work has to be done and also because so large a share of the labor can be made to come during the slack periods. This latter point has, however, been discussed so often that it need not be further considered here, but the distribution within the day has often been passed unnoticed. Investigations have thrown some light on this phase of the dairy labor question. The important point brought out is that almost half of the dairy work came at a time when no other work would have been performed. In

cost accounting all this time is charged at the same rate as other labor. This is undoubtedly the best method to follow in general research, for it involves one of those questions which can not be definitely answered by absolute figures, but rather through careful interpretation of the results. Almost every farmer, however, is likely to put a different value on this part of the labor.

Those who are looking for a combination of enterprises that will make available the largest amount of time for doing productive work will undoubtedly make dairying a part of their organization. These farmers may, therefore, be willing to accept even a low rate for this labor, because they consider that any return for it is clear gain. Others, however, who object to working long hours and to being tied down throughout the year will ask a higher return for this part of the dairy labor if they are to remain in the business. Because of these opposite views the chances are that the average rate resulting from the combined opinions of all producers is very near to the average for all labor, and so far as its influence on price is concerned it may be of little importance; but, even so, the main fact still remains that dairying should be credited with this distinguishing character, which makes it possible for the individual to turn unprofitable time into profitable employment.

Marketing Dairy Products.

When dairymen were able to sell their milk or butter and cheese directly to ultimate consumers, the problem of marketing dairy products was not a complex one. But when it is considered that now the milk supply of the New York City consumer comes daily from a northern New York or Vermont dairy farm; that the Wisconsin dairyman markets his milk in the form of cheese through some retail grocery store, which may be in Texas; and that at certain times of the year Pacific coast butter may be found in Atlantic coast markets, some idea of the changes which have necessarily taken place in marketing methods may be gained.

Along with the growth of cities has been a growth in the size and extent of the dairy industry, and the manifold changes which have taken place in marketing and dis-

tribution have not occurred without the introduction of many difficult problems. Aside from the fact that the marketing of an increased volume of any product introduces a necessity for improved facilities, there have been added problems in the marketing of dairy products on the present large scale.

Many dairy products are highly perishable. Milk shipped great distances must be served to the city consumer daily in a fresh and sweet condition if it is to be used at all. This means not only cleanliness in production but speed and the maintenance of low temperatures throughout the entire journey from the farm to the consumer's door. Ice cream requires special handling and constant attention for successful marketing. Butter and cheese are less perishable, but the great distances which these products are frequently shipped and the long periods they are held make it necessary to provide adequate refrigeration in order that they may reach the consumer in a suitable condition. But perishability and distance between producer and consumer are not the only problems which have had to be faced in marketing the products of the dairy. The process has been fur-

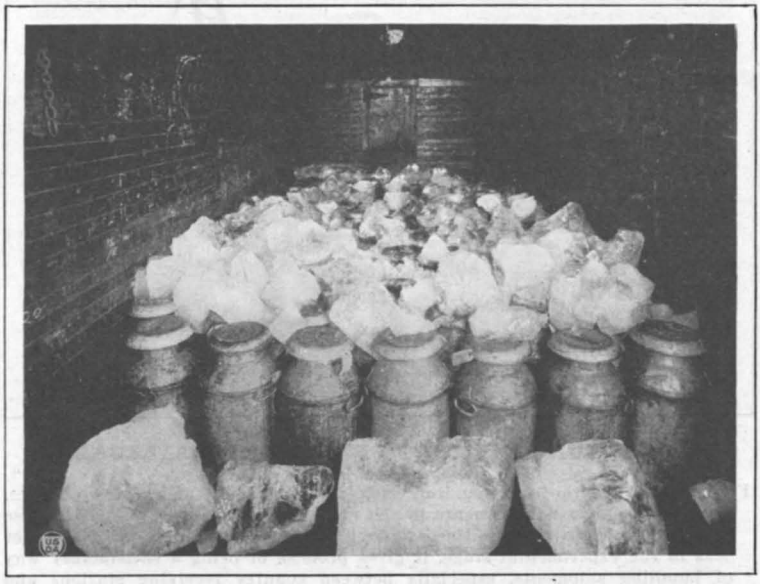
LOADING A MILK TRAIN AT A COUNTRY PLANT.

FIG. 58.—The milk supply of many of our large cities comes from distant producing sections. Much of this milk is handled through country stations where cooling or pasteurizing and sometimes bottling takes place. From these country stations the milk is loaded into refrigerator cars for quick shipment to the city. Part of the milk supply of New York City is shipped 400 miles, and solid milk trains on fast schedules are operated by railroads for handling these shipments.

ther complicated by variation in seasonal production. This has meant surpluses and shortages, with the resulting influences on prices. A discussion of some of these fundamental problems and the progress made in their solution follows.

Transportation by Rail.

Transportation has been a factor in marketing dairy products since the establishment of the first commercial

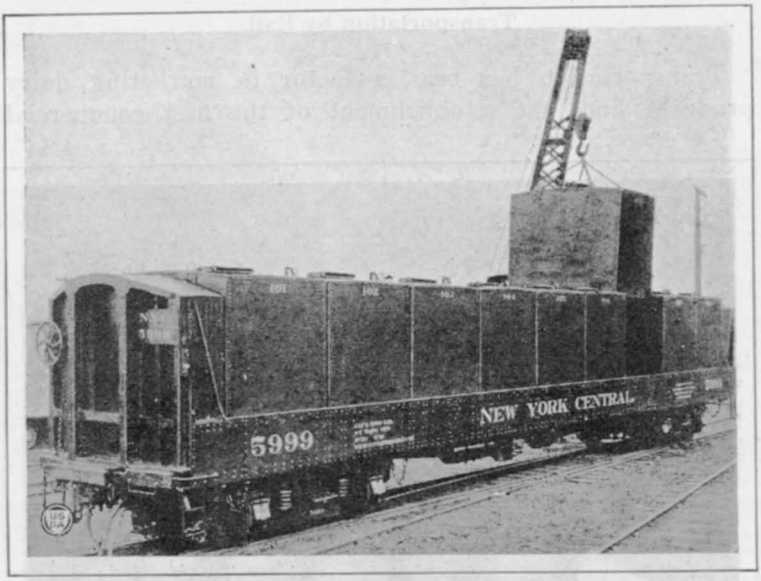


COMMON METHOD OF MAINTAINING LOW TEMPERATURES IN RAIL TRANSPORTATION OF MILK.

FIG. 59.—On account of its perishability milk must be kept cold from the time it is produced until it reaches the consumer. When long-distance shipments are made in warm weather, one method of accomplishing this is by placing blocks of ice on top of the containers in the car. The use of ice in this manner, and the fact that shipments are made in refrigerator cars, results in the maintaining of low temperatures.

creameries and cheese factories, but increasing demand for milk by rapidly growing cities and the development of distant producing territories have revolutionized transportation methods. The transportation requirements of milk are more difficult to meet than those of almost any other com-

modity. Produced over widely distributed areas, often in small quantities, milk must be transported daily to the very doorstep of the city consumer. The service must be regular, and it must be rapid. Delays mean a deteriorated product.



TANKS FOR SHIPMENT OF MILK BY RAILROAD.

FIG. 60.—The methods of handling milk are constantly undergoing changes. One of the latest developments in the rail transportation of milk is the use of large porcelain or glass lined tanks. While this method may be more or less in the experimental stage, it gives promise of being a satisfactory way of handling shipments, especially between country receiving stations and city plants. The separate compartments of this car may be removed and may be placed on trucks for final haul to the place desired.

Furthermore, milk must be kept cool or it will sour quickly and become unsuitable for use as fluid milk. Maintenance of low temperatures in transit is a fundamental requirement, and is best accomplished by the use of special refrigerator cars which are usually provided on the railroads carrying milk to the larger cities. A common method of keeping the milk cold in the cars is by means of a refrigerated milk car containing cans of milk covered with blocks of ice.

A later development in milk transportation on a large scale is the tank car. These tanks are either inclosed in cars or are separate units, several to the car, which

can be removed by derrick and placed on trucks for hauling to the city plant. The principle of a vacuum bottle has been applied to some of the tanks, although merely a steel tank, glass or porcelain lined, is the more common form. The tank car gives a promise of becoming quite satisfactory for handling such milk shipments as those which are made from country receiving stations to city plants. Where the quantity of milk transported is small and the shipments of necessity are made in ordinary cars different precautions have to be taken, one of the commonest of which is the use of insulated can jackets. Improvement in the facilities for handling milk has made longer hauls possible.

Refrigerator cars.—The most important sections now producing manufactured dairy products, especially butter and cheese, are located in the Middle West and are distant from the large consuming markets. Both butter and cheese are less perishable than milk, and hence the necessity of daily

UNLOADING PLATFORM AT A LARGE MILK TERMINAL.

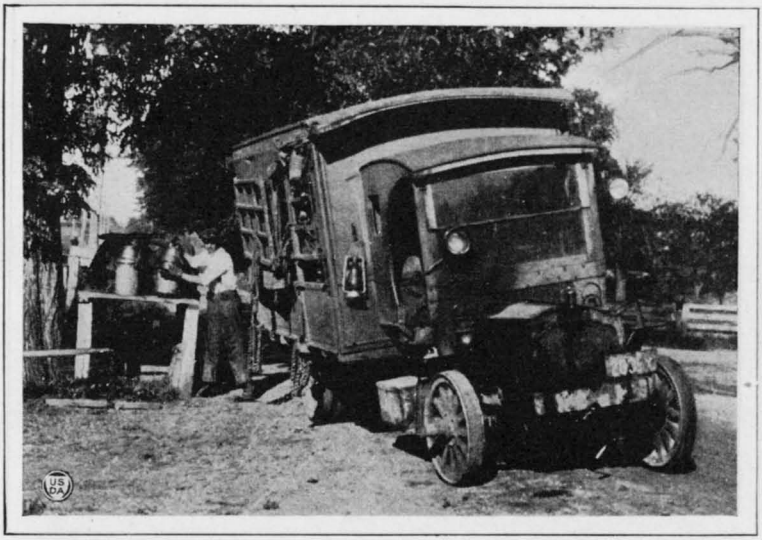
FIG. 61.—The supplying of milk to city consumers 365 days in the year presents to milk distributors several distinct problems. One of the most important of these is promptness in handling. The unloading platform shown here is a milk terminal in one of the large cities. Thousands of quarts of milk pass over this platform daily, going to various distributors, whose wagons or trucks quickly transport it to the city plant, where final preparation for city delivery is made. The milk platform is cleared daily, for milk freight can not be held over.

delivery to the consumer does not exist. But the long distances which these products are shipped require that protection in shipping be provided. In meeting this condition not only has the refrigerator car been utilized but fast freight schedules have been established, so that the movement is reasonably rapid for freight service. In the highly developed dairy sections regular freight schedules often provide for pick-up refrigerator cars, which, for example, may move a certain day each week, and which are loaded at local stations, later moving in fast freight trains to the large markets. Certain creamery organizations which are favorably located to take advantage of such a plan are now concentrating less-than-carload shipments into car lots, thereby effecting the saving in freight charges which the car-lot rate offers. The warehouse system of handling cheese in Wisconsin also results in a similar concentration of cheese at various points throughout the cheese-producing sections, although there the concentrating is done by individual dealers as well as by factories cooperating through their own organization. In severe winter weather it sometimes becomes necessary for heat to be provided in cars carrying cheese, on account of the danger from freezing.

Transportation by Highways.

Highways are used in the marketing of almost every gallon of milk consumed. Whatever other means of transportation may be utilized between the point of production and the consumer, the highway is nearly always the method of transportation from the producer to the first point of concentration. This is true, whatever form of processing the milk goes through before it is ready for consumption. In the case of milk delivered to local creameries or cheese factories the movement is almost exclusively over the highway. In the case of milk delivered to city creameries, milk condenseries, and city milk distributors the amounts carried over the highways depend upon the area of the district from which the milk supply is drawn and upon the condition of the highways. Many of our larger cities are now receiving the greater portion of their milk supply exclusively over the highways without intermediate rail ship-

ment. Cincinnati, Ohio, with a daily consumption of 190,000 quarts, receives less than 3 per cent of its supply by rail shipment. Kansas City, Mo., with a daily consumption of 133,000 quarts, receives about 75 per cent of its supply by trucks and wagons. Atlanta, Ga., receives about 90 per cent, and Indianapolis, Ind., about 60 per cent of the daily supply by trucks. Milwaukee, Wis., receives about 65 per cent of its daily 120,000 quarts by trucks.



COLLECTION OF CREAM BY TRUCK.

FIG. 62.—Automobile trucks and good roads have done much to remove distance between the dairy farm and the creamery. Quick transportation not only means less time on the road but also more frequent delivery, both of which are good for the cream.

Before the advent of the motor truck and good roads, it was necessary with horse-drawn equipment and unimproved highways to use rail transportation for distances over several miles. However, this range has now been considerably increased. Cost figures for milk collection around Kansas City and Minneapolis show that for a 30-mile haul the rate for shipment by truck is less than one-half the cost of rail shipment plus the cost of bringing milk to the railway station and delivering it from the station to the milk distributor. Similar figures for Detroit show that at the pres-

ent time a dairyman 60 miles from the city can ship by truck for approximately the same rate as that charged by the railroads.

On longer hauls the costs of collection are secondary in importance to the time required for collection and to the condition of the milk on arrival. A case is cited from California where it was found profitable to ship milk 134 miles by truck on account of the better condition of the product

TANK TRUCK DELIVERY OF MILK TO CONDENSARY.

FIG. 63.—Porcelain or glass lined tanks on auto trucks are being successfully used for long and short hauls to milk plants and condensaries. These replace the truck loaded with smaller containers.

on arrival. The greatest difficulties of long-distance milk transportation lie in spoilage due to overheating and churning in transit, caused by hot weather and continued jolting over the road. It has been found that the use of insulated tanks mounted on trucks has to some extent eliminated these difficulties. These tank trucks are quite widely used at the present time. Churning is prevented when the tanks are loaded to capacity, and experiments have shown that on trips on hot days the rise in temperature is usually less than 1° F. per hour.

To the farmer and dairyman improved highways and motor transportation have meant not only a lower marketing cost for milk, but also the extension of the possible marketing area. The experience of eastern dairymen has shown that with the use of trucks the average distance to market can be increased considerably, because the farmer is now in a position to take advantage of markets which in the past were often restricted to small groups in favorable locations.

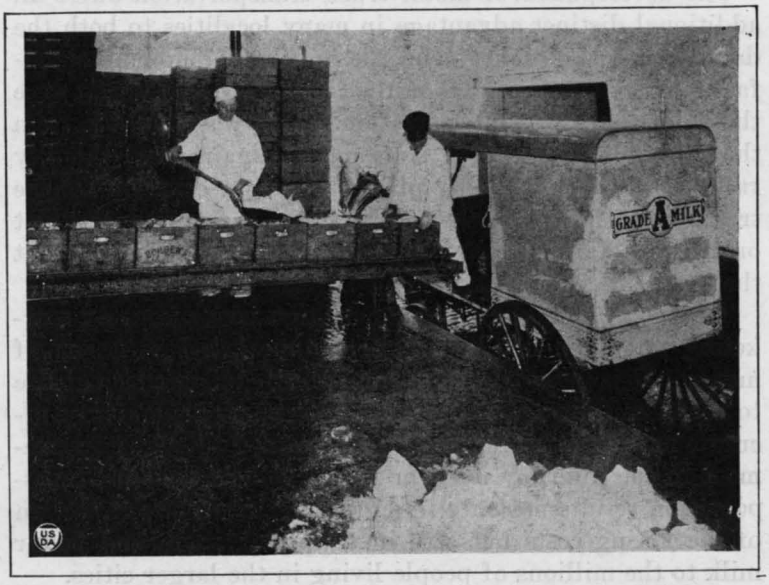
The development of motor-truck transportation offers an additional distinct advantage in many localities to both the dairymen in the country and the milk distributor or manufacturer of dairy products in the city. When railroads were the sole means of transportation, there was hauling from the farm to the shipping station, and again from the city railroad station to the city plant. It is now common for the truck from the city plant to call at the farmer's gate. Not only is the farmer's time available for other purposes but the terminal charges and delays are also eliminated.

The value of highway transportation as a means of marketing milk can not be adequately measured in terms of money. It is essential to the furnishing of a necessity of life to many millions of people and as such is beyond any accurate measure of value that can be devised. Every improvement in the highway itself or in the vehicle used for transportation results not only in a great saving due to reduction of marketing costs but also in supplying more and better milk to the millions of people living in the larger cities.

Market Distribution of Dairy Products.

It is estimated that approximately 45 per cent of the total milk production of the United States is used as fluid milk for household purposes. This, of course, includes the vast quantities of market milk brought into towns and cities throughout the country. With fluid milk so generally used it is probable that the average consumer is more familiar with the channels of milk distribution than with those which manufactured products follow. The journey from the dairy farm to the consumer's door involves many problems, however, and these increase in number and scope as the distance between the two becomes greater. Except for the larger cities, local or near-by production is adequate for city milk

requirements, and the pasteurizing, cooling, bottling, or such other processing as may occur are done in the city plant. Milk going to the larger cities, however, is frequently handled through receiving stations which are conveniently located out in the country producing sections, and from these the milk moves to the city in refrigerator cars. While milk distribution in the small city is more or less simple, it is obvious that only through capable management



ICING: ONE OF THE COSTS OF RETAILING MILK.

FIG. 64.—The city housewife often overlooks the many processes and costs which enter into the daily delivery to her doorstep of a bottle of cold, sweet milk. Here is but one of them. It is one of the elements of cost which is covered in the spread between what the producer gets and what the consumer pays.

and a highly complicated system of distribution can the large city be supplied with fresh milk daily at all seasons and through all kinds of weather.

Milk distribution involves numerous items of cost which go to increase the spread between producer and consumer. Pasteurization is quite generally followed in the more important cities of the country. Furthermore, the use of glass milk bottles for delivery is almost universal and consumers

are usually provided with an adequate delivery service. City milk distribution expenses include cost of raw material, cost of getting raw material to the plant, cost of plant operation, delivery expenses, administrative expenses, loss, and shrinkage. These vary with different dealers and in different cities. Local selling prices are influenced by competition, and competition is usually keen enough so that the same price rules for the same grade of milk. In cities having organized health departments the consumer is protected in the matter of quality by health-department regulations. so that price reductions on recognized grades of milk do not occur through the practice of dealers lowering standards for these grades. Cash-and-carry stores usually sell at lower prices because the items of delivery, credit, and loss of bottles are eliminated.

Market distribution of creamery butter.—Dairy farms from which the product is marketed through creameries or butter-manufacturing plants generally represent a somewhat different system of farming from that followed on farms where the whole milk is sold, in that commonly, as now practiced, such farms market cream only, the skim milk being kept for feeding young stock, hogs, or poultry. There are, of course, quite a number of creameries which receive whole milk, but even in these cases skim milk is usually taken back to the dairy farms and utilized as mentioned.

Three general types of creameries are to be found in the United States. First is the cooperative creamery, usually a local enterprise depending upon local production for supplies, although several cooperative centralizer creameries are now in operation. It may be noted, however, that some creameries whose names indicate that they are cooperative are not cooperative under a literal interpretation of the term. Strictly cooperative creameries operate on the principle of returning all income to producers above that required for operating expenses, depreciation, reserve, etc. The second type is the local creamery owned by private interests, which usually pays dairymen an agreed price in relation to some recognized current market quotation. This type of creamery procures its supplies for the most part locally. When a larger territory is covered and shipments from a distance are received creameries are commonly referred to as cen-

tralizers, and there are throughout the Middle West a large number of plants of this type, some of which have enormous outputs and receive cream from long distances. These creameries obtain cream by direct shipment from individual dairymen and through local cream-buying stations, which serve as collecting and shipping agencies. It is the common practice to do the weighing and testing at these stations, and quite frequently payments are handled there also. Creameries follow different plans of paying for cream, some paying monthly, some twice a month, and others daily. Cooperative creameries, of course, do not make payments until returns for products sold are received.

There are various channels of trade through which butter may pass from producer to consumer. The general custom of country creameries in shipping butter to the larger markets is to consign to a receiver or to contract with the receiver for the butter on the basis of the market quotation. It is a common practice for creameries to draw a sight draft against such consignees, through which an advance of 15 to 25 cents a pound is secured. Often receivers send out, to producing sections, field representatives who go among creameries and solicit their output. Local demand offers some outlet to local creameries, although with many creameries which are in small towns and villages this demand absorbs only a small fraction of the total butter made. Butter going to the larger markets is for the most part packed in bulk in tubs or cubes.

Receivers in the markets may be wholesalers or jobbers, or both. In the largest markets wholesalers and jobbers are usually separate dealers, while in the smaller markets nearly all wholesale receivers also do a jobbing business, supplying retail stores, hotels, restaurants, etc. The wholesalers' business consists of car lot and large less-than-car lot sales to distributors who handle a jobbing business.

Many of the larger creameries have developed private brands and distribute their butter directly to the retailer, maintaining branch distributing houses or contracting with distributing agents to handle certain territory. Many of the extensively advertised brands are handled in this way. Vast quantities of butter are also handled under brands by the meat-packing companies through their local branch houses.

Market distribution of American cheese.—American-type cheese is made from fresh milk, and for this reason cheese factories are local establishments which depend on local production for their supply. These factories may be cooperative or privately owned, and, depending upon which type they are, the method of paying for milk is similar to that followed by creameries in paying for cream. On account of different market requirements, several different styles of cheese are found on the market. Style refers to the size and shape of the cheese and not to the type.

Cheese is usually sold outright by factories to near-by dealers, who may be affiliated with a large distributing agency. Wisconsin and New York are the two large cheese-producing States, and in both the warehouse system is followed. Cheese is shipped from the factories to warehouses scattered through the principal cheese sections, where weighing, paraffining, and boxing take place. Prices to the factory and to the dealers' customers are usually based on the current quotations established as a result of trading on cheese boards which are mentioned later.

Immediately after the cheese-board meetings, independent dealers wire their selling prices to customers, such as wholesale grocers, wholesale distributors of dairy products, exporters, large retail buyers, etc. If prices are satisfactory, orders are received, and these are filled out of the supply on hand or the incoming cheese for the week. Competition is so keen among cheese dealers that business is done on very small margins. Cheese bought may be shipped direct to the customer, or may at his direction be placed in storage, either at the place where bought or at some central point. Dealers who are affiliated with large distributors, such as the packers, handle their current receipts on a brokerage basis with an outlet always at hand. In the large markets there are cheese wholesalers and jobbers who buy either through their own country representatives or from independent dealers. Retailers obtain their cheese either from the jobber or the wholesalers. Due to the small quantities of cheese retailed by the average grocer and the resulting heavy shrinkage and wastage, some preference is being shown for a 5-pound cheese, which helps eliminate some of these losses.

Other types of cheese.—The system just referred to is not followed in the distribution of other types of cheese. The foreign types, such as Swiss and Limburger, are usually handled in the larger markets by dealers who specialize in such types, and these dealers may have direct connections with country buyers or may maintain their own branch in the country. Such dealers are jobbers as well as wholesalers, supplying grocers, delicatessen stores, hotels, cafés, etc. They handle both domestic and imported goods of the foreign type, as well as domestic soft cheeses.

Market distribution of condensed and evaporated milk.—Condensed and evaporated milk in bulk form for use principally by ice-cream manufacturers and bakers is made in numerous plants throughout the country, some of which are comparatively small. This class of goods is not placed in sealed tins, but is handled in larger containers. It is often found that firms using these products have standing orders for the regular delivery of certain quantities for current use; and while this ordinarily is used immediately, reserve stock is frequently carried in cold storage. Large users of bulk condensed and evaporated milk usually have their own manufacturing equipment.

Most of the condensed and evaporated milk produced in the United States, however, is put on the market in sealed tins, packed in wooden or fiber cases. All goods of this class are sold under a brand. Practically every manufacturer has a standard brand, but numerous other brands are also on the market. These may represent private brands of distributors such as wholesale grocers, or even large retailers, such as chain stores, which contract with manufacturers to pack goods under their own advertised label or trade-mark.

Large manufacturers of canned milk maintain their own sales organization, with branches and stocks in warehouses in the principal distributing centers, especially export points, but smaller manufacturers frequently market their goods through local brokers at various important trade centers. The wholesale grocer is a big factor in the distribution of the product.

Domestic demand for condensed and evaporated milk is increasing, but the relative ease of securing fresh milk has

retarded this demand. Good domestic demand is found in places near which dairying is not followed, such as mining and lumber camps and in arid sections, although these outlets are limited. The fact that the products may be bought in practically every grocery store accounts in the aggregate for vast quantities being used in households even where fresh milk is obtainable.

Market distribution of other dairy products.—Because of perishability and the necessity for frequent icing, the distribution of ice cream is limited to local territory or to territory which may be reached by rapid transit without delay. Marketing of ice cream is usually direct from manufacturer to retailer or from manufacturer to consumer. In the larger cities there are concerns which manufacture ice cream on a more or less large scale and whose outlets include various retail establishments, such as confectionery stores, soda fountains, restaurants, cafés, etc., also family trade. Many retailers, however, produce their own ice cream. Ice-cream distribution to retail trade involves considerable service, for the product spoils rapidly if not kept properly iced. Frequently manufacturers provide this service for customers, also furnishing refrigerated cabinets for holding the product under proper conditions.

Powdered milk is one of the newer manufactured dairy products. Outlets for powdered milk are being developed, but so far the greatest proportion has been used by bakers, confectioners, and ice-cream manufacturers. This product is usually made from skim milk. Some powdered whole milk is made; but the higher prices which must be secured, as well as the poorer keeping quality, have limited its use.

The drying of skim milk represents the utilization of a valuable by-product. Buttermilk is also dried, this product being used extensively for hog and poultry feeding. Both of these products are relatively new, and channels of distribution have not been fully developed. Cost of equipment has limited manufacture to a relatively small number of firms, and as a result the selling is done either through firm representatives or through brokers.

SEASONAL PRODUCTION AND CONSUMPTION OF BUTTER, 1921.

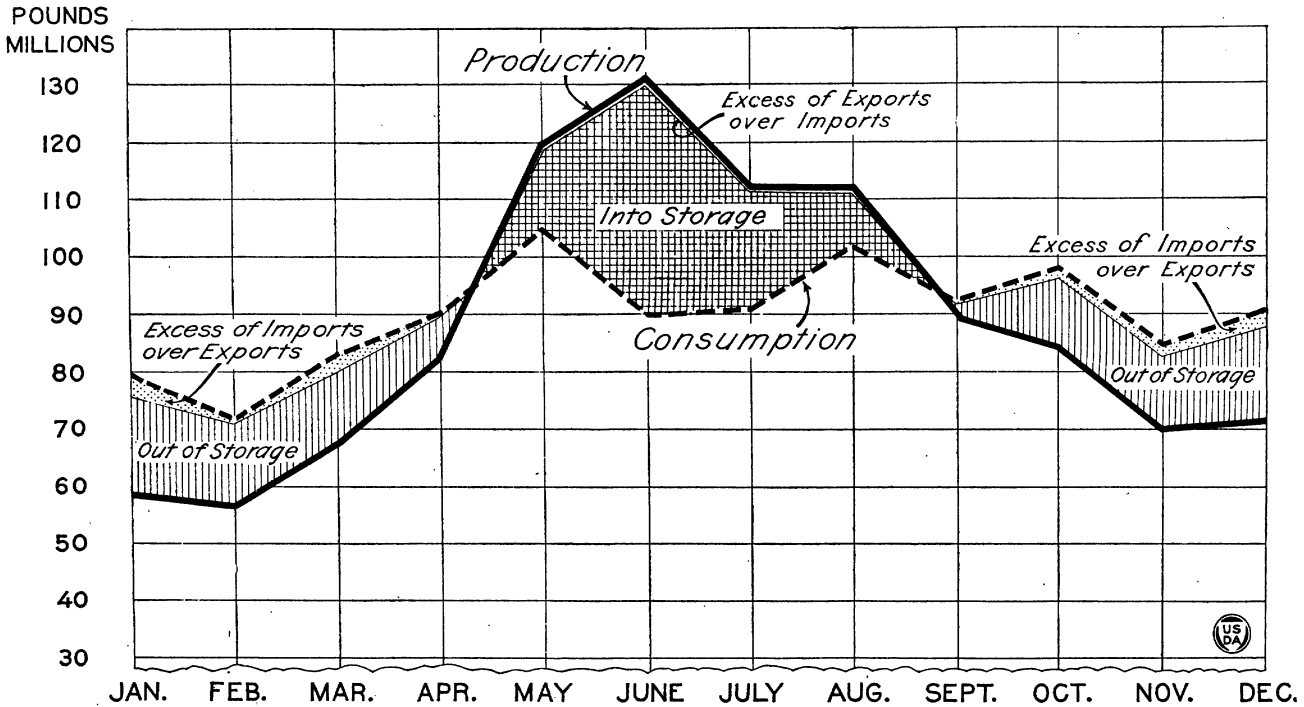


FIG. 65.—The seasonal supply and demand for butter are not the same. Consumptive requirements vary through the year, but they do not fluctuate so much as production. The peak of creamery-butter production is ordinarily reached in June, at which time there is a heavy movement of butter into cold-storage warehouses for use during that period of the year when current production is not sufficient to provide for current needs. During 1921 imports helped to relieve the shortages which occurred at the beginning and end of the year, while exports slightly reduced the surplus when domestic production was heaviest.

Cold-Storage Warehousing.

Without a means of providing for a more even flow of dairy products into consumptive channels throughout the year there would be surpluses during flush seasons and shortages during months when dairy production is lowest. Since dairy products constitute important items in the diet of the average person, such a condition would be indeed unfortunate, regardless of the influence which it might exert upon prices. Cold-storage warehousing, therefore, offers obvious advantages to the industry and to the consuming public.

Extensive cold-storage facilities are used in the distribution of creamery butter. Consumptive demand is not constant, varying according to price levels, season, weather, and other influences, but it is a more constant factor than butter production, and normally is greatly in excess of current

MONTHLY DISTRIBUTION OF TOTAL BUTTER PRODUCTION AND RECEIPTS AT NEW YORK, CHICAGO, PHILADELPHIA AND BOSTON, 1921.

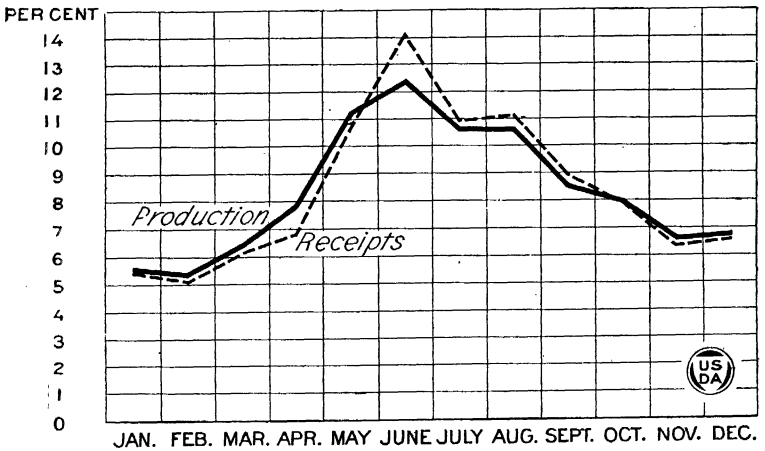


FIG. 66.—Creameries, as a rule, ship their butter to market very soon after it is made. The result is that receipts on the large wholesale markets are heavy or light depending upon how much butter is being made in the country. During the storing season in 1921 there was a heavier movement to the four large markets in relation to production than during other parts of the year. Over half of the butter stored in the entire United States is stored in warehouses located in these principal centers of population.

production. While it is impossible to measure price changes which would occur if butter were not stored, it is more than likely that violent fluctuations would result.

The movement of butter and cheese into storage follows closely seasonal increases in production. During the months of May, June, July, and August, stocks are being continually added to, but the heaviest increases normally occur during June. Seasonal changes in storage holdings are striking, and both the inward as well as the outward movements occur about the same periods each year. The peak of holding occurs usually in September, and stocks are normally lowest about May 1. Butter and cheese which are placed in storage during the month of June are in greatest demand later in the season. Being produced during the flush season, when conditions are most favorable for highest quality, such goods keep better in storage and are as a result more suitable to the trade when taken out of storage and placed on the market for current sale or use.

Cold-storage facilities are available at various points throughout producing sections and in all the larger cities, although in a number of cities storage space is not ample to provide for local needs, in which cases it is necessary to store at distant points and ship goods in as they are needed. There are approximately 400 public cold-storage warehouses in the United States where butter and cheese are stored.

Cold-storage charges are based on the commodity stored and the space occupied. Different conditions and temperatures are required for different products. Butter is best held at temperatures around zero Fahrenheit. At temperatures higher than this there is danger of the commercial quality being impaired. Cheese is stored at higher temperatures, 32° F. being commonly maintained. Cheese undergoes certain changes while in storage, which if proper conditions as to temperature, etc., are provided result in the quality being improved. This is usually referred to as ripening. In this respect cheese differs from butter, as butter has a tendency to deteriorate even under the most favorable conditions. Butter is stored to relieve shortages. Cheese may be said to be stored for a similar purpose, but also to improve the quality. So-called aged cheese is that which has been held in storage.

SEASONAL COLD STORAGE HOLDINGS OF CREAMERY BUTTER, 1917–1922.

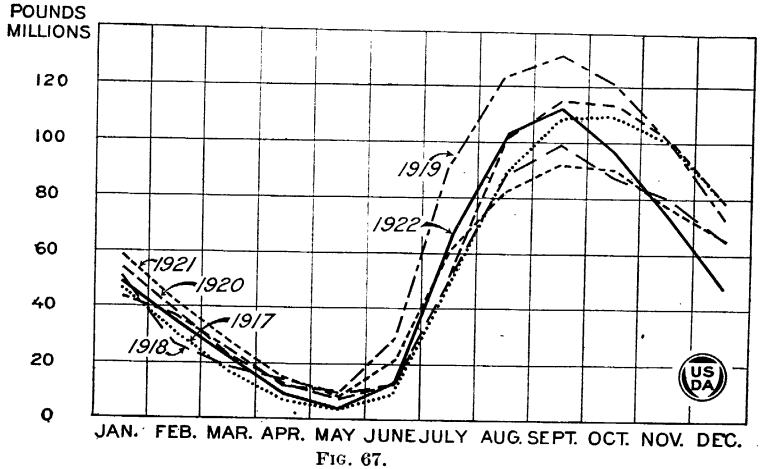


FIG. 67.

SEASONAL COLD STORAGE HOLDINGS OF AMERICAN CHEESE, 1917–1922.

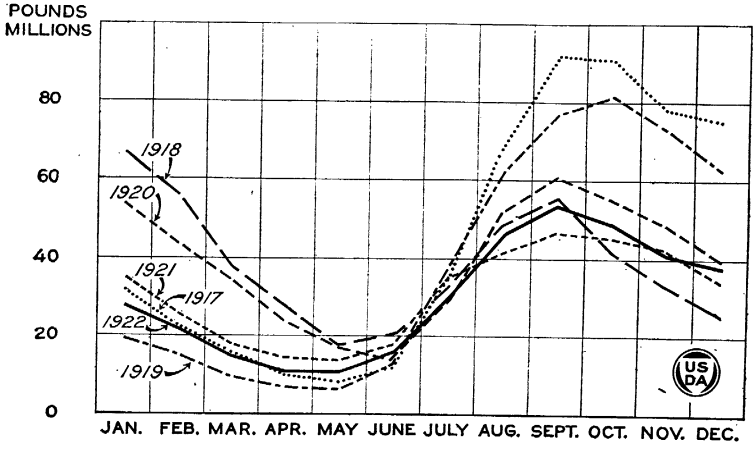


FIG. 68.

FIGS. 67 AND 68.—The low point in the cold-storage holdings of butter and cheese is normally reached about May 1. At this time dairy cows are being put onto pastures, the milk flow increases, and butter and cheese production begins to mount rapidly. Quality in the manufactured products is also at its best at this season, so that those whose business is supplying the public with butter and cheese begin to lay in supplies for fall and winter use, for with the approach of cold weather production drops again and is insufficient to supply current demand. Placing butter and cheese in cold storage is providing for future needs. No processing is involved, the goods being merely held at very low temperatures. Without cold-storage facilities, prices in the winter would probably be so high as to be prohibitive for consumers, and in the summer so low as to discourage production on the part of dairymen.

The financing of such large quantities of butter and cheese as are placed in storage each year involves vast sums of money. These holdings are financed for the most part by members of the distributing trade, as ownership of the goods usually passes from the hands of the creamery and cheese factory very shortly after the goods are manufactured. The reason for this is that very few manufacturers are financially able to handle a storage operation, because of limited capital and the fact that the dairy farmers who furnish raw material must be paid for it at least monthly. The more common plan followed by the trade in financing storage holdings is that of securing loans, using warehouse receipts as collateral. Loans are secured from the cold-storage warehouses themselves or from banks. Amounts ranging up to about 75 per cent of the value of the product are frequently advanced on such loans, this being considered a safe risk. The actual risk incurred is not only deterioration in quality or grade but also the danger of declining prices. In some cases price declines are so great that goods are surrendered to those making loans, and they have to be sold in order to realize on the loan and to cover carrying charges. Contrary to the belief of many people, goods in cold storage are rarely owned by the warehouses, but belong to hundreds of different dealers, who are utilizing cold-storage facilities in order to assure themselves of supplies of suitable grades and quantities of goods for fall and winter requirements. There is always to be found among the trade those who store for purely speculative reasons, although the quantities of butter and cheese which are held by such operators each season are probably not large.

While the primary purpose of storing is to provide for future needs, the incentive to this must be the likelihood of moving goods from storage at a profit. Prices of goods moved from storage must be higher than the prices of the goods when they went into storage in order to make storing profitable. These higher prices cover not only carrying charges, which vary according to the length of storage, but also interest on loan or investment, as the case may be, shrinkage, deterioration in quality, which may result from holding and which would necessitate selling as of a lower grade, and, finally, profit on the transaction.

Information regarding the amounts of dairy products in storage is compiled regularly by the United States Department of Agriculture and monthly reports of holdings are issued. Daily movements in the large wholesale markets at New York, Chicago, Philadelphia, Boston, and San Francisco are also shown on the daily market reports issued by local offices of the department in these cities.

WHOLESALE BUTTER PRICES AND STORAGE MOVEMENT, SEASON OF 1921–1922.

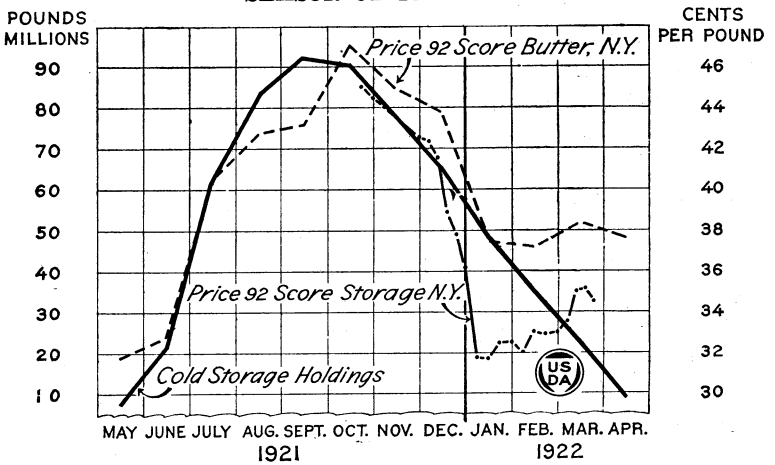


FIG. 69.—Supply and demand are the factors which influence prices. There is such a surplus of butter during May and June, due to the natural heavy production at that time, that prices usually reach their lowest level then. It is true that a heavy movement into storage occurs during this period, but those who incur the risk incident to storing are unwilling to assume this risk unless prices are such that they feel a profit can be realized on their operations. Hence, if prices tend to advance too much during the storing season there is a tendency for the movement into storage to become lighter. So long as there is a wide variation in seasonal production there is bound to be some variation in seasonal prices.

Inspection and Grading of Dairy Products.

Of the various factors which go to build up a permanent demand for dairy products quality stands preeminently in the foreground. Consumptive demand is affected by high price levels, but within reasonable limits the consumer's preference is for the best. Production of quality products, however, not only caters to the most profitable classes of trade but it also encourages a greater use of the product. The natural tendency of consumers to "eat more because it tastes good" is just as true of dairy products as it is of

other foods, and producers of highest grade goods therefore share in an increased demand as well as a higher price. The willingness of consumers to pay for quality is illustrated by the spread between 88-score and 92-score butter on the New York market. There have been differences amounting to as much as 15 cents a pound in favor of good butter over poor butter, with the average difference over 5 cents a pound. The lower returns to producers of low-grade butter is obvious.

Traders in the large markets are very discriminating in the purchase of butter and cheese. This is partly due to their desire to drive a bargain, but more largely to the fact that in wholesale markets particularly goods are bought and sold on the quality, or grade, basis. In the more important markets wholesale dairy exchanges have established official classes and grades and in most cases have provided an in-

WHOLESALE PRICES OF 92 AND 88 SCORE BUTTER, NEW YORK MARKET, JANUARY, 1919 to JULY, 1922.

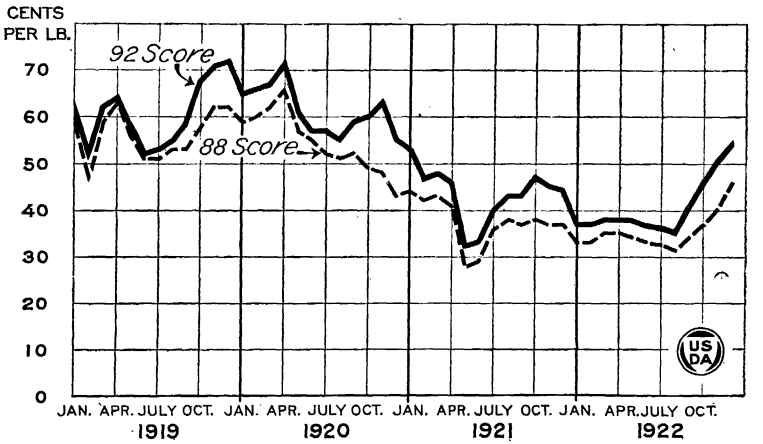


FIG. 70.—It would be difficult to measure the actual loss to creameries which result from the marketing of a low-quality product. It is evident, however, that doing this is costing creameries immense sums each year. The average difference in wholesale prices on the New York City market between 92 score (good) butter and 88 score (fair to poor) butter has averaged about 5 cents a pound since 1918, but differences as great as 15 cents a pound have occurred. Creameries producing low-grade butter not only lose on the price which they are able to secure for their product, but they also fail to help build up that demand which the production of a quality product alone will develop.

spection service to handle disputes which may arise between buyers and sellers. Without a definite basis upon which to do business, neither the buyer nor the seller can operate intelligently. It is upon the basis of these grades that price quotations in the different markets are established which form the selling basis for the great bulk of the butter bought and sold throughout the entire United States.

The grading of butter and other dairy products is a difficult task which requires much experience, since the senses of smell and taste are relied upon to a large extent. The grade of butter, for example, is determined by an examination during which the flavor, body and texture, color, salt, and package are taken into consideration, as a result of which a score or grade is placed on the lot. The requirements for various grades usually include a minimum score, although this is not always the case. It is the common practice in the large markets, where official inspections of butter and cheese are made, to use the score-card system, which recognizes specific values for each of the several

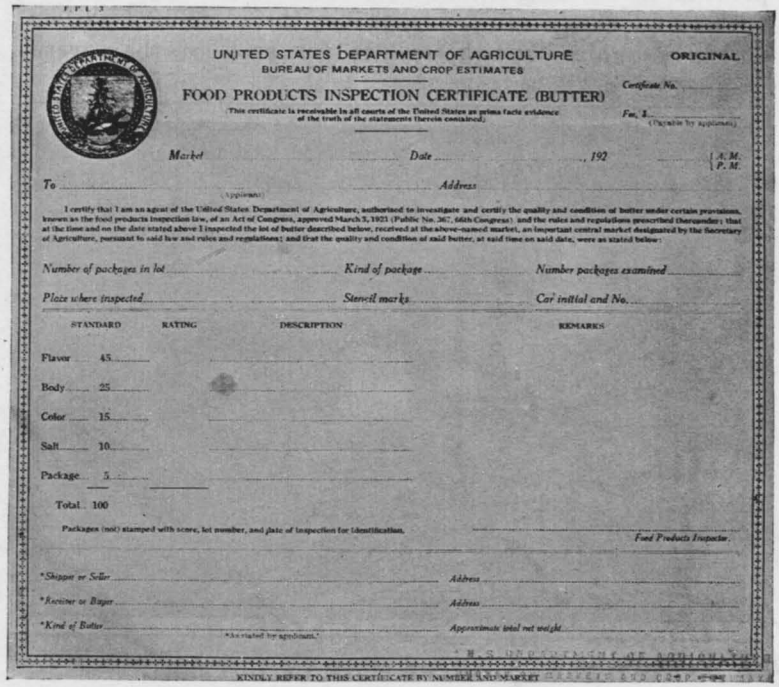
FEDERAL INSPECTION OF BUTTER.

FIG. 71.—Federal inspections of butter are made upon requests from persons or firms having a financial interest in the product concerned, following which an official inspection certificate is issued. (See Fig. 72.)

points upon which the product is judged. On the butter score card the distribution of the points is as follows: Flavor, 45; body, 25; color, 15; salt, 10; package, 5; total, 100 points.

Butter scores and grades are quite well defined and understood in the large markets, but this is not so true of cheese, although there is a growing tendency to place the buying and selling of cheese more on a definite grade basis. Market requirements for cheese differ so much and the methods of marketing are so entirely different from butter that progress in grading cheese has been slower.

United States food products inspection service.—In addition to the inspection services which are maintained by the various trade exchanges, the United States Department of Agriculture now provides for butter inspections at New York, Chicago, Philadelphia, Boston, San Francisco, and



UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF MARKETS AND CROP ESTIMATES

ORIGINAL

FOOD PRODUCTS INSPECTION CERTIFICATE (BUTTER)

This certificate is receivable in all courts of the United States as prima facie evidence of the truth of the statements therein contained.

Certificate No. .....

Fee, $..... (Payable by applicant)

Market ..... Date ..... 192 ..... A. M. / P. M.

To ..... (Applicant) Address .....

I certify that I am an agent of the United States Department of Agriculture, authorized to investigate and certify the quality and condition of butter under certain provisions, known as the food products inspection law, of an Act of Congress, approved March 3, 1921 (Public No. 367, 66th Congress) and the rules and regulations prescribed thereunder; that at the time and on the date stated above I inspected the lot of butter described below, received at the above-named market, an important central market designated by the Secretary of Agriculture, pursuant to said law and rules and regulations; and that the quality and condition of said butter, at said time on said date, were as stated below:

Number of packages in lot ..... Kind of package ..... Number packages examined .....

Place where inspected ..... Stencil marks ..... Car initial and No. .....

STANDARD		RATING	DESCRIPTION	REMARKS
Flavor	45			
Body	25			
Color	15			
Salt	10			
Package	5			
Total	100			

Packages (not) stamped with score, lot number, and date of inspection for identification.

Food Products Inspector.

*Shipper or Seller ..... Address .....

*Receiver or Buyer ..... Address .....

*Kind of Butter ..... Approximate total net weight .....

*As stated by applicant.

KINDLY REFER TO THIS CERTIFICATE BY NUMBER AND MARKET

FIG. 72.—Federal butter inspection certificate.

Washington. Such inspections are made upon application of anyone having a financial interest in the product concerned. The cost of these inspections is relatively small, the minimum charge being $1, and a carlot averages only $3. These fees are paid by the applicant.

The Federal inspection service applies the same standards and the same methods in all markets. As the service develops and comes into greater use, it is expected to result in the adoption of uniform standards in the different markets, a condition which does not exist to-day. Increasing production of butter and intermarket movements make the recognition of a uniform standard highly desirable, and when this is accomplished it will result in the establishment of market values on a more satisfactory basis than at present.

Prices of Dairy Products.

It is necessary in discussing prices of dairy products to have clearly in mind the particular products referred to and what class of prices is under consideration. Different prices exist for the same grade of commodity at the same time, depending upon whether the prices are on the farm, in the markets, or whether they are wholesale or retail. There are such factors as supply and demand, however, which are of influence on prices in general. One of the outstanding influences affecting prices of all dairy products is the variation in supply as determined by seasonal production. Dairying is favored during the spring and early summer by weather conditions which make for natural pastures and which result in the heaviest production occurring during that time. Close to half of the annual production of creamery butter, for example, occurs during the months of May to August, inclusive, and with this heavy volume thrown on the market, prices are bound to react, declining under ordinary conditions.

From the individual farmer often comes the complaint that just at the season when his milk production is heaviest prices are lowest, and vice versa, but the reasons for this are obvious. Likewise, the remedy is apparent, and organized dairymen are recognizing the necessity of a more even

WHOLESALE PRICES OF BUTTER AND CHEESE, 122 YEARS.

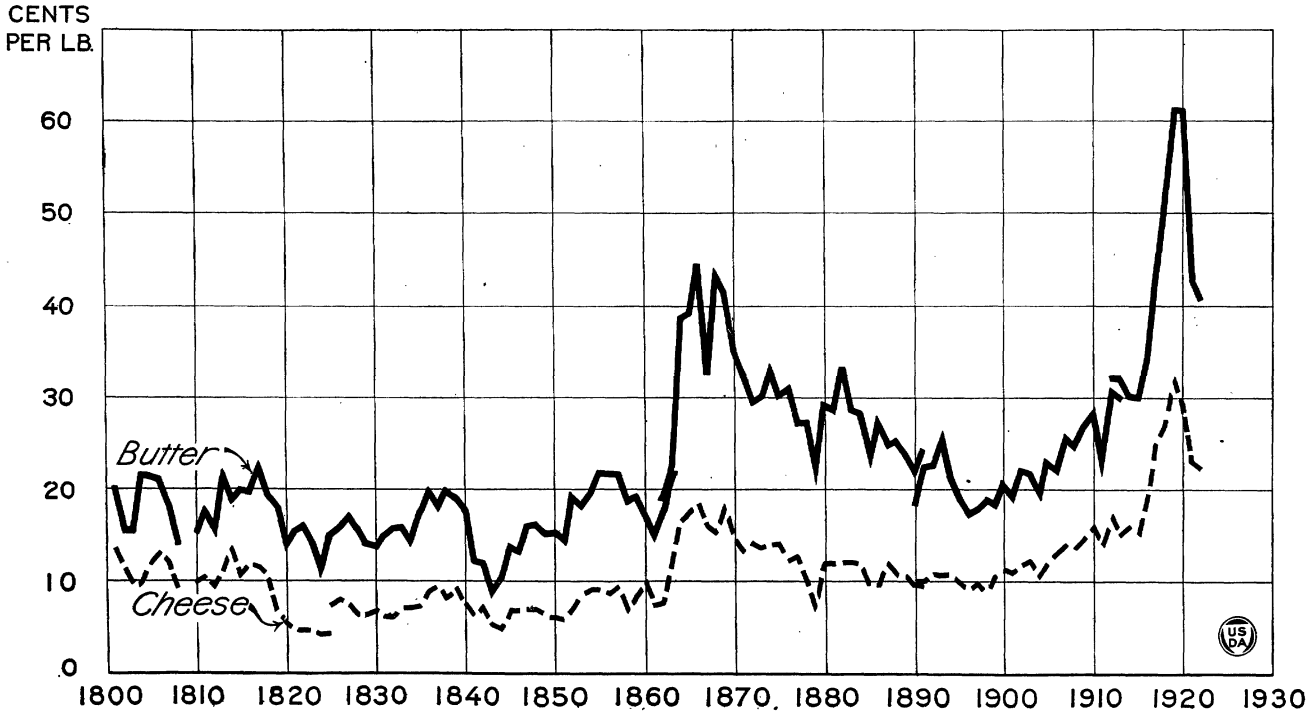


FIG. 73.—The close of the great war periods is marked by high prices. In each case compared with the general price level prices of dairy products were slow to rise and slow to fall. These curves show two long-time cycles of falling and rising prices, falling 1817–1843 and rising 1843–1866, falling 1866–1896 and rising 1896–1920. The cycles or trends apparently follow the changes in the general price level. Shorter cycles due largely to movements of farmers in and out of the dairy business and annual fluctuations in prices due largely to seasonal differences in production and demand also appear in the curve.

distribution of production if prices are to be stabilized. Even where seasonal production is beyond control, the removal of surplus milk from the market by diverting it into different products is the goal toward which effort is directed in order that prices may approach a more constant level.

Producers' prices.—The price which the local dairyman receives for his product is determined by numerous factors, the more important of which are as follows:

(1) Supply and demand. Regardless of other factors which influence prices, supply in relation to demand is what ultimately makes prices seek their level in a local market.

(2) Character of market supplied. Local markets frequently offer several outlets for milk and competing buyers may be milk dealers or manufacturers of dairy products such as creameries, condenseries, cheese factories, or ice-cream factories. Still further, dairymen sell direct to consumers in many of our cities and in most of the smaller towns and villages. Prices paid by competing buyers may vary on account of different requirements which milk purchased must pass, such as temperature, test, delivery, etc.

(3) Distance to market. In certain districts which are favorably located with reference to near-by markets, prices are usually higher than in districts not so located. The dairyman in Minnesota who markets his milk through a local creamery, which sends butter to New York, is in competition with dairymen from many other sections where the freight or other transportation costs may be less. As is shown by published schedules of fluid-milk prices in the New York City territory, high freight rates from the more distant shipping points mean lower prices to producers at those points.

(4) Form in which product is sold. The sale of milk in fluid form for city consumption usually brings higher gross prices to producers than the sale in any other form. A gross-price comparison, however, is not an index of net returns, on account of variations in the costs of producing milk for different purposes.

(5) Section of the country where located. As an example of sectional variation in prices, producers of market milk

throughout the South receive prices which average considerably higher than those paid in other sections of the country. Dairying there is a new industry, especially the production of market milk, and high prices are necessary to stimulate production sufficient to supply the demand.

WHOLESALE PRICES OF 92-SCORE BUTTER AT NEW YORK AND CHICAGO AND CREAMERY BUTTER PRODUCTION, 1921.

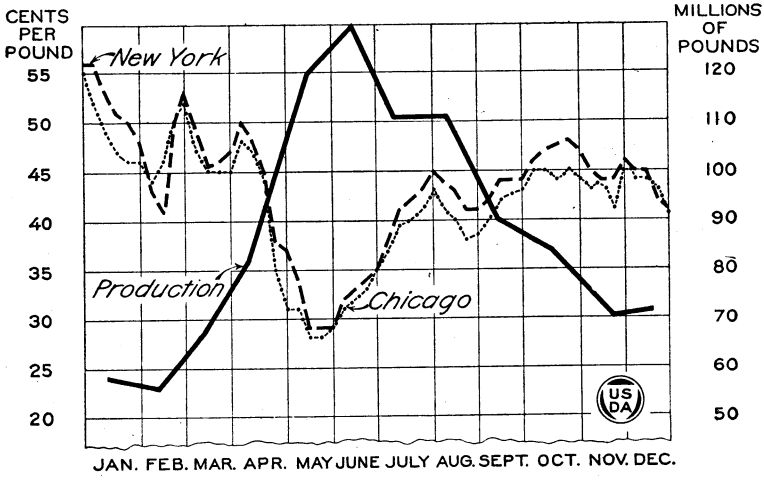


FIG. 74.—Supply and demand operate in the butter markets. As production increases each spring and more butter becomes available on the markets, prices begin to decline. During 1921 prices were lowest in May, while production did not reach its peak until the following month. The surpluses on the markets, however, began to be drawn upon for storing purposes during May, so that with this support prices shortly afterwards took an upward tendency.

(6) Season of the year. By reason of the seasonal variation in production, prices normally reach their highest point during the winter and their lowest point during the spring and early summer.

(7) The general price level. On a long-swing basis, prices for milk in whatever form it is used have a tendency to seek a general level. Cheese-factory milk, for example, may be worth more than condensery milk, or vice versa, only so long as market prices on the finished product make such a condition possible. Changes from one product to another do

not occur overnight, but production responds more or less quickly to an oversupply or shortage.

Prices in the Large Markets.

In the large markets of the country, various prices for the same grade of a commodity may be found. Using butter prices as an example, there are (1) prices which receivers in the markets pay creameries; (2) prices at which butter is sold by receivers in a wholesale way; (3) jobbing prices which represent sales of smaller quantities to such classes of trade as grocery stores; and (4) retail prices which are charged the consumer for what he buys.

Wholesale prices, and consequently prices paid shippers, fluctuate more than jobbing prices and retail prices, because wholesale trading is carried on under a system which results

WHOLESALE PRICES OF 92 SCORE FRESH CREAMERY BUTTER, 1921. COMPARISON OF FIVE DIFFERENT MARKETS.

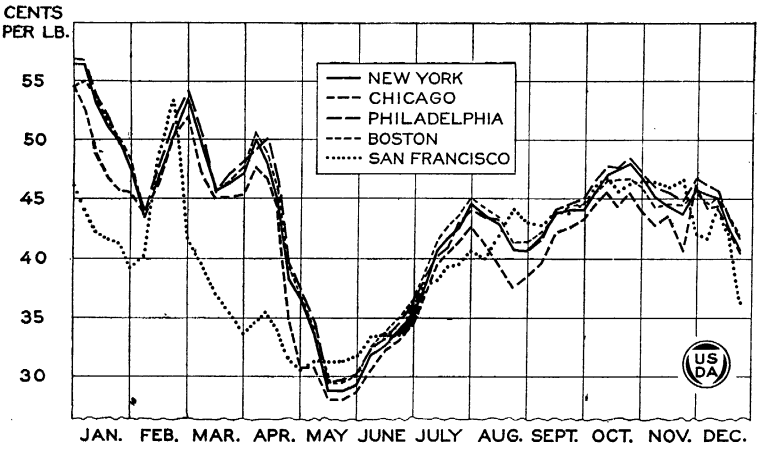


FIG. 75.—Since intermarket shipments of butter can be so readily made, prices in the different markets follow each other more or less closely, except for such differences as freight costs, etc. As soon as prices in one market become out of line with prices in other markets there is a tendency for butter to move to or from that market, depending upon whether prices are higher or lower. The downward tendency in the spring of 1921 occurred earlier at San Francisco on account of an earlier producing season on the Pacific coast. San Francisco dealers took advantage of this situation and shipped considerable quantities of butter to eastern markets during March and April.

in prices reacting quickly to supply-and-demand conditions. Further along the line of distribution where smaller quantities of goods are handled, and less risk incurred, margins are wider and selling prices do not always follow closely minor wholesale price fluctuations. Wholesale prices of butter and cheese, varying as they do from day to day and for different grades, represent the prevailing opinions of values on the part of dealers who follow closely all available statistics regarding production, movements, supplies, demand, etc. Through the activities of various commercial organizations and the market news service of the United States Department of Agriculture, comprehensive reports are now available daily for reference.

Total supply and demand are the ultimate factors of influence in establishing prices, although in local markets

EFFECTS OF INTERRUPTED TRANSPORTATION ON THE PRICE OF BUTTER AT NEW YORK AND CHICAGO, 1920.

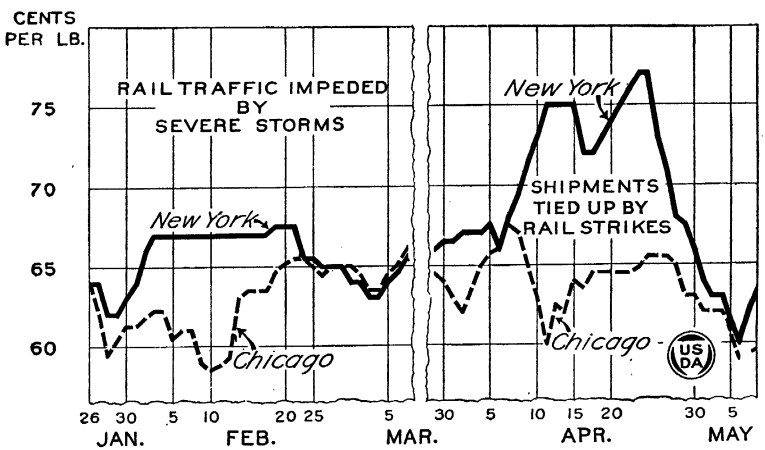


Fig. 76.—In markets like New York and Chicago, to which the bulk of the surplus butter produced is shipped, wholesale prices react quickly to immediate supply and demand, and even slight variations in daily arrivals may cause prices to fluctuate unless there are similar variations in demand. But when transportation is so disturbed that the movement of goods is materially interrupted, violent price changes may occur. The possible effect of interrupted transportation on prices is illustrated by what occurred in New York and Chicago markets during February, 1920, when there were severe storms throughout shipping sections, and in the following April, when the rail strike temporarily affected shipping. In both cases shippers in the Middle West shipped to Chicago rather than risk shipping to New York. The effect of the increased receipts at Chicago and the falling off of receipts at New York was a spreading apart of prices on the two markets.

various conditions may develop which are of temporary influence on local prices. Speculative demand, sentiment, and interrupted movement of goods to market are examples of these influences, and while they affect supply and demand it is not possible, because of their uncertainty, to measure price changes which may occur as a result of them. Further elements of influence on prices are competition, efficiency, service included in the transaction, credit extended, and costs of doing business.

Regardless of the fact that a great many influences bear on price changes, markets follow each other closely over a period of time.

How Prices of Dairy Products Are Established.

The majority of farmers who have dairy products to market sell either milk or cream. But the different uses to which both of these may be put brings into account a variety of methods by which prices are determined. Beginning with the dairyman who peddles his milk directly to the consumer, there is often no well-defined basis of establishing price. Presumably, cost of production is covered, but selling prices may be governed by competition or may be arbitrarily placed at a figure representing what the producer thinks he ought to have for his product. Prices paid for milk sold to city distributors are arrived at by various methods ranging from the arbitrary naming of buying prices by dealers, to the establishing of selling prices by producers through their own selling organization. Milk prices have been the cause of many bitter disputes between producers and dealers. This has resulted in the formation of many producers' marketing organizations, which in some cases have undertaken the retail distribution of milk.

While for some cities prices to be paid producers may be named and for others they may be arbitrated, it is practically without exception the case that if a price is not named in advance a basis is named or agreed upon. For example, a definite price per hundred pounds may be agreed upon and accepted, or the price may be based upon some current published butter or cheese quotation. In some sections elaborate studies have been made of all factors bearing

INDEX NUMBERS OF MILK, HAY, AND FEED PRICES (MONTHLY), 1910–1922.

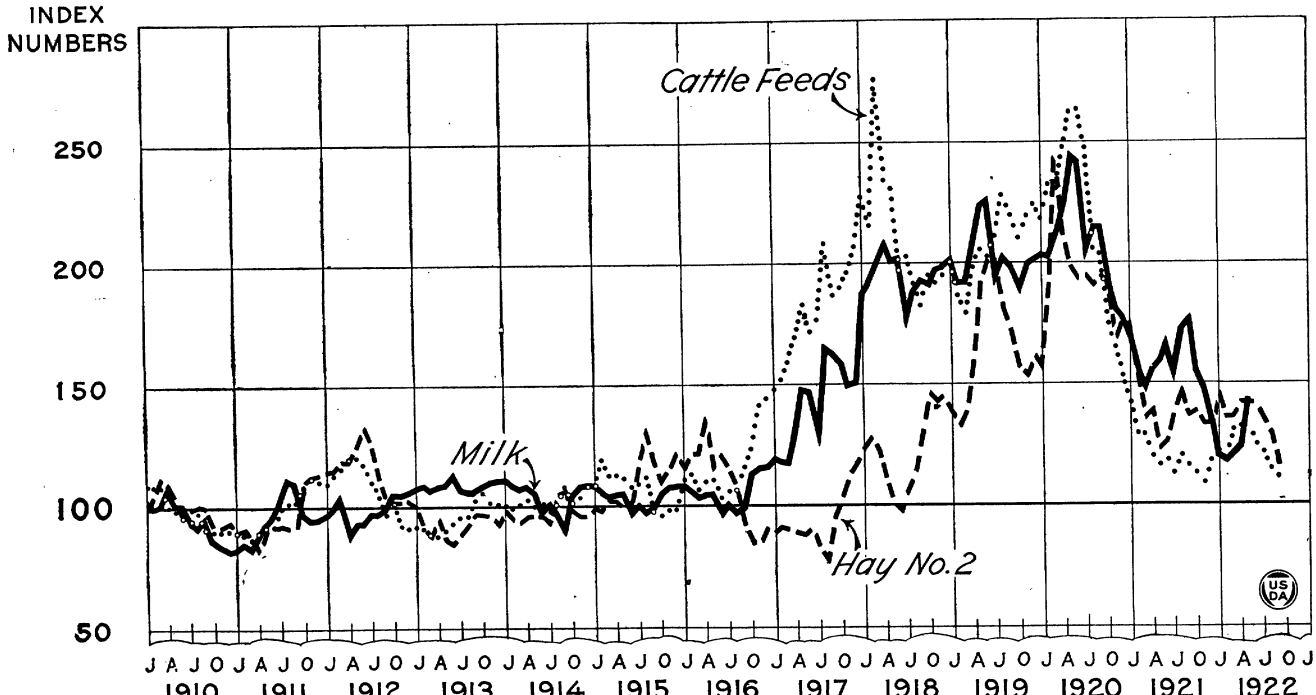


FIG. 77.—Prices of milk tend to follow costs of feed, in other words prices of milk have to be adjusted in the long run to feed costs. During the period of rising prices, 1916–1920, prices of concentrates rose more rapidly and of hay less rapidly than price of milk, in the period of falling prices the prices of feeds fell more rapidly than milk. An attempt has been made to eliminate fluctuations due to regular seasonal changes by using as the base of the index for each month the average for the same month of the period 1909–1913.

upon milk prices, such as variation in seasonal production, values of related products, and costs of production.

Milk for nearly all the larger cities is bought under the so-called "surplus" plan—i. e., an agreed price is paid for milk delivered by producers up to a certain amount, beyond which a lower price is paid for such surplus as may occur. At least two general plans are followed. In the first an average production is established for each producer, based usually upon his average for certain months in the fall. With this quantity as a base, a sliding scale of prices is worked out for milk in excess of this amount, due consideration being given both to the heavier production and heavier demand which occur at other seasons. In the other plan an endeavor is made to determine the actual surplus and pay accordingly. In order to do this, dealers furnish audits of their business, showing disposition made of all milk received, and prices paid producers are based on such figures. Producers' organizations located in territories which are widespread and which include all types of dairy plants are leaning toward the adoption of a pooling plan in order that all producers shall share in whatever reduction in returns may occur due to surplus production.

Basis for butter prices.—Wholesale butter prices the country over are quite generally based on wholesale quotations at New York and Chicago. It is to these two markets that the great bulk of the surplus production is shipped, and also in those cities the greatest wholesale demand occurs. In both New York and Chicago wholesale butter prices are published by commercial reporting agencies and by the United States Department of Agriculture. In order to arrive at these quotations, market reporters attend the sessions of the wholesale exchanges, later canvassing the trade in order to secure complete information as to selling prices and the tone of the current day's market. Prices are reported for the different grades of butter, because values differ according to quality. Market reporters hold important positions in the markets and their responsibilities are large.

Various other plans of establishing wholesale quotations have been tried and are still followed in some markets, but the use of established market reports is followed more generally than any other basis.

Among other methods which have been and still are followed to a small extent, two are of more than passing interest, namely, quotation committees and the use of exchange sales. Theoretically, the establishment of prices by a quotation committee of an exchange is a plan possessing certain merit. With such a committee either elected or appointed, representing different interests, a representative price should be established which would take into consideration bids, offers, and sales, as well as the tone of the market. The public, however, looks with more or less suspicion on prices which are established through such procedure, and furthermore, court orders have prohibited quotation committees on most of the exchanges where the plan has been tried.

Establishing quotations as a result of exchange sales is another method which has been followed in certain markets. But whether prices of closing sales or of the majority of sales have been accepted as official quotations, this method

PRICES OF MILK COMPARED WITH AVERAGE PRICE OF ALL COMMODITIES, NEW YORK CITY, 1899–1922. 1913 PRICE=100.

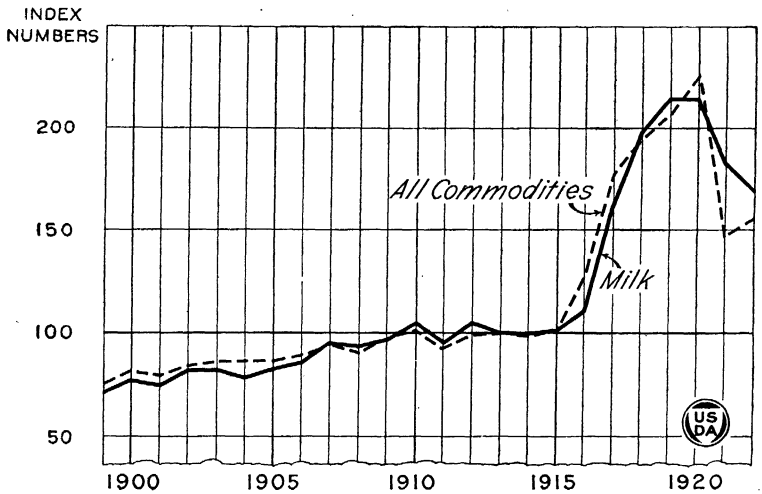


FIG. 78.—The trend of the price of milk in New York City follows very closely the all-commodity price level. Before the war the trend of milk prices was upward along with the price level; the war caused prices generally to rise to abnormal heights, from which they fell rapidly beginning in 1920 and continuing until 1922. During the period of rapidly rising prices the price of milk rose more slowly than the general price level, and fell more slowly as prices deflated.

has not met with the greatest favor. Sales on exchanges usually represent but a small percentage of the total business in the market, and the possibility of such sales not being representative of the market have brought forth so much criticism that this method is not in general favor among the butter trade. Both of the above methods were followed at different times in making prices on the old Elgin Board of Trade, which prices were used the country over a number of years ago as a buying and selling basis. The Elgin board was suspended through Government order in 1917. The Chicago and New York market quotations now form the basis of most wholesale trading which takes place, although local quotations are often used for local or near-by business.

Butter-market quotations are not only used in buying and selling butter, but are extensively used in buying milk and cream on the butter-fat basis. It is quite customary for creameries to bid for cream, naming a butter-fat price based upon some well-known market's butter quotations. Frequently milk dealers buy milk in the same way.

Basis for cheese prices.—The bulk of the cheese marketed by cheese factories is sold on the basis of weekly cheese-board quotations. Cheese boards are local exchanges where goods are sold by auction to the highest bidders. At present there are but two active cheese boards, both located at Plymouth, Wis., although in former years numerous boards were located at various points throughout the cheese-producing sections of Wisconsin, also in New York State. The two Wisconsin boards meet on Monday, one meeting following the other, and as a result of trading which occurs, prices for the various styles are established which serve as a basis of trading until the next board meetings the following week. Actual selling prices may vary from day to day from board quotations as market conditions warrant, but ordinarily no radical fluctuations occur oftener than once each week. New York State cheese boards, which were more or less inactive for several years, are practically not functioning now. With the disappearance of the New York boards New York State factories have either based sales on Wisconsin board prices or on wholesale prices ruling in the New York City market. New York City prices are reported by a local trade paper,

and are also included as a part of the market news service of the United States Department of Agriculture.

In Wisconsin and in some other sections a great many of the cheese factories are cooperative, and returns to dairymen are made on the cooperative basis. In sections where fluid-milk dealers, condensaries, creameries, or other buyers are competing for milk, cheese factories have to take this competition into account. The ability of such buyers to outbid cheese factories is one reason that will account for the decreasing number of factories in the State of New York.

Cooperative Dairy Marketing Organizations.

Cooperative organizations of dairymen in the form of cooperative creameries and cheese factories have been established for many years, such organizations being local enterprises whose activities are largely confined to manufacturing. There are many of these successful cooperative organizations throughout the United States, although the largest number are located in Minnesota, Wisconsin, Michigan, and Iowa. For the most part, however, organizations of this type have devoted very little attention to the marketing of their manufactured product, merely shipping it to wholesale dealers in the large markets or supplying local trade as demand developed. The principal advantage of organization has been the fact that whatever profit was realized from the business reverted back to the stockholders, who in strictly cooperative organizations are producers.

A number of years ago a group of cheese factories in Oregon federated for cooperative marketing, with the result that a most successful system has now been worked out which, together with quality production, has resulted in a heavy demand for their product. A similar federation of some 200 or more Wisconsin cheese factories is now operating on a similar plan. For a number of years a small group of Minnesota cooperative creameries have maintained a sales office in New York City, and during the past year another larger group of Minnesota cooperative creameries has been organized and arrangements are now being perfected for car-lot shipments and the distribution of car-lot quantities among New York City receivers through the association's

own New York office. In California a small number of cooperative creameries have gone a step further, and for several years have maintained their own distributing agency in Los Angeles which supplies retail trade direct. Interest in cooperative manufacture is illustrated by these organizations.

The greatest progress in organizing for cooperative marketing of dairy products has been made by dairymen who produce market milk for city consumption. Until comparatively recent years market-milk producers generally, like other dairymen, confined their efforts largely to production, leaving the marketing and distribution of their product to the already established agencies which were engaged in those lines of the business. More recently the actions of milk producers indicate an effort on their part to become more important factors in the business of marketing. This tendency has been fostered by various National and State agricultural organizations.

Producers' marketing organizations of various types have come into existence within recent years. The majority of these have been formed for the purpose of collectively bargaining for the sale of milk to city dealers. Although a few organizations have now undertaken the actual merchandising and distribution of their product, the earlier tendency was toward collective bargaining only, with the primary object of bargaining with buyers in an effort to obtain satisfactory prices.

Many legal points have been encountered by producers when deciding upon a form of organization, but of the larger associations now operating, the use of certificates of indebtedness or of the rotating stock plan have been most generally followed. The purpose of these is to get the control of the association into the hands of producers as soon as possible. Where preferred and common stock have been sold, the plan adopted has generally provided for retiring a certain amount of the former each year, using outside capital merely to finance the organization in its infancy. A further matter which has been found of vital importance has been the selection of a capable and representative board of directors, yet small enough for the affairs of the association to be handled without unnecessary delay and in a business way.

The largest cooperative marketing association of milk producers is the Dairymen's League, composed of dairymen who are located in the territory from which New York City draws its milk supply. This organization, with a membership of some 72,000 dairymen, has acquired the ownership of a large number of country milk plants through which milk is shipped to various markets and at which surplus milk is manufactured into butter, cheese, condensed and evaporated milk, ice cream, powdered milk, or such other products as market conditions may make the most profitable.

The association also sells the product of its members to milk dealers and others wherever such buyers maintain buying and receiving stations. Within the year the organization has entered New York City, has purchased the city plant of a large wholesale milk dealer, and has undertaken the wholesale distribution of milk direct to wholesale classes of trade such as hotels and restaurants. Sales offices are maintained in a number of cities, and through connections established with wholesale distributors, brokers, etc., certain products of the organization are sold under the association brand in foreign markets in many different parts of the world.

Wherever milk producers have organized, certain definite problems have always presented themselves. One of these has been the type of organization which would be best fitted for immediate needs, for upon the adoption of a satisfactory, workable, and equitable plan, the ultimate success of the undertaking has depended. Sufficient financing has been another obstacle. Without funds to put into operation the marketing scheme, an organization occupies much the same uninfluential position as its individual members. The securing of funds has often been extremely difficult, not only because of a lack of confidence on the part of members, but because of unsettled economic conditions which have put many producers in strained circumstances. Lack of proper management has also impeded progress in some cases. While some organizations have recognized the need of the most competent management obtainable, and have provided for it at considerable expense, others have been directed by officers whose vision was not broad enough to see the folly of false economy.

The surplus-milk problem has offered perhaps the greatest obstacle which organized producers have met, and where manufacturing facilities are not provided by associations it is now quite customary to make contracts with buyers, in which separate prices to be paid for surplus are recognized, the amount of surplus being determined by some agreed plan.

The Tariff on Dairy Products.

The tariff on dairy products has been a factor in international trade. Changes have been made from time to time in the tariff schedules. The early tariffs applied especially to cheese, but as other products have become important in international trade, those have been added. The present tariff applies to eight specific dairy products, and all of the rates are subject to change after investigation by the President of the United States.

The dates of the various enactments from 1789 to date, with the rates of duty imposed by each, are as follows:

Rates of duty on imports of dairy products.

Date of act (and when effective).	Rates of duty.
July 4, 1789 (Aug. 1, 1789).	Cheese, 4 cents per pound; other, 5 per cent.
Aug. 10, 1790 (Jan. 1, 1791).	Cheese, 4 cents per pound; other, 5 per cent.
May 2, 1792 (July 1, 1792).	Cheese remains 4 cents per pound; other, 7½ per cent.
June 7, 1794 (July 1, 1794).	Cheese,7 cents per pound; other, 10 per cent.
May 13, 1800 (July 1, 1800).	Cheese remains 7 cents per pound: other, 12½ per cent.
Mar. 26, 1804 (July 1, 1804).	Cheese remains 7 cents per pound; other, 15 per cent.
July 1, 1812 (July 1, 1812).	Existing rates doubled until 1 year after the war.
Apr. 27, 1816 (July 1, 1816).	Cheese, 9 cents per pound; other, free.
May 22, 1824 (July 1, 1824).	Cheese remains 9 cents per pound; butter, 5 cents per pound; other remains free.
July 14, 1832 (Jan. 1, 1833).	Existing rates remain,
Aug. 30, 1842 (Aug. 31, 1842).	Cheese, 9 cents per pound; butter, 5 cents per pound; other, 20 per cent.
July 30, 1846 (Dec. 2, 1846).	Cheese, 30 per cent; butter and other, 20 per cent.

Rates of duty on imports of dairy products—Continued.

Date of act (and when effective).	Rates of duty.
Mar. 3, 1857 (July 1, 1857).	Cheese, 24 per cent; butter and other, 15 per cent.
Mar. 2, 1861 (Apr. 2, 1861).	Cheese and butter, 4 cents per pound; other, raw, 10 per cent; manufactured, 20 per cent.
Apr. 29, 1864 (Apr. 29, 1864).	Existing rates increased 50 per cent for 60 days.
June 30, 1864 (July 1, 1864).	Duties in effect prior to April 29, 1864, restored.
June 6, 1872 (Aug. 1, 1872).	Cheese and butter remain 4 cents per pound; condensed or preserved milk, 20 per cent; sugar of milk, free; other, raw, remains 10 per cent; manufactured remains 20 per cent.
Mar. 3, 1883 (July 1, 1883).	Cheese, 4 cents per pound; butter and substitutes, 4 cents per pound; condensed or preserved milk, 20 per cent.
Oct. 1, 1890 (Oct. 6, 1890).	Cheese, 6 cents per pound; butter and substitutes, 6 cents per pound; fresh milk, 5 cents per gallon; condensed or preserved milk; 3 cents per pound; sugar of milk, 8 cents per pound.
Aug. 27, 1894 (Aug. 1, 1894).	Cheese, 4 cents per pound; butter and substitutes, 4 cents per pound; fresh milk, free; condensed or preserved milk, 2 cents per pound; sugar of milk, 5 cents per pound.
July 24, 1897 (July 24, 1897).	Cheese and substitutes, butter and substitutes, 6 cents per pound; fresh milk, 2 cents per gallon; condensed or preserved or sterilized milk, 2 cents per pound; sugar of milk, 5 cents per pound.
Aug. 5, 1909 (Aug. 6, 1909).	Cheese and substitutes, butter and substitutes, 6 cents per pound; fresh milk, 2 cents per gallon; fresh cream, 5 cents per gallon; condensed or preserved or sterilized milk, 2 cents per pound; sugar of milk, 5 cents per pound.
Oct. 3, 1913 (Oct. 4, 1913).	Cheese and substitutes, 20 per cent; butter and substitutes, 2½ cents per pound; milk, cream, condensed or preserved or sterilized milk or cream, sugar of milk, free.
May 27, 1921 (May 28, 1921).	Cheese and substitutes, 23 per cent; butter and substitutes, 6 cents per pound; fresh milk, 2 cents per gallon; cream, 5 cents per gallon; condensed or preserved or sterilized milk, 2 cents per pound; other rates remain as before.
Sept. 21, 1922 (Sept. 22, 1922).	Cheese and substitutes, 5 cents per pound, but not below 25 per cent; butter, 8 cents per pound; oleomargarine and other butter substitutes, 8 cents per pound; fresh milk, 2½ cents per gallon; sour milk and buttermilk, 1 cent per gallon; condensed or evaporated milk in sealed containers, unsweetened, 1 cent per pound; sweetened, 1½ cents per pound; other, 1⅜ cents per pound; cream, 20 cents per gallon; whole milk powder, 3 cents per pound; cream powder, 7 cents per pound; skimmed milk powder, 1½ cents per pound; malted milk and compounds or mixtures of or substitutes for milk or cream, 20 per cent; other dairy products, manufactured, 20 per cent. All rates subject to change by the President after investigation of cost of production, domestic and foreign.

Export Trade in Dairy Products.

During the war period, from 1914 to 1919, exports exceeded imports, when all dairy products are taken into consideration, but in 1920 and 1921 more butter was imported than was exported, a similar condition prevailing also with cheese during 1921. The imports of butter during 1920 and 1921 were mostly from Denmark, where a rapid return to normal conditions following the war resulted in such a surplus of butter that it became necessary to seek new outlets. The United Kingdom had been Denmark's largest pre-war market, but during the entire year 1920, food-control requirements limiting butter consumption remained in force in that country, and Denmark was able to export to the United States, pay the import tariff, and realize a return materially higher than could be obtained on her own markets. With England now again in the market, the former demand for Danish butter has been renewed, and this, together with a high protective tariff, has diverted Danish butter from the United States.

Cheese imports during 1921 were largely from France, Italy, Argentina, and Switzerland, principally foreign varieties, with domestic varieties from Canada. Considerable progress was made in this country during the war in developing the manufacture of foreign varieties and this, together with the tariff, will probably have an effect upon future imports of cheese.

Exports absorb annually large quantities of condensed and evaporated milk. During 1920, out of a total production of 1,578,015,000 pounds, exports amounted to 411,077,982 pounds, and of the 1921 production of 1,464,163,000 pounds, export trade absorbed 289,677,247 pounds. Exports during 1919 of over 850,000,000 pounds of condensed and evaporated milk represented the largest quantities which have ever been shipped from this country during a single year. The heavy demand for canned milk created by the World War stimulated production, with the result that many new condenseries were established. Foreign demand still exists, but exports have fallen off heavily due to the exchange situation, the unsatisfactory condition of foreign credits, and the fact

FOREIGN TRADE OF THE U. S. IN DAIRY PRODUCTS.

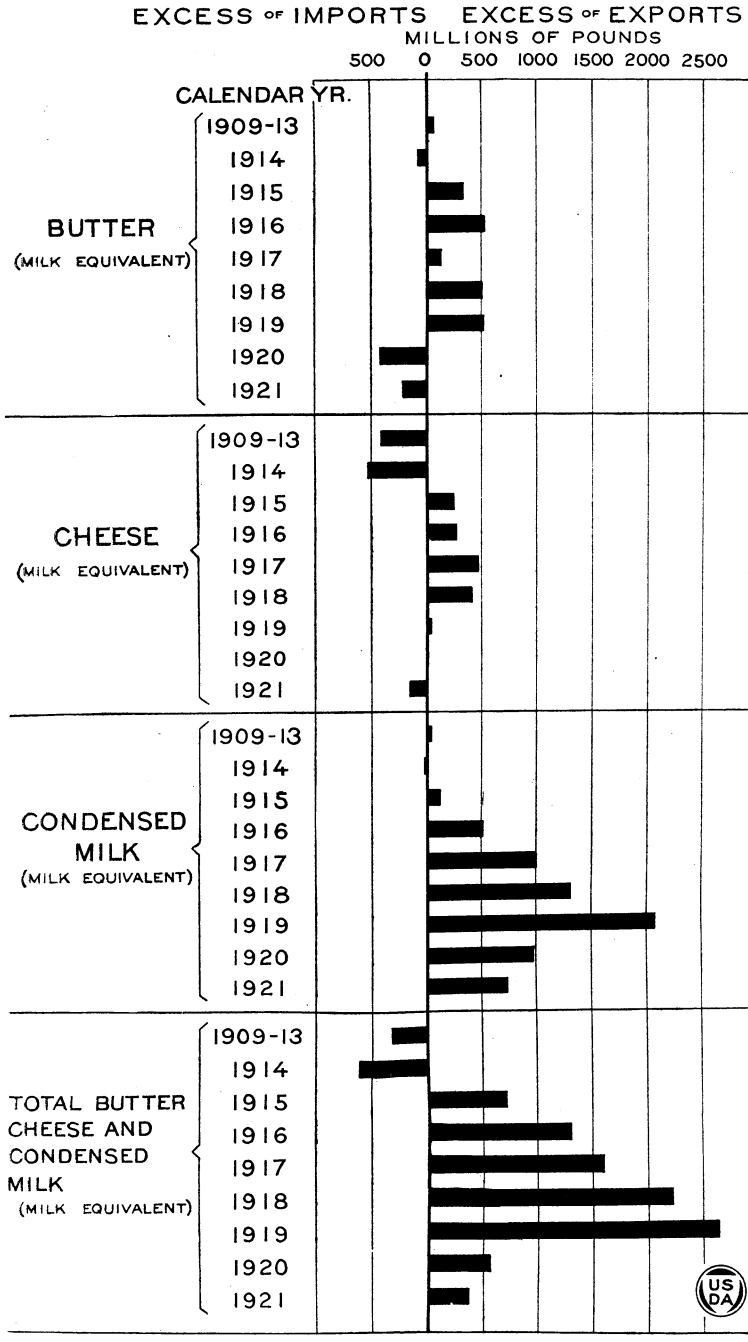


FIG. 79.

that increased production of condensed and evaporated milk in other countries, notably Switzerland, the Netherlands, and Australia, have made those countries potential competitors of the United States for this business. A critical situation faced domestic manufacturers during 1920 when production was at a high point and export demand began to fall off. Regardless of the fact that production was cut down to a low figure, stocks in this country accumulated in such quantities during the latter part of the year that markets became demoralized and numerous factories were forced to cease operations.

Since that time exports to European countries have been mostly for relief purposes, heaviest shipments going to Russia. Germany has received large quantities, but the bulk of

PRODUCTION, EXPORTS, AND STOCKS ON HAND OF CONDENSED AND EVAPORATED MILK (MONTHLY), 1919–1922.

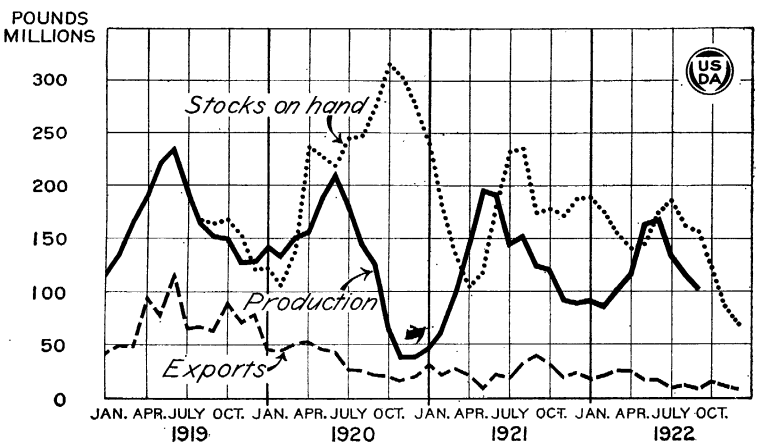
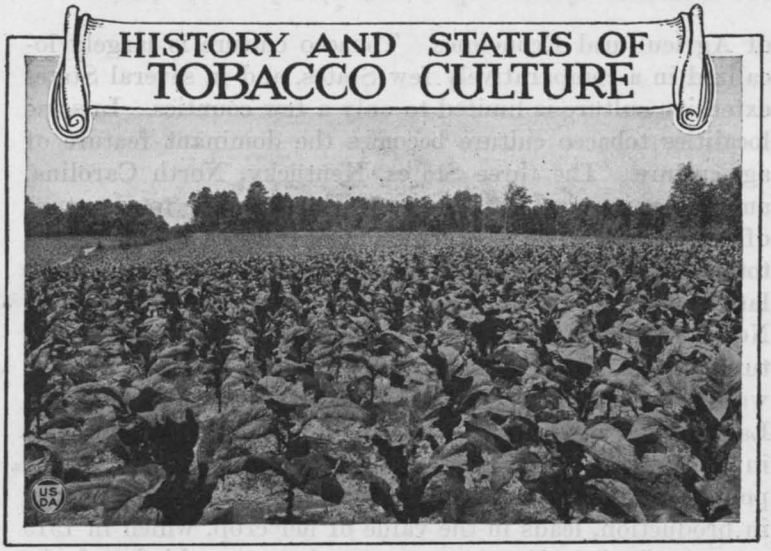


FIG. 80.—The heavy demand for condensed and evaporated milk during the war period brought about a large expansion of this branch of the industry in the United States. Numerous new plants were established and production increased rapidly. Following the war and the readjustment of economic conditions, a serious situation developed. Requirements of the armies were naturally reduced and export demand, which had absorbed a large portion of the increased production, became suddenly lighter because of the exchange situation and the fact that foreign countries entered the field of competition. The result was that while production in this country was greatly curtailed, stocks accumulated, reaching such large quantities the latter part of 1920 that condensed and evaporated milk markets became demoralized. Further readjustments which have been made since that time have resulted in working away from these unsatisfactory conditions, and the industry is slowly approaching normal.

this was presumably moved later into Russia. When sugar prices forced heavy advances in the selling prices of condensed milk there was a shift in demand from condensed milk, which is the sweetened product, to evaporated milk, which is unsweetened. Only about half the 1921 exports consisted of condensed milk, while in 1920 exports of condensed milk were double those of evaporated.

HISTORY AND STATUS OF TOBACCO CULTURE



By W. W. Garner and E. G. Moss, *Bureau of Plant Industry;* and H. S. Yohe, F. B. Wilkinson, and O. C. Stine, *Bureau of Agricultural Economics.*

Extent of the Industry.

THE size of the tobacco crop appears small when compared with the enormous production of such crops as wheat, corn, and cotton. The tobacco acreage constitutes about five-tenths of 1 per cent of the acreage devoted to all crops. In the census year 1919 the value of the tobacco crop was about 3 per cent of that of all farm crops. Nevertheless, the acreage and production of tobacco are large, and the value of the crop is exceeded only by that of corn, hay and forage, cotton, wheat, oats, and potatoes. Of the staple crops rye and barley, in addition to the preceding, surpass tobacco in acreage. According to census returns for 1919, tobacco was grown in 42 States, in 1,694 counties, and on 448,572 farms. The crop of 1,465,481,000 pounds was produced on 1,951,000 acres of land and was valued at $570,868,000. During the five-year period 1917–1921 the average area in tobacco was 1,702,000 acres, the production averaged 1,362,000,000 pounds, and the average value of the crop was $364,620,000, according to estimates of the Bureau

of Agricultural Economics. Tobacco culture is largely localized in a comparatively few States, and in several States extensive culture is limited to only a few counties. In some localities tobacco culture becomes the dominant feature of agriculture. The three States, Kentucky, North Carolina, and Virginia, produce nearly two-thirds of the total output of the country, and Kentucky alone produces a third of the total. In 1919 tobacco was grown on 143,599 farms in the latter State and 640,241 acres were devoted to the crop. North Carolina stood first in value of the crop, which returned to the farmers more than $151,000,000. This amount was 30 per cent of the value of all farm crops of the State. Lancaster, Pa., is the leading county of the United States in acreage and production, and in 1919 produced 49,335,000 pounds on 37,301 acres. Hartford, Conn., the second county in production, leads in the value of her crop, which in 1919 was worth $13,000,000, or more than two-thirds of the value of all crops produced.

The United States leads the world not only in the total production of tobacco but also in the number and diversity of distinctive types produced. Types of leaf especially adapted for all forms in which tobacco is used are produced in important quantities. The tobacco crop is the basis of extensive and varied manufactures, affording employment to many persons and involving large investments of capital. The magnitude of these operations is indicated by the census returns, which show that in 1919 the number of tobacco-manufacturing establishments was 10,291, with a capital investment of $604,839,572. Employment was afforded 183,565 persons, who received as salaries and wages $153,299,012, and the aggregate value of manufactured products was $1,012,933,213. Manufactured tobacco has long been an important source of revenue for the Government, and in 1921 the amount derived from this source was $254,035,199.

World Production.

Tobacco is grown in considerable quantity in various parts of the world. (Fig. 1.) As far as statistics are available the 11 countries producing upward of 50,000,000 pounds annually during the pre-war period, 1909 to 1913, are, in

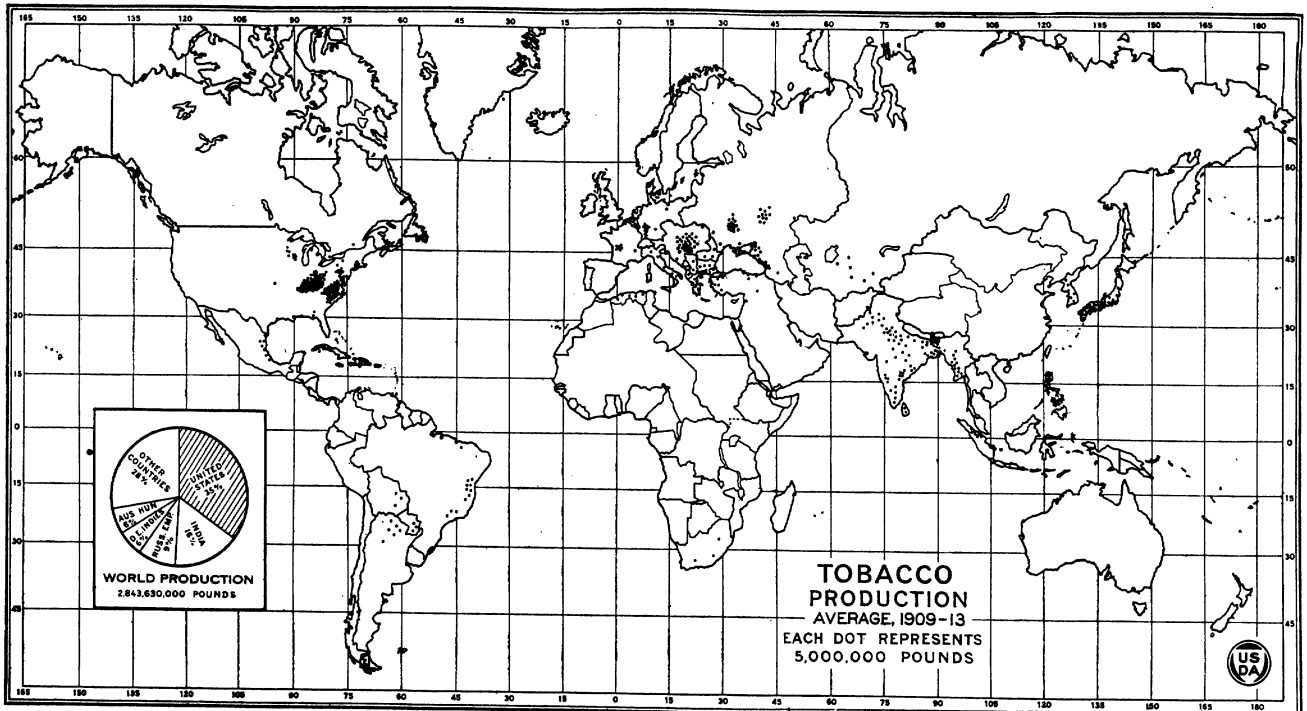


FIG. 1.—Tobacco may be grown successfully under a wide range of conditions of soil and climate, as shown by the fact that this crop is an important one in many parts of the world. The commercial value of the product, however, is influenced to an extraordinary degree by soil and climate so that the product of different countries varies greatly in market value.

the order of quantity produced, the United States, British India, Russia, Hungary, the Dutch East Indies, Japan, Germany, Philippine Islands, Brazil, Cuba, and northern Caucasia. The production of China undoubtedly is very large in the aggregate, but for that country nothing more than fragmentary statistics are available. It is estimated that world production for the period 1909 to 1913 averaged approximately $2\frac{8}{10}$ billion pounds, of which the United States furnished 35 per cent.

It is apparent that the tobacco crop of the world is produced under widely contrasted climatic conditions and on very diverse types of soil. The tobaccos thus produced differ greatly as to properties which determine their usefulness for different forms of manufacture, and consequently there are wide differences in the commercial value of these tobaccos. Most countries can readily produce large quantities of tobacco but only of a relatively inferior grade, while only a few countries possess areas having the necessary soil and climatic conditions for growing tobacco of superior merit. So important are the effects of soil and climate on the quality of the tobacco produced that even in those countries which, as a whole, grow a product of relatively low-grade, tobacco culture is more or less definitely localized.

Acreage, Yield, and Production in the United States.

In 1866 the estimated area in tobacco was slightly more than a half million acres and, with a fairly steady rate of increase, the acreage first passed the million mark in 1899. (Fig. 2.) Beginning with 1904, there was a 5-year period of reduced acreage, followed by a marked increase to an average of nearly $1\frac{1}{3}$ million acres for the 5-year period, 1917 to 1921. The acreage, therefore, has tripled in a half century. In 1920 the acreage approached the 2-million mark, but low prices resulted in a marked reduction in the area planted in 1921.

The yield per acre fluctuates widely from year to year, the lowest average yield for the country during the past half century, namely 569 pounds, being that of 1869. The highest average yield for this period was 894 pounds, in 1911.

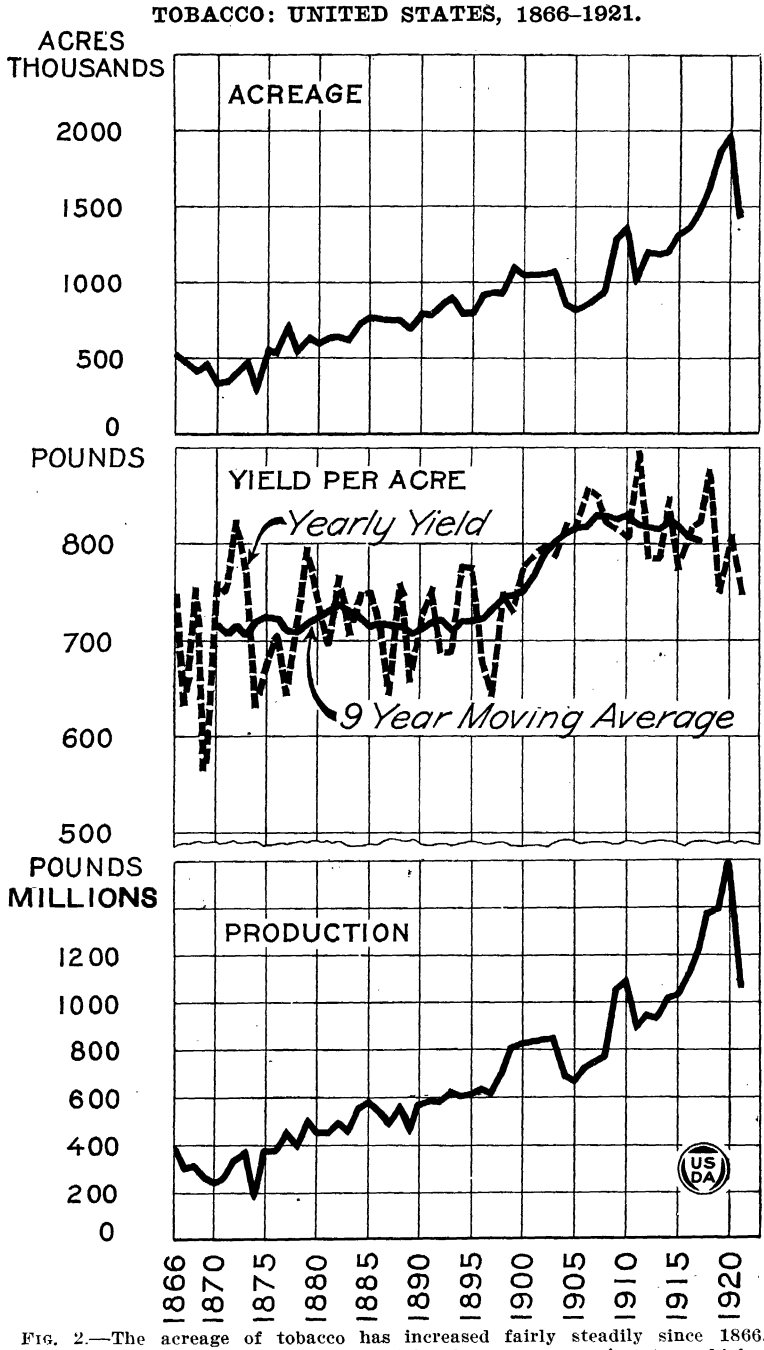


FIG. 2.—The acreage of tobacco has increased fairly steadily since 1866. Production has increased more rapidly than acreage owing to a higher yield per acre.

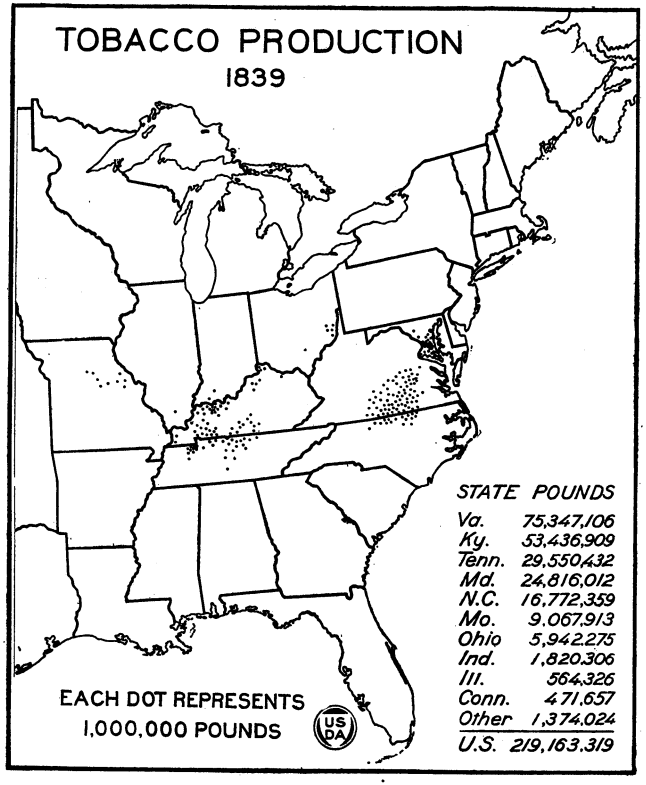
Using nine-year moving averages to smooth out seasonal influences, it is seen (Fig. 2) that there was no marked change in average yield per acre during the first 30 years of the period covered. Beginning about 1897, however, the average yield advanced from about 715 pounds to more than 800 pounds per acre within a decade. This increase in yield was due in part possibly to the extension of tobacco culture into new territory, but the principal factor was the increased use of fertilizers. There has been no further decided change in average yield per acre.

The total production has increased from an average of about 350,000,000 pounds for the 10-year period ended in 1879 to 1.1 billion pounds for the 10 years ended in 1919. This increase in production is due chiefly to increase in acreage, only a small fraction being accounted for by increase in acre yield. The crop of 1920 was the largest ever grown, the estimated production for that year being 1,582,225,000 pounds. The 1921 crop, however, amounted to only 1,075,418,000 pounds.

Tobacco Culture a Highly Specialized Industry.

Historical Development.

At the time of the discovery of America the natives were growing tobacco from Canada southward as far as southern Brazil. Early records show that the aborigines understood the more fundamental features of tobacco production as now practiced, including the details of proper spacing in the field, topping and suckering the plants, and the distinctive processes of drying now known as air curing, sun curing, and fire curing. Spanish settlers began commercial tobacco culture in the West Indies and Central America and South America long before Jamestown was established, so that at the outset the tobacco produced by the Virginia and Maryland settlers was forced to meet the competition of the Spanish product when sent to Europe. Nevertheless, tobacco promptly became a leading article of exchange with the mother country, and its culture has remained a permanent feature of agriculture in Virginia and Maryland. Throughout colonial days, when Virginia and Maryland produced the bulk of the crop, there was a tendency for production



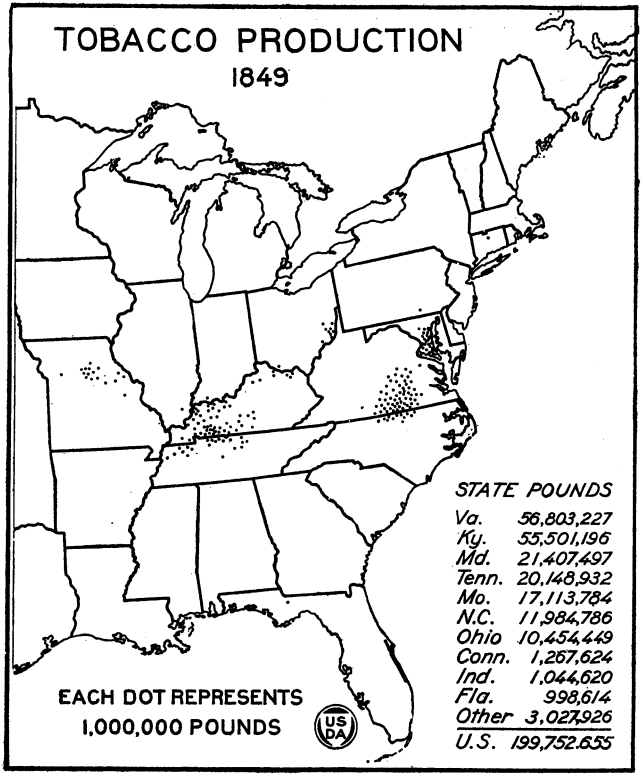
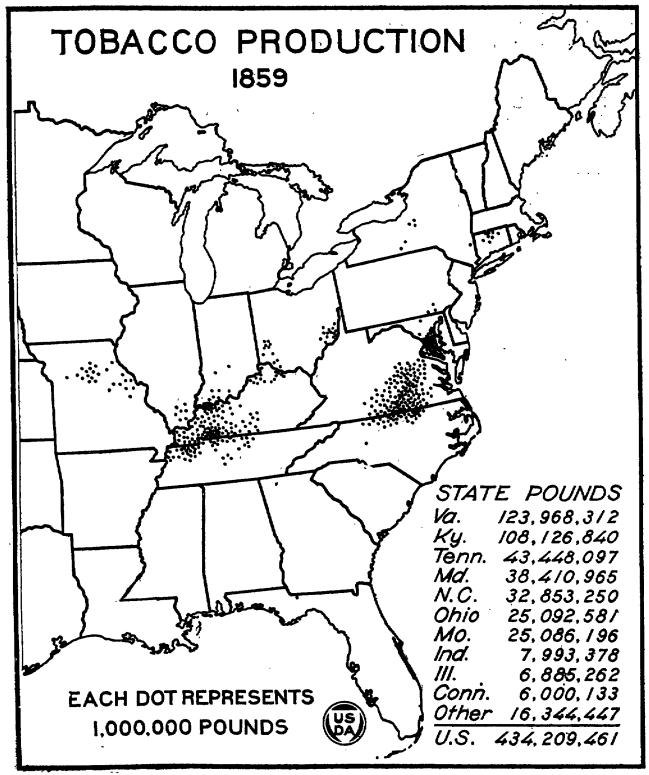


FIG. 3.—In 1839 the tobacco crop was grown mainly in the States of Virginia, Maryland, North Carolina, Kentucky, and Tennessee. During the decade 1839–1849 there was no marked change in total quantity of tobacco grown or in distribution of production.



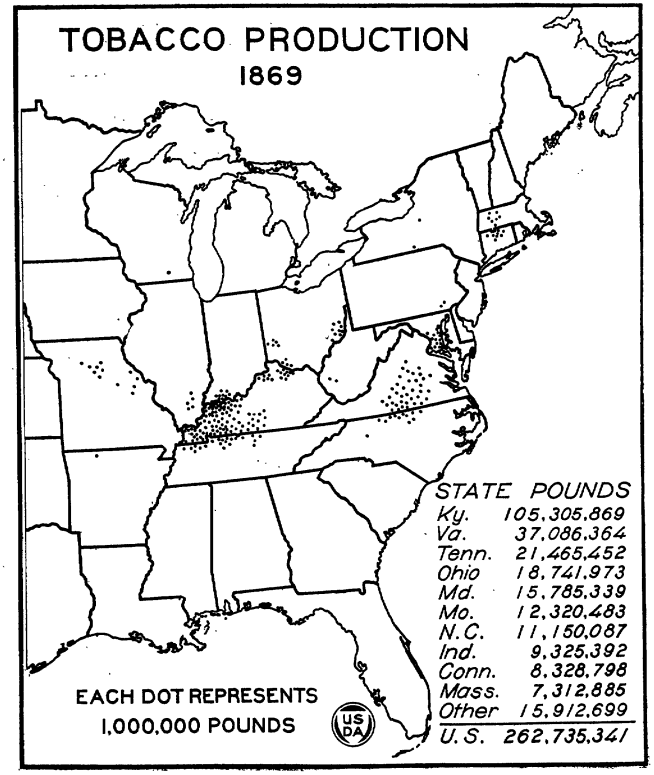
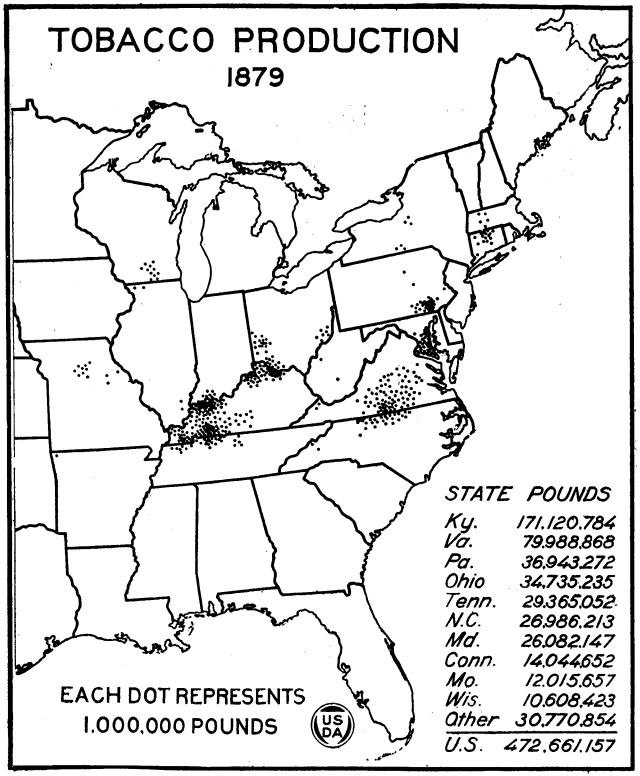


FIG. 4.—By 1859 production had increased greatly in the leading tobacco-growing States, the crop of that year being more than twice as large as the 1849 crop. In the decade 1859–1869 influences of the Civil War caused a shift in the center of maximum production from Virginia to Kentucky where it has since remained. Production for the country as a whole also was greatly curtailed.



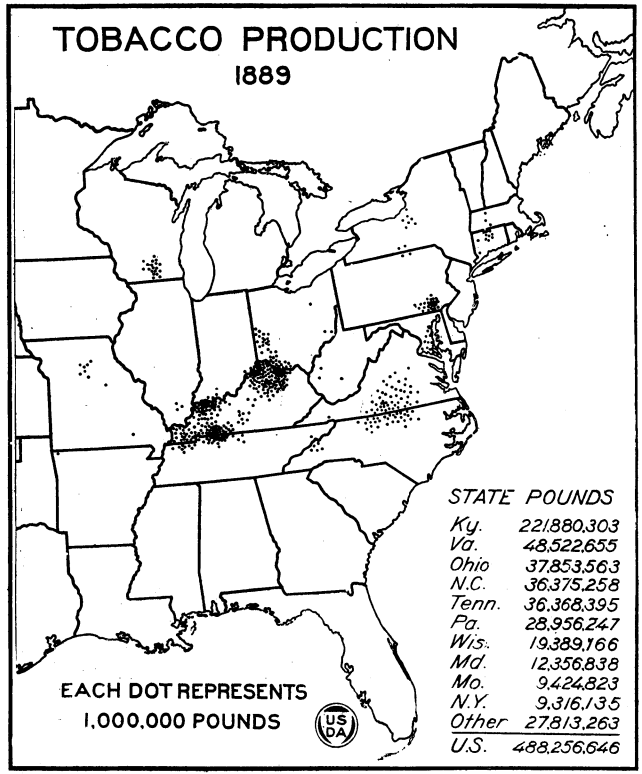


FIG. 5.—In the decade closing with 1879 there was a notable increase in production in northern tobacco-growing States, especially in Pennsylvania and Wisconsin. There were no striking changes in distribution of production in the period 1879–1889 except a marked expansion in production in north central Kentucky.

to increase more rapidly than European demand, thus causing very low prices. Tobacco was a constant object of legislation in vain efforts to remedy this situation by such devices as fixing prices, limiting production, and providing penalties for false packing. By 1664 tobacco exports in Virginia and Maryland had reached nearly 24,000,000 pounds, and by 1770 the portion of the crop exported averaged about 100,000,000 pounds. During the following half century trade disturbances, resulting largely from the Revolutionary War and the long series of Napoleonic wars in Europe, materially checked further expansion in the production and exportation of tobacco. During this period, however, tobacco culture assumed increasing importance in Ohio, Kentucky, and Tennessee.

Changes in leading centers of tobacco production from 1839 to date are shown in Figures 3 to 6, inclusive. In 1839 the bulk of the crop was grown in Virginia, Kentucky, Tennessee, Maryland, North Carolina, Missouri, and Ohio, the two first named States furnishing nearly 60 per cent of the total. During the following decade there was little change in distribution of production, except that the crop of Missouri increased considerably. In 1859 production had increased in all the above-named States, and in addition the crop had become of some importance in the Connecticut Valley and in New York and Indiana. Virginia and Kentucky still produced more than half of the total crop. During the following decade the Civil War greatly curtailed production in Virginia, North Carolina, Maryland, and Tennessee, with the result that Kentucky assumed a commanding lead among the principal producing States. In this period there was considerable development of the tobacco industry in the Connecticut Valley.

In the decade ended in 1879 there was a considerable increase in production in nearly all the leading tobacco States, and for the first time production in Pennsylvania and Wisconsin became of importance. Production in Missouri reached its maximum in this period. During the decade ended in 1889 there was a further decided increase in average production for the country as a whole, although the 1889 crop itself was below the average, especially in Virginia. During this period Kentucky further increased her lead as

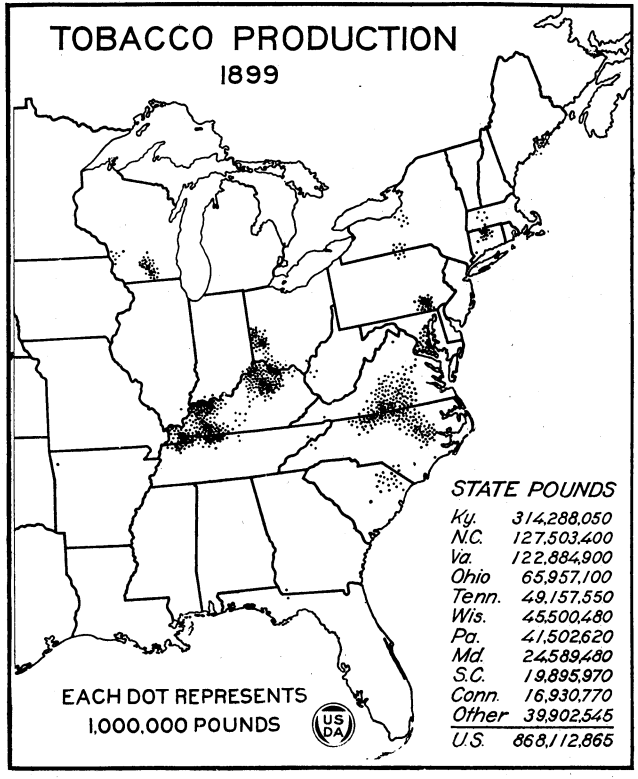
the principal producing State. There was also a considerable increase in production in Wisconsin. In the last decade of the past century there was a marked increase in the tobacco crop of nearly all leading States, but the outstanding features were the very large increase in North Carolina and the addition of South Carolina to the list of important producing States. Tobacco had ceased to be a crop of importance in Missouri. In the decade 1900–1909 there was a temporary period of decreased production in most of the principal tobacco States from 1904 to 1907, inclusive, while the crop of 1909 was very large, with the principal increases in Kentucky, Ohio, Tennessee, Indiana, the Connecticut Valley, and West Virginia. During the decade ended in 1919 there were further notable increases in production in North Carolina, South Carolina, Kentucky, Tennessee, Pennsylvania, and Connecticut. In 1918 the crop of Georgia began to increase considerably in size.

Differentiation into Distinctive Types.

The history of tobacco production in the United States has not been one of simple expansion, but rather, there has been throughout a tendency toward increased specialization. The use of tobacco for chewing and pipe smoking and in the forms of snuff, cigarettes, and cigars was prevalent among the natives when Columbus first visited America, but it is not clear whether these people recognized the special adaptability of different tobaccos for use in these different forms. At any rate, the early settlers in Virginia produced at first but a single fundamental type of tobacco for export to Europe, although this product soon came to be recognized as differing in its qualities from the tobaccos produced in the West Indies and South America by Spanish settlers. As its culture was carried from the first settlement at Jamestown into new territory it was seen that the changes in soil and climate resulted in important differences in the character of the tobacco produced. It gradually became more and more apparent also that these differences in the properties of the tobacco leaf due to soil and climatic influences greatly affected its adaptability for use in different forms, the product of one section, for example, being es-

pecially suitable for making smoking or chewing tobacco but perhaps not producing so acceptable a cigar as that of another section. It was learned, moreover, that desirable characteristics of the tobacco leaf resulting from local soil and climatic influences could be further accentuated by modifying the methods of growing and curing. Thus, through a process of gradual evolution tobacco culture has become highly specialized, each producing district furnishing a distinctive type of leaf especially adapted for certain uses, based ultimately on the tastes and preferences of the consumer. It is the accumulated experience of three centuries of tobacco culture that each of these types can be produced only under certain conditions of soil and climate, by using certain varieties of seed, and by employing special methods in growing and handling the crop.

Dark fire-cured and air-cured types.—The dark fire-cured types of to-day are fundamentally the same as the original Jamestown tobacco. The Indians taught the first settlers the use of open fires and smoke in curing the green tobacco leaves, and this method of curing, together with certain distinctive cultural practices adopted in the earliest days, is still followed. As tobacco culture was extended farther inland the modifications in character of leaf produced by the heavier, more clayey soils of the Piedmont region proved to be desirable, and as a consequence the culture decreased and was finally abandoned on the rich lowlands of the tidewater region originally employed. Thus the culture of this type was transferred to the uplands of the Piedmont section of Virginia. Fire curing also was practiced in southern Maryland in the earliest days, but later the process of air curing without the use of artificial heat was substituted there as well as in the upper counties of Virginia. The growing of these fire-cured and air-cured types was extended across the Alleghenies into eastern and southern Ohio, across Kentucky and northern Tennessee, and even beyond the Mississippi into Missouri, by pioneer settlers from Virginia and Maryland. From the beginning the dark fire-cured types have been distinctively export tobaccos, about 80 per cent of the total production going to foreign markets. The remainder is used mainly for snuff and for plug chewing. The dark air-cured types also always have been exported in



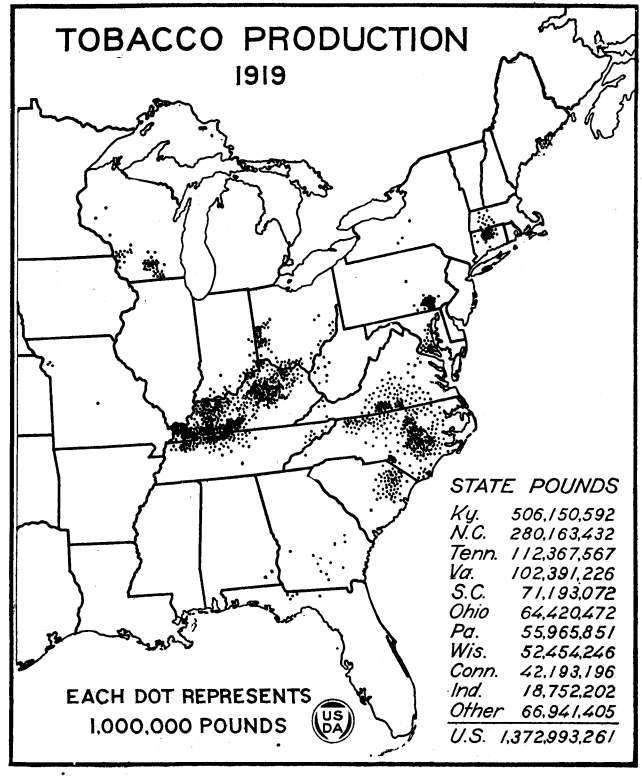


FIG. 6.—In the 10-year period ending with 1899 there was marked expansion in production in North Carolina to the eastward of the old producing district, this development extending also into eastern South Carolina. The crop of 1919 was very large, with principal increases in Kentucky, North Carolina, Tennessee, South Carolina, and Connecticut.

large quantities, but most of these types are far more important in the domestic manufacture of chewing tobaccos than are the fire-cured types.

Bright flue-cured tobacco.—As the early colonists pushed tobacco culture into the central border counties connecting Virginia and North Carolina it was found that the light-gray, comparatively infertile lands of that section produced a light-colored sweet leaf, which soon became popular as a chewing tobacco. After the War of 1812 an active foreign demand for mild spangled tobacco stimulated the production of this new type. Less heat and smoke were required for this tobacco than for the darker, stronger types, and about 1825 charcoal began to be used in place of open wood fires in order to secure lighter colors. Soon after the Civil War the use of flues in curing was adopted, thereby further increasing the demand for this type in the manufacture of chewing and smoking tobaccos and causing rapid expansion in production in southern Virginia and the north-central portion of North Carolina. Beginning about 1890, there was very rapid development in the culture of bright flue-cured tobacco in the so-called new belt section of eastern North Carolina and South Carolina. During the past 15 years there has been further marked expansion in the production of bright flue-cured tobacco, and its culture has now been extended into southern Georgia. This type is chiefly used for the manufacture of chewing plug, granulated smoking mixtures, and cigarettes, and for export.

Cigar leaf.—In 1810 the manufacture of cigars from tobacco imported from Cuba and Brazil began in a small way in Hartford County, Conn., and about 1825 it began to be recognized that the local conditions of soil and climate were adapted to the growing of cigar leaf. In 1833 the Maryland Broadleaf variety of tobacco was introduced and this marked the beginning of the extensive Broadleaf or Seedleaf tobacco industry which expanded rapidly about the middle of the last century not only in the Connecticut Valley but in Pennsylvania and in the Miami Valley of Ohio as well. Soon after the close of the Civil War the culture of cigar leaf rapidly developed in Wisconsin. About 1870 the so-called Havana Seed type of cigar leaf obtained from Cuba was introduced into the Connecticut

Valley, the Miami Valley of Ohio, and southern Wisconsin, and its culture developed rapidly in the next decade. During the past two decades there has been extensive development of the growing of cigar wrapper leaf under artificial shade in the Connecticut Valley and in the Quincy, Fla., district.

White Burley.—The extensive Burley industry owes its existence to the discovery of a new, distinctive variety of tobacco in Brown County, Ohio, in 1864. The great success of this variety in displacing the dark tobaccos which were grown at that time in north-central Kentucky and in counties of adjoining States along the Ohio River was due primarily to its special fitness for the manufacture of heavily sweetened plug for chewing. In recent years this type has found extensive use in the manufacture of cigarettes and smoking mixtures, and this has resulted in wider culture of the subvariety known as Stand-Up Burley.

Present Geographical Distribution, by Types.

Present localization of production of the principal types of tobacco is shown in Figure 7, except that areas in which production is scattering are not included. Cigar-leaf types are grown chiefly in the counties of Hampden, Hampshire, and Franklin, Mass.; Hartford, Tolland, Litchfield, and Middlesex, Conn.; Onondago, Chemung, and Steuben, N. Y.; Lancaster and York, Pa.; Darke, Miami, Montgomery, Preble, and Warren, Ohio; Dane, Rock, Vernon, Crawford, Columbia, and Trempealeau, Wis.; Gadsden, Fla.; and Decatur, Ga. The bright flue-cured type is grown chiefly in the southern tier of counties, Patrick, Henry, Pittsylvania, Halifax, and Mecklenburg, and the southern portions of Franklin, Charlotte, and Brunswick, in Virginia; the two upper tiers of counties of north-central North Carolina; including Surry and Yadkin to the west, and practically the entire eastern half of the State, excepting the immediate coast region; the counties of Marion, Horry, Dillon, Darlington, Florence, Lee, Sumter, Clarendon, and Williamsburg, S. C. There is a less concentrated production in several counties of southern Georgia, centering around and to the east of Coffee County. Burley is grown in the north-

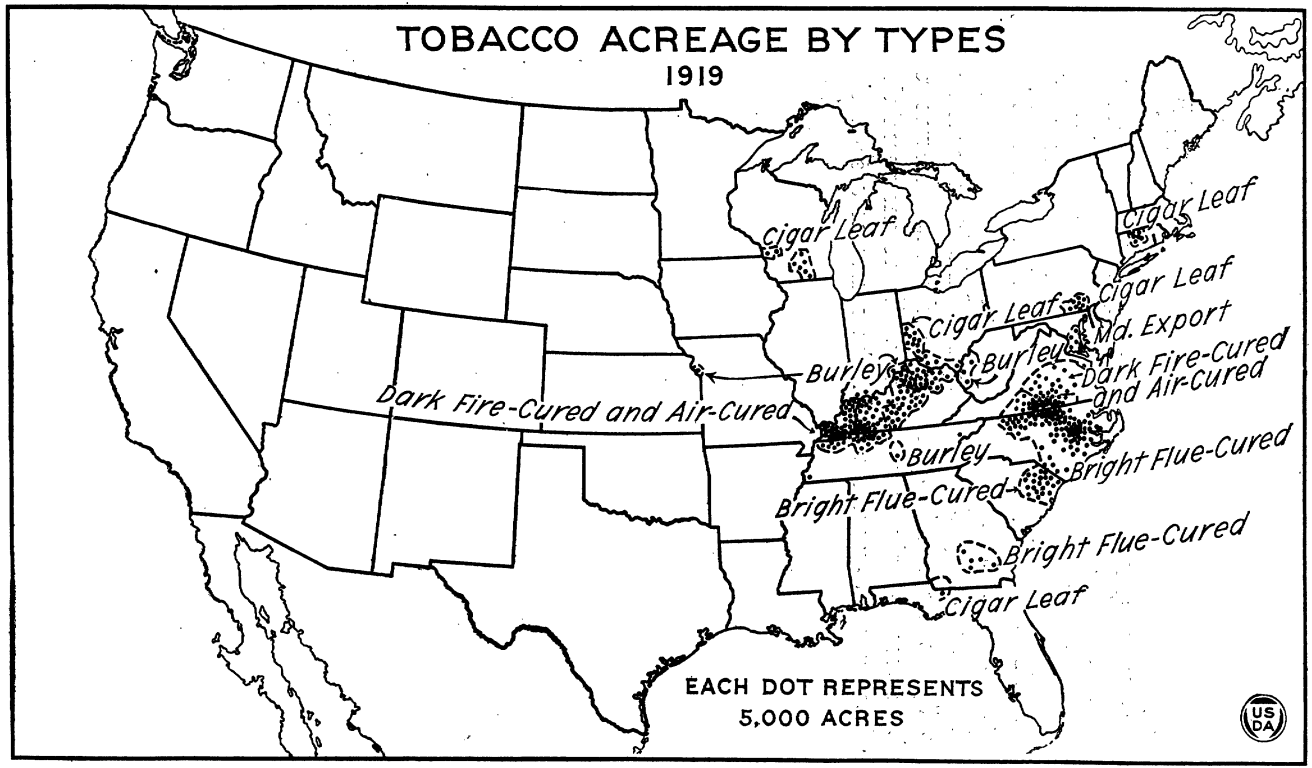


FIG. 7.—Each distinctive type of tobacco has its special requirements as to soil and climate and the present localization of production of the various types is the result of a long process of evolution and specialization.

central portion of Kentucky, including to the westward approximately the counties of Meade, Hardin, Hart, and Barren, and extending eastward as far as Greenup, Rowan, Powell, and Rock Castle; the counties of southeastern Indiana, southern Ohio, and westerly West Virginia which border on the Ohio River. Dark air-cured types are chiefly grown in Spencer and Warrick Counties, Ind.; the portion of Kentucky immediately westward of the Burley district and including, to the west, the counties of Daviess, McLean, Muhlenburg, Butler, Warren, and Simpson; the adjoining area of Tennessee, including the upper portion of Trousdale and Smith Counties; the counties of Caroline, Louisa, Hanover, Goochland, and a portion of Fluvanna, in Virginia, the latter section constituting the so-called Virginia sun-cured district. In addition, the counties of Prince Georges, Anne Arundel, Charles, Calvert, and St. Marys, in Maryland, produce a somewhat lighter-colored air-cured type. Dark fire-cured tobacco is produced in the portion of Kentucky to the west of the dark air-cured district, together with adjoining counties of Tennessee, including Houston, Dickson, Cheatham, but not Lake and Benton; the section of Virginia between the sun-cured and bright flue-cured districts and extending westward to the Blue Ridge Mountains.

Factors Influencing Tobacco Production.

Production of Leading Types of Tobacco.

To arrive at a proper understanding of the significance of the increase in total production shown in Figure 2 it is necessary to examine the trend of production in the different types of tobacco. The annual production of the leading types for the years 1909–1921, inclusive, is shown in Figure 8. To facilitate comparison the several subtypes of dark fire cured and dark air cured are treated as a single group, since, for the most part, they are closely related. In this group are included (1) the fire-cured tobaccos of Virginia and the Clarksville and Hopkinsville, the Henderson, and the Paducah districts of Kentucky and Tennessee; (2) the air-cured tobaccos of the one sucker district of Kentucky, Tennessee, and Indiana, the so-called Virginia sun-cured district, and the Maryland and eastern Ohio export district.

It is quite apparent that for the period covered the aggregate production of cigar leaf has remained in a relatively stable position, even the general disturbance of the World War having had only a moderate influence on the production of this type. The average production was about 205,000,000 pounds during the five-year period 1909–1913 and 229,000,000 pounds in 1917–1921. The combined dark fire-cured and air-cured types also do not show any significant change of a permanent character, although there are rather wide periodic fluctuations. Average production for 1909–1913 was 350,000,000 pounds, and for 1917–1921 the average was 380,000,000 pounds.

The production of Burley shows a well-defined upward trend, the average for 1909–1913 being 215,000,000 pounds

TYPES OF TOBACCO: PRODUCTION, 1909–1921.

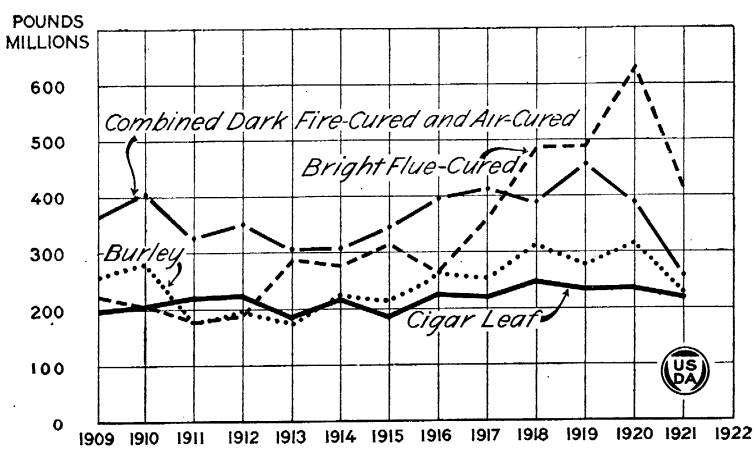


FIG. 8.—The bright flue-cured or cigarette type shows a remarkable increase in production in recent years and there has been an upward trend in the production of Burley. Production of the dark fire-cured and air-cured types and cigar leaf has become relatively stabilized.

as against 275,000,000 pounds for the period 1917–1921. The most striking fact brought out in Figure 8 is the remarkable increase in production of bright flue cured, the increase for the past 10 years being more than 100 per cent. For the years 1909–1913 the average was 215,000,000, while for the years 1917–1921 the average was 475,000,000. The sharp rise in total production of tobacco since 1913 (Fig. 2), therefore, is to be found chiefly in a moderate increase in the production of Burley and a very large increase in bright

flue cured. The causes for these differences in trend of production of the different types will be found in the discussion of exports and of consumption (pp. 448 and 450). Curtailment of tobacco production in foreign countries and increased domestic and foreign demand for American tobacco during and immediately after the World War, with resultant high prices, are reflected in some degree of increase in production of all types. In 1921 there was a marked reduction in production of all types except cigar leaf, which was less affected than other tobaccos by the postwar readjustment.

Position of Tobacco in the Farming System.

Tobacco is grown as a cash crop and has a relatively high value per acre. The average tobacco acreage per farm does not vary widely over the country, running 4 to 5 acres in the principal producing districts, with the exception of the highly specialized cigar-wrapper district of New England. In the latter district the acreage is about 8 acres for each tobacco farm, as reported in the 1919 census.

The same returns indicate that the tobacco acreage represents roughly 11 per cent of the total improved land on tobacco farms in Virginia, 17 per cent in North Carolina, and 8 per cent in Kentucky, while in Connecticut the tobacco acreage reaches 28 per cent of the improved land on the tobacco farms.

The labor requirements for tobacco culture are large, especially at certain seasons of the year, and this is an important factor in determining the tobacco acreage on the individual farms. While not all land on the average farm may be equally adapted to tobacco culture, the above facts indicate possibilities for large expansion if demand and prices should justify the shifting of labor and land from other crops to tobacco.

Sharply contrasting systems of cropping tobacco lands are found in different regions, and it is of considerable interest and importance to inquire into the effects of these contrasting cropping systems on the trend of acre-yields of tobacco. The tobacco-producing districts of Connecticut, Pennsylvania, Maryland, and North Carolina, representing two

regions of high yields and two of low yields, afford typical examples of these different cropping systems. In Connecticut tobacco is grown mostly on light sandy and sandy loam soils, which are not naturally fertile. Since the size of the average farm is quite small, tobacco ordinarily must be grown each year on the same land. In this instance rapid development of the plant to large size is essential for success, and to accomplish this result resort is made to exceedingly heavy applications of commercial fertilizers and liberal use of barnyard manure and lime. The immediate effect of this highly intensive one-crop system, together with favorable climatic conditions, has been to give large and increasing yields, but it is significant that in recent years the yield has been steadily declining. (Fig. 9.) It is known that this decline in yield is due, at least in part, to the appearance of root diseases of tobacco as an incident of the cropping system employed. The high yields of the Lancaster, Pa., district are obtained under a wholly different farming system. The tobacco soils, which are mainly much heavier than those of the Connecticut Valley, are better adapted to diversified farming, and only a small portion of the total acreage is in tobacco each year. A well-balanced cropping system is prac-

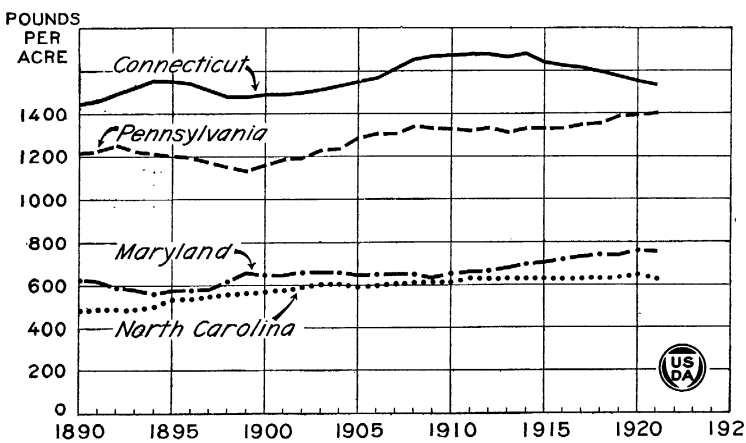


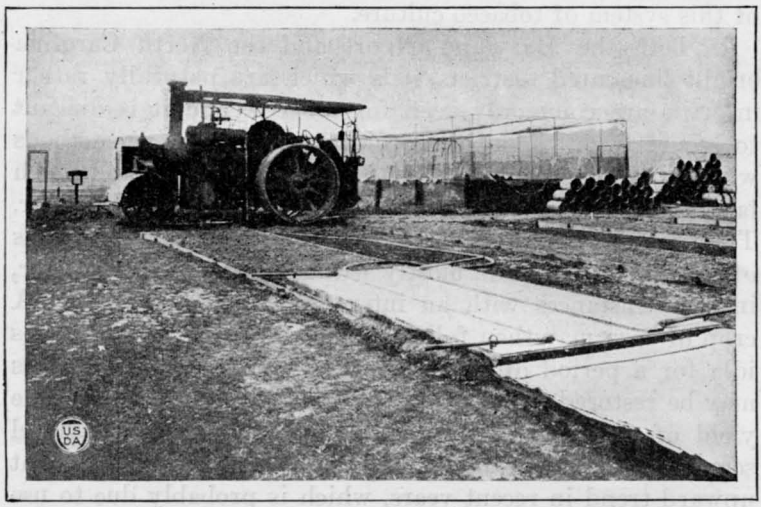
FIG. 9.—Under an extensive system of culture on soils of medium fertility yields are being successfully maintained in Maryland and North Carolina, though at low levels; in Pennsylvania a diversified, intensive system is maintaining yields at a high level, while in Connecticut a highly intensive one-crop system apparently is failing to do so.

ticed, which includes the growing of wheat, grass and clover, and corn in rotation with tobacco. The winter feeding of steers is an important feature of the system, since it utilizes on the farm the straw, hay, and grain produced and provides the manure needed for maintaining soil productiveness. This cropping system, moreover, provides a fair distribution of labor through the year. Figure 9 discloses the fact that under the Lancaster system there has been since 1899 a decided upward trend in yield, thus indicating the soundness of this system of tobacco culture.

In both the Maryland export and the North Carolina bright flue-cured districts soils which are naturally rather infertile are commonly used for tobacco, and it is difficult to secure high yields by application of intensive methods without sacrificing quality of product. In Maryland much land available for tobacco culture remains untilled each year. The prevailing practice has been to grow two or more crops of tobacco on the land, mostly without manure or fertilizer, in some instances with an intervening crop of wheat. A crop of corn may then follow, after which the land remains idle for a period of years in order that its productiveness may be restored. Under this system of resting the land the yield of tobacco has remained almost constant at a level somewhat less than 700 pounds, apparently with a slight upward trend in recent years, which is probably due to use of more fertilizer and better varieties of tobacco. In the North Carolina tobacco district there is no systematic rotation of crops as a general practice. The rule has been an alternation of continuous cropping to tobacco and resting the land for one or more years, thus resembling the practice in Maryland. As the old practice of constantly clearing new land for tobacco decreased it became necessary to rely more largely on commercial fertilizers, for resting the exhausted soils for short periods in itself is not sufficient to restore productiveness. Fertilizers are much more generally and more liberally used than in Maryland. During the earlier portion of the period covered (Fig. 9) there was an upward trend in yield, probably due to increased use of fertilizer, and since that time the acre yield has remained quite stationary.

Influence of Soil and Climate on the Quality of Tobacco.

Probably no other crop is so greatly affected in quality by soil and climate as is tobacco. Climate is a factor of importance in the general distribution of tobacco culture in the United States and affects especially the quality of the crop. The general tendency in northern latitudes is toward the production of a large, relatively thin leaf, without pronounced aroma. Thus northern climatic conditions favor



STEAM STERILIZATION OF TOBACCO SEED BEDS.

FIG. 10.—Sterilizing tobacco seeds with high-pressure steam has recently come into wide use in northern tobacco-growing districts and is adapted to all sections. This process is an important aid in controlling both diseases and weeds in the seed bed.

the production of cigar types possessing these leaf characteristics of large size, thinness, and weak aroma. In southern districts the tendency is toward the production of a somewhat smaller, more aromatic leaf of heavier body, as seen in the cigarette, pipe-smoking, chewing, and export types.

The physical and chemical properties of the soil, however, undoubtedly constitute the most potent factor in influencing the development of those properties of the leaf which determine its usefulness in the trade. Both the surface soil and the subsoil are of importance in this particular. In gen-

eral, light sandy and sandy loam soils of low water-holding capacity and low content of soluble mineral matter tend to produce a thin leaf of relatively large size, light in color and body, fine texture, and weak aroma. Heavier soils, containing more silt and clay, tend to produce a leaf of small size, dark color, heavy body, and strong aroma. So pronounced and important is the influence of soil on the quality of tobacco that commonly certain restricted localities within the principal producing districts enjoy a high reputation

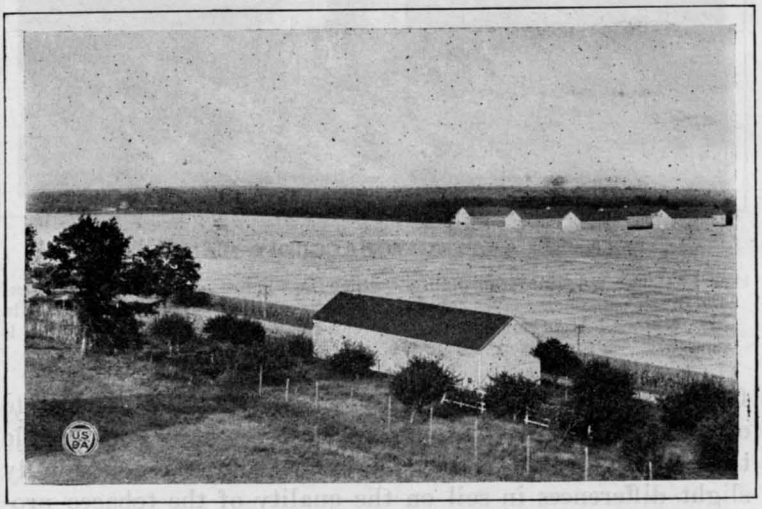
TRANSPLANTING TOBACCO BY MACHINE.

FIG. 11.—The machine transplanter, which is widely used in the Cigar-leaf and Burley districts, saves labor and insures a better stand, particularly in dry weather. It is not adapted for very small fields or where the land is uneven.

for the special merit of their tobacco. In the present state of our knowledge of the subject, however, it is not possible to analyze fully the remarkable influence of these seemingly slight differences in soil on the quality of the tobacco produced.

The cigar wrapper and binder types of the Connecticut Valley and of the Quincy, Fla., districts are grown on sandy and sandy loam soils containing but little clay in the sub-

soil and having a low water-holding capacity. The cigar binder-leaf soils of Wisconsin are sandy loams, loams and light clay loams, while the cigar-filler soils of Pennsylvania and Ohio are silt and clay loams, the Pennsylvania soils being largely of limestone origin. The filler soils are considerably heavier and have a higher water-holding capacity than the binder-leaf soils. Burley attains its highest development on the highly fertile phosphatic limestone soils of the bluegrass region of Kentucky and in southern Ohio. The dark fire-cured and air-cured tobaccos of Kentucky, Tennessee, and Virginia are grown largely on heavy silt and clay loams having a high water-holding capacity. The flue-cured type is grown on gray sandy and sandy loam soils of low natural fertility. The body and texture of the flue-cured leaf depend largely on the texture of the subsoil on which it is grown. The cigarette and granulated pipe-smoking grades are obtained chiefly on the lighter soils with but little clay in the subsoil, while the plug-filler and wrapper grades are obtained on somewhat heavier soils with more clay in the subsoil.



CULTURE OF CIGAR WRAPPER TOBACCO UNDER ARTIFICIAL SHADE.

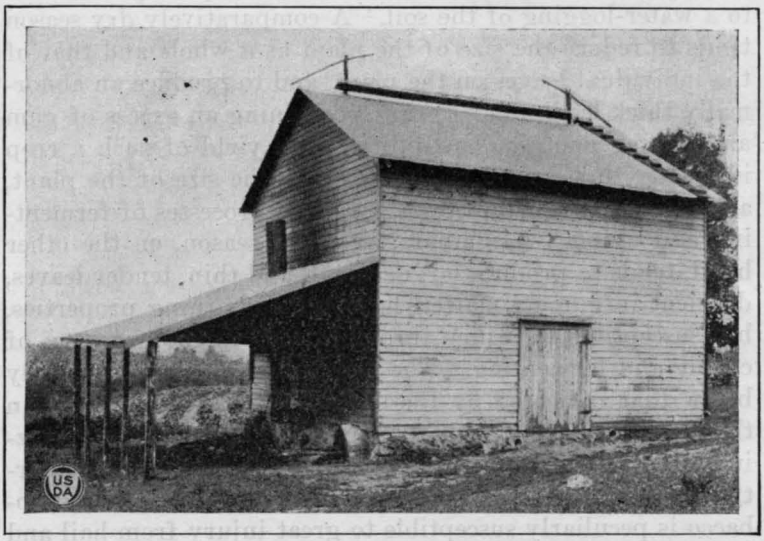
FIG. 12.—The growing of high-grade cigar wrapper leaf from Cuban seed under an artificial shade of cheese cloth or of slats is an outstanding recent development of cigar tobacco production. The field covered with cloth here shown is 1¼ miles long.

Effect of Seasonal Conditions on Quality and Yield.

As a rule the best quality of tobacco in conjunction with satisfactory yields is obtained when seasonal conditions are such as to cause rapid, uninterrupted growth of the plant. Among the chief requirements are fairly high temperatures and a moderate, evenly distributed rainfall. The tobacco plant is not readily killed by drought, but quickly succumbs to a water-logging of the soil. A comparatively dry season tends to reduce the size of the plant as a whole and that of the individual leaves on the plant, and to produce an abnormally thick leaf of close grain, containing an excess of gum and having poor combustibility. The yield of such a crop is greater than would be indicated by the size of the plant, and the leaf is resistant to decay in the processes of fermenting and aging. A comparatively wet season, on the other hand, tends to produce large growth and thin, tender leaves, deficient in gummy matter, having free burning properties, but susceptible to injury through decay in the processes of curing and fermenting. The yield of such a crop is usually below that indicated by the size of the plant. Tobacco in the green state is seriously damaged by killing frost or freezing temperatures, and there is always the possibility of partial or total loss from early frost in northern regions. Tobacco is peculiarly susceptible to great injury from hail and wind storms, and locally there are important losses from these causes each year.

A study of the correlation of weather and yield of tobacco in Ohio and Kentucky extending over a long period of years indicates that for best yields in tobacco districts of the Ohio Valley the weather conditions as compared with the normal climate in that region should be as follows: May should be moderately dry for a good seed bed, and cool to harden the tobacco plants. June should be moderately warm and wet to insure growth when the plants are set out, although the warm and wet weather may develop injurious parasitic diseases. July rainfall and temperature should be about normal, as too much rain interferes with cultivation; and if the rainfall is inadequate, the temperature should be below the normal. August should have rain enough to produce a good-sized leaf after topping.

Warm and wet weather makes the best growth, but is more likely to cause the development of leaf spot. Hot and dry weather is very detrimental; hence if the rainfall is less than normal the month should be cool. If the growing season is moderately wet, with a uniform supply of moisture, the best growth will be with the temperature somewhat above normal. But if drought prevails or frequently oc-



MODERN BARN FOR FLUE CURING.

FIG. 13.—These barns are of small size and are provided with a system of flues for regulating temperature by radiant heat. Ventilators are provided at the base and top of barn. This system of curing is used in the bright flue-cured or cigarette tobacco districts.

curs, the best results are obtained with the summer somewhat cooler than normal.

Importance of Fertilizers.

A large portion of the tobacco crop is produced on soils which are naturally rather infertile, while the tobacco plant requires a fairly generous supply of plant nutrients if it is to obtain proper growth, hence the necessity for extensive use of fertilizers. Moreover, the acre value of tobacco is sufficiently high to justify considerable expenditure for fertilizers. The rational use of fertilizers in tobacco culture is a complicated problem because of the marked effect which

they may have on the quality of the tobacco produced. Again, these effects of fertilizers on the quality of the tobacco are materially modified by fluctuations in seasonal conditions, especially in amount of rainfall, thus making more difficult the problem of selecting the proper fertilizer. It is frequently profitable to apply fertilizers to the tobacco crop at rates considerably in excess of the immediate requirements of the tobacco itself, thus providing for an important residual effect on other crops following in the rotation which in themselves would not have a sufficiently high acre value to warrant their receiving direct application of the necessary fertilizer.

The best Burley soils of Kentucky and adjoining States are highly productive, and on such soils, properly handled, it is not ordinarily necessary to apply commercial fertilizers to the tobacco crop. In Pennsylvania and Wisconsin barnyard manure is widely used in lieu of commercial fertilizers, while in the Connecticut Valley both manure and fertilizers are commonly used. In nearly all remaining tobacco-growing districts much reliance is placed in commercial fertilizers. This is particularly true of the bright flue-cured districts. The rate of applying fertilizers ranges from 1 to 2 tons per acre in the Connecticut Valley, 600 to 1,000 pounds in the bright flue-cured district and the cigar-tobacco district of Ohio, and 300 to 500 pounds in most of the dark fire-cured and air-cured districts.

The so-called complete fertilizers are commonly used, but their composition varies very widely in different localities. Cigar tobaccos require rather heavy applications of nitrogen, while the dark fire-cured and air-cured types and Burley require somewhat lower percentages of this element in the fertilizer. For bright flue-cured leaf only the minimum quantity of fertilizer nitrogen required for proper growth of the plant is used. Phosphoric acid is usually applied in quantities in excess of actual requirements for growth in order to promote proper ripening. Liberal applications of potash are usually profitable because of favorable action on the quality of the tobacco. Under certain conditions magnesia is an important constituent of the fertilizer. Lime may be beneficial or injurious, depending on soil conditions and the type of tobacco.

Yield Per Acre in Relation to Quality of Product.

A characteristic feature of tobacco culture is that the returns per acre to the grower commonly depend quite as much or even more on the quality of the leaf than on the yield obtained because of the very wide range in prices for the different grades of leaf. The highest returns are usually derived from maximum yields of the finer grades of leaf rather than from maximum total yields. In some types, such as most cigar tobaccos and dark fire-cured and air-cured leaf, moderately high yields are commonly associated with high quality, but this is not true of some other types. In the case of bright flue-cured, now the world's leading type, high quality of product is conditioned in such way by the physical and chemical properties of the soil that high yields are seldom associated with best quality. In substantially all types rank, coarse growth is incompatible with high quality and therefore with maximum returns per acre. For these reasons highly intensive methods involving enrichment of the soil are applicable to tobacco culture only under certain conditions and limitations.

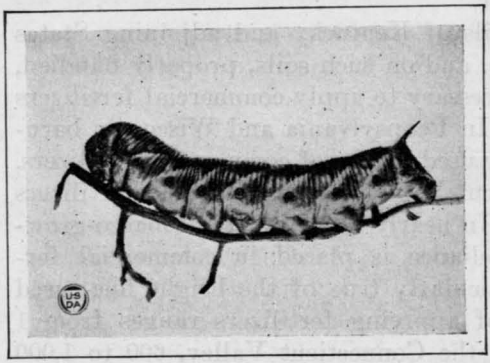


FIG. 14.—TOBACCO HORNWORM.

Insects Affecting Tobacco.

By far the most serious insect pests of tobacco in the United States are the hornworms, *Phlegethontius quinquemaculata* (northern tobacco worm), and *P. sexta* (southern tobacco worm). The hornworms feed voraciously upon growing tobacco leaves and grow to a large size. They may be controlled by dusting with powdered arsenate of lead.

In the shade-grown tobacco fields of Georgia and Florida damage by the tobacco budworm, *Chloridea virescens*, is of primary importance. The eggs are deposited in the buds of the plant, and a single larva may eat through several leaves. As the leaves grow larger the holes likewise become larger, and the leaves are rendered unfit for wrappers. For control, apply arsenate of lead and corn meal (1 pound of arsenate of lead to 75 pounds of corn meal) to the buds twice a week until the plants are topped.

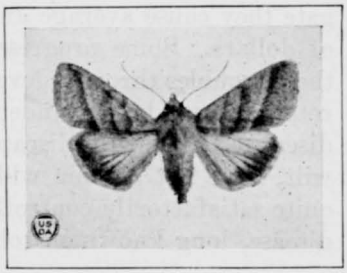


FIG. 15.—TOBACCO BUDWORM, ADULT FORM.

The tobacco flea beetle (Fig. 16), *Epitrix parvula*, attacks plant beds and young plants in the field and frequently injures tobacco until it is carried to the barn. The leaves are riddled with holes, and frequently young plants are killed outright. Apply arsenate of lead or Paris green.

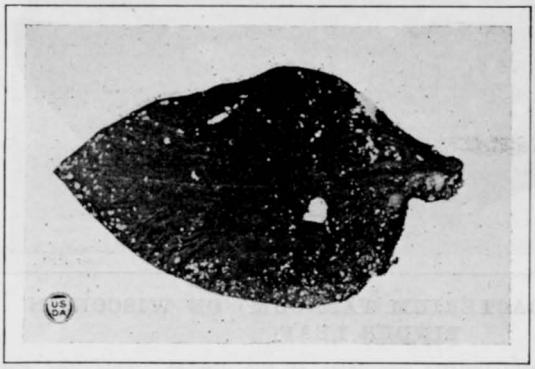


FIG. 16.—INJURY FROM TOBACCO FLEA BEETLE.

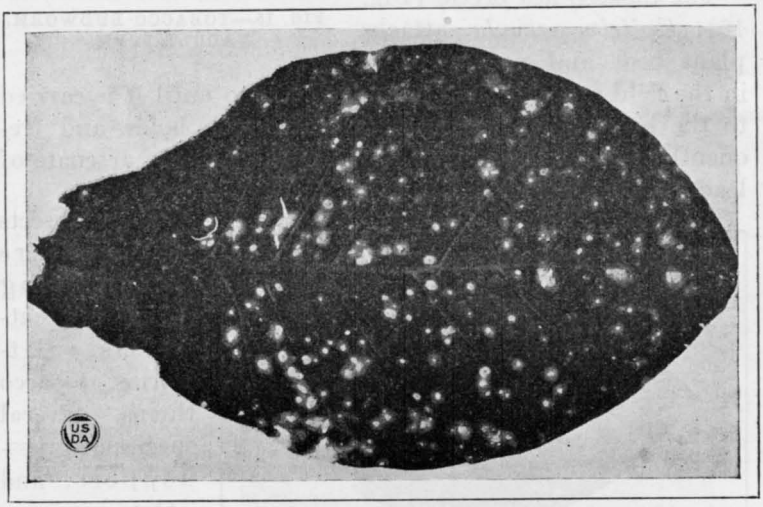
Other insects which injure the growing crop are cutworms, splitworms, tobacco thrips, several species of grasshoppers, and other minor pests.

Very serious injury to stored and manufactured tobacco is caused by the tobacco beetle, *Lasioderma serricorne*.

Diseases of Tobacco.

The tobacco plant is subject to a number of diseases, some of which are very important factors in lowering yield per

acre, while others reduce the value of the leaf through rendering it unsuitable for the purpose for which it was intended. The main diseases which are concerned in lowering production are the root rots. These diseases are not so evident to the growers as are the leaf diseases, but in the aggregate they cause average annual losses running into millions of dollars. Some progress is being made in the control of these troubles through development of resistant strains, crop rotation, and better understanding of the nature of these diseases. The wilt diseases, bacterial wilt and Fusarium wilt, have not become widespread in this country and are quite satisfactorily controlled by crop rotation. The mosaic disease, long known in tobacco in this country but usually



WILDFIRE (BACTERIUM TABACUM) ON WISCONSIN BINDER LEAF.

FIG. 17.—Showing characteristic symptoms of the disease. This leaf spot disease has caused serious damage in various sections in recent years.

not causing much concern, seems to be increasing in economic importance. It is not uncommon to see large acreages of tobacco very materially reduced in yield and quality by this disease. Primary infection seems in most cases to start in the seed beds. While a considerable number of leaf-spot diseases due to various causes occur on tobacco, the disease known as "wildfire" has recently caused most concern

among the growers. This disease, first definitely known to occur in 1917 in North Carolina, has since spread to practically all tobacco-growing districts of the United States. While this disease, like most other plant diseases, is very largely dependent upon weather conditions for its development to a serious extent, its range of activity in this respect is sufficiently wide to make its occurrence in any field in any year a serious menace to the crop. The disease, in all certain cases known to date, originates in the seed bed, and transplanting of infected plants should therefore be carefully avoided. Another disease of recent introduction to this country is known as blue mold. This disease occurred very generally in the seed beds in the Florida-Georgia district in 1921, but did not cause serious damage to the final crop, and apparently did not reoccur in 1922.

Cost of Production.

Tobacco is the most intensive annual farm crop grown on any considerable acreage. The amount and distribution of labor, wages paid to labor, and other items of cost vary greatly in the production of different types of tobacco. A considerable proportion of the total acreage and production of tobacco is grown on relatively cheap land, with low-priced labor. In regions where the growing of a particular type of tobacco has been profitable land values and other costs, particularly wages paid to labor, have increased. These increases have resulted in an increase in the cost of growing an acre and a pound of tobacco. In other words, variations in the prices of different cost items have had greater effect on total cost of production than changes in the amounts of the items. Within a region cost studies furnish basic data for estimating the cost of a crop. Individual cost figures furnish the tobacco grower with definite information regarding the amount received for his own labor when marketed in the form of tobacco. Producers have a definite basis for determining to what extent it is desirable to use hired labor in the production of tobacco.

Distribution of Cost.[1]

The principal items of cost in tobacco production are man and horse labor, land rent, and cost of upkeep and maintenance of the tobacco barns. These combined costs averaged from 75 to 93 per cent of the total costs in the three districts under discussion. Of these, man and horse labor was greatest, averaging from 45 to 65 per cent of the total cost. In 1920 the cost of the man labor was $113 per acre in the Burley area, $64 in the dark fire-cured area, and $67 in the Georgia bright area (Fig. 18). This difference in cost per acre was

DISTRIBUTION OF COST OF PRODUCTION, THREE TOBACCO DISTRICTS, 1920.

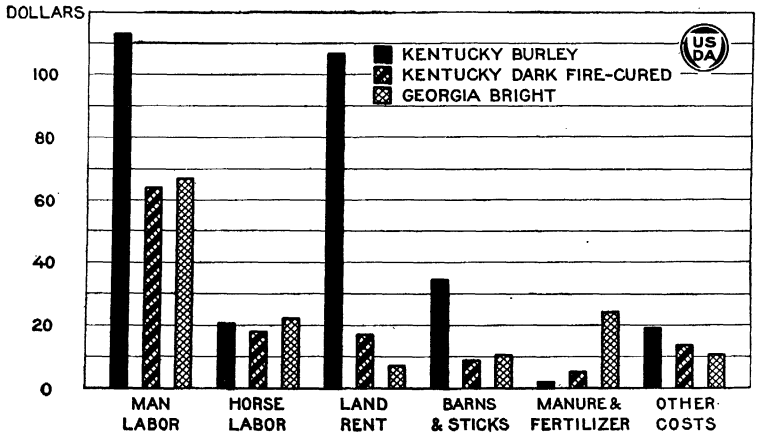


FIG. 18.—Variations in the items of cost in growing an acre of tobacco in the Kentucky Burley, Kentucky dark fire-cured, and Georgia bright flue-cured districts for 1920. Costs of man labor, land rent, and curing barns were relatively high in the Burley district, while the cost of fertilizer was relatively high in the Georgia flue-cured district.

due less to variations in the amounts of labor than in the wages paid. The average rate per day paid for man labor

[1] The following data on Georgia bright tobacco are for the 1920 crop and are taken from a study of the cost of producing bright tobacco in south-central Georgia by the Georgia Agricultural College, cooperating with the United States Department of Agriculture. For complete report consult Bulletin 250, Georgia Agricultural College, Athens, Ga.

In Kentucky a four-year study of the cost of producing Burley and dark fire-cured tobacco was begun in 1919 and was completed in 1922. The Burley cost figures were obtained near Lexington and the dark fire-cured figures near Hopkinsville. This work was done by the University of Kentucky, cooperating with the United States Department of Agriculture. Bulletin 229, for the crop of 1919, and preliminary reports for succeeding crops have been issued by the Kentucky Agricultural Experiment Station, University of Kentucky, Lexington, Ky.

was $3.44 in the Burley area, $2.58 in the dark fire-cured area, and $1.67 in the Georgia area. The horse-labor cost for each area varied slightly with regard to cost per day and total days required. As an item of cost horse labor was of relatively more importance in the Georgia bright-tobacco area, where it was 16 per cent of the total cost, as compared to 7 and 14 per cent in the Kentucky Burley and dark fire-cured areas.

Distribution of Labor.

The amounts of man and horse labor required to grow and market an acre of tobacco vary considerably with regard

DISTRIBUTION OF LABOR IN GROWING OF TOBACCO, THREE PRODUCING DISTRICTS.

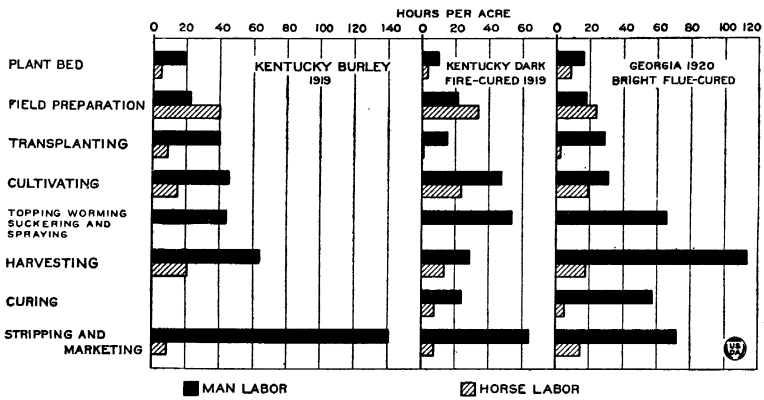


FIG. 19.—Distribution by districts of man and horse hours required to grow an acre of tobacco. Differences in methods of growing and handling the crop cause rather wide variations in labor requirements, especially in harvesting, curing, stripping, and marketing in the different districts.

to type. Records from the three areas under discussion indicate that an average of 262 hours of man labor were required to produce an acre of Kentucky dark fire-cured tobacco, 375 hours to produce an acre of Burley tobacco, and 403 hours for the production of an acre of Georgia bright tobacco. The amount of horse labor required per acre was found to be 89 hours in the dark fire-cured area, 98 hours in the Burley area, and 90 hours in the Georgia bright area.

The chief variations in labor requirements are found in harvesting, curing, stripping, and marketing. (Fig. 19.) In Georgia the leaves are pulled from the stalk, while in both Kentucky areas the tobacco plant is cut. Pulling or

priming requires a greater amount of labor than cutting, as in the former case the field must be gone over several times. In Georgia curing tobacco required an average of 59 hours of man labor per acre. In the Kentucky dark fire-cured area 24 hours were required per acre, while in the Burley area, where tobacco is air cured, the labor requirement for curing was negligible. Preparing for market and marketing the crop required about 38 per cent of the total man labor in the Burley area, which was considerably more than required by any other operation. In the Kentucky dark fire-cured area about 25 per cent of the total labor was for stripping and marketing. In the Georgia bright area, where the tobacco is picked, only 18 per cent of the total labor was for preparing and hauling the crop to market.

Land Rent.

The Kentucky Burley tobacco area is in the limestone region of the State. This land is high priced, especially when compared with the tobacco land in the Kentucky dark fire-cured and the Georgia bright areas. In 1920 the use of land in the Kentucky areas as determined by its cash rental value averaged $107 per acre in the Burley area and $17 in the dark fire-cured area. In the Georgia bright area the rental charge was figured at 10 per cent of the land value and amounted to $7.20 per acre. (Fig. 18.) While undoubtedly land rents are lower now, especially in the Burley area, these figures reflect somewhat the rental value of the land in the three areas as measured by the type of tobacco grown and by the amount and quality of yield per acre. In the Burley area land rent was 34 per cent of total cost, in the dark fire-cured area 18 per cent, and in the Georgia bright area 5 per cent.

Barns and Sticks.

The average cost of maintenance, depreciation, and interest on investment in barns and sticks varied from 7 to 10 per cent of the total cost of producing tobacco in these areas. In Georgia relatively small tobacco barns are required. They are constructed principally of logs and fitted with fire boxes and flues. The flues are short lived, and the fire boxes

require constant repairs, which add materially to the cost of upkeep. In the Burley area the barns are well built and are larger and more expensive than in the Georgia area. Burley tobacco is an air-cured type and requires greater space and better ventilation, so that the barns must be relatively large. In the dark fire-cured area of Kentucky the barns are similar to those in the Georgia area, with the exception that flues and fire boxes are not used. The tobacco sticks are sometimes produced on the farm and sometimes purchased. A charge for sticks for each region is included in the total barn charge.

Fertilizers.

The records indicate that in both Kentucky areas very little expense was incurred for commercial fertilizer and barnyard manure. During the relatively high prices of 1920 the cost for commercial fertilizer and manure averaged less than $2 per acre in the Burley area and slightly over $5 per acre in the dark fire-cured area. (Fig. 18.) In Georgia bright tobacco is grown on thin sandy soil and requires a large amount of complete commercial fertilizer. Very little barnyard manure is used in this area, as its use tends to produce a rough, coarse plant. During 1920 the average application of fertilizer in the Georgia bright-tobacco area cost slightly over $24 per acre. Fertilizer costs constituted 1 per cent of the total cost in the Burley area, 4 per cent in the fire-cured area, and 17 per cent in the Georgia bright area.

Other Costs.

These costs are made up of machinery, insurance, a charge for hiring a tobacco demonstrator, and miscellaneous cash costs.

Tobacco farms as a rule have a relatively small investment in machinery. Tobacco-transplanting machines were used to a limited extent in each area and represent a considerable part of the machinery charge. Including interest, depreciation, and repairs, the machinery cost averaged only 1 to 2 per cent of the total cost of producing tobacco in 1920.

In both Kentucky areas a charge for hail and fire insurance was made for each farm. The rate used in calculating this charge was determined from the farms having an actual cash

cost for such risks. This item represents from 4 to 5 per cent of the total cost of tobacco production in these districts. In the Georgia area no charge was made for hail and fire insurance.

Miscellaneous costs are made up of minor items, such as canvas, spray material, wood or coal for bed preparation and curing, and small cash payments for plants or tobacco seed. While these items are absolutely necessary in the production of the crop, they represent a relatively small proportion of the total cost of growing an acre of tobacco and averaged from 2 to 3 per cent of the total costs in the various areas.

In the Georgia bright-tobacco area an experienced tobacco man was hired for 1920 to instruct the farmers in methods of growing and handling the crop. Such men were hired by only a part of the farmers included in this study. In certain instances the demonstrator received 10 per cent of the net receipts from the tobacco crop after deducting warehouse charges, in other cases a flat rate of $8 per acre was paid for his assistance. The average for all farms in 1920 was $5.15 per acre, which was about 4 per cent of the total cost of growing the crop.

Relation of Yield to Cost.

Costs vary not only on different tobacco farms for a particular season, but also on the same farm from year to year. Such variations may be due to unfavorable weather, to diseases, to insect pests, or to the management of the operator. Variations in the cost of producing a pound of tobacco are due to variations in the cost expended per acre and in the yield obtained. A grouping of the tobacco records according to an increase in yield per acre shows that the cost per acre increased with yield and the cost per pound decreased. (Fig. 20.) It was found that in the Kentucky Burley area for 1919 the farms producing from 600 to 1,000 pounds per acre had an average cost of $237 per acre and 30 cents per pound, while those that yielded over 1,500 pounds per acre (averaging 1,580 pounds) produced at a cost of $330 per acre and 24 cents per pound. In the Kentucky dark fire-cured area cost increased from $118 per acre for the farms having an average yield of 393 pounds to $136

for the farms averaging 1,306 pounds per acre, but the cost per pound for the low-yielding group was 30 cents as compared to 10.5 cents for the high-yielding group. It must be remembered, however, that a rank, coarse growth is quite often associated with poor quality and low returns per pound. Therefore a reduction in cost per pound through larger yields should not be encouraged to the extent of sacrificing the quality.

Financing Tobacco Production.

Tobacco is a cash crop of high acre value, requiring much hand labor but little machinery, and therefore is well adapted to a tenancy system. In some northern tobacco-

RELATION OF YIELD PER ACRE TO COST OF PRODUCTION THREE TOBACCO DISTRICTS.

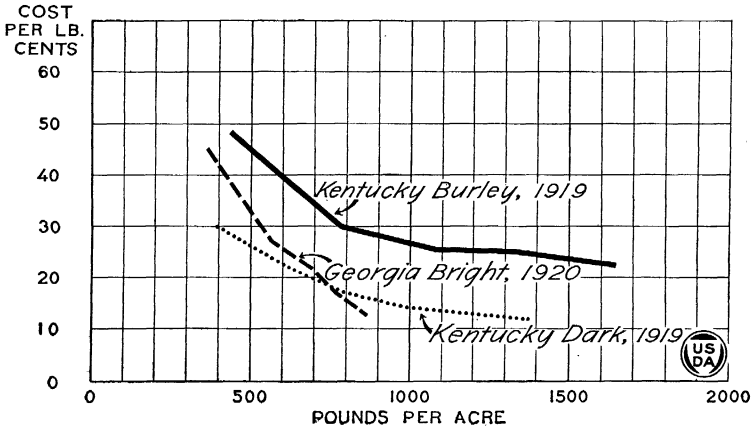


FIG. 20.—Influence of yield per acre on the cost of producing a pound of tobacco. While the cost per acre usually increases with the yield the cost per pound tends to decrease. High yields involving a rank, coarse growth, however, are often associated with poor quality and low returns per pound.

growing sections most of the tobacco farms are operated by owners, while in other sections probably as much as half of the total production is under some form of tenancy. In some sections considerable tobacco is grown on a cash rental basis in which the owner furnishes only the land. Under the share rental system, which is rather common in several districts, the tenant may operate the entire farm or he may be simply a "cropper," growing only tobacco. In both cases

the tenant usually receives half the value of the crop. The principal item furnished by the tenant is hand labor, the division of most other items between landlord and tenant varying considerably. Under ordinary circumstances probably a majority of tobacco growers owning their farms require no financial aid in producing the crop. When such aid is needed it is usually extended by local banks on personal notes without indorsement. Mortgages on live stock or crop liens are not commonly given as security for cash advances during the crop year. The tenant in some cases is financed entirely by the farm owner, who is reimbursed when the crop is sold. In many cases, however, the tenant borrows from local banks on his personal note, which is to be retired when the tobacco is sold and which usually must bear indorsement. In some sections merchants and dealers extend credit to growers for fertilizers and implements.

In the Burley district of Kentucky the majority of the farms are operated by the owners, but the tobacco crop is produced largely by croppers, who usually receive half the proceeds, except where the owner furnishes teams and machinery, in which case the cropper's share is one-third the proceeds. Similar conditions exist in western Kentucky and Tennessee, except that a somewhat larger proportion of the crop is produced by farm owners. Financing tobacco production in these States is accomplished in much the same way as in northern tobacco-growing districts.

In the South Atlantic States, more particularly in the Coastal Plains region, the percentage of tenancy is very high on tobacco farms, with a large proportion of owners nonresident on the farm. The tenant's share of the crop is one-half or two-thirds, depending on whether the landlord furnishes all or only one-third the fertilizer used, the tenant in both cases furnishing labor, teams, and machinery. The tenant is financed chiefly by the landlord or the local supply merchant, who is also a fertilizer dealer. Crop liens and chattel mortgages are commonly taken as security. In the Piedmont section the farms are smaller, and a larger proportion of owners operate their farms. Under the rental agreement chiefly employed, the tenant furnishes teams, machinery and labor and three-fourths of the fertilizer and receives three-fourths of the crop. The tobacco crop is

grown more largely on a cash basis. Larger landowners borrow from local banks and furnish their tenants, so that crop liens are not extensively employed.

Tobacco Marketing.

The marketing of tobacco varies considerably in different tobacco-producing sections of the country. In general there are three methods—the auction system, farm selling, and cooperative marketing.

The auction system is practiced principally in Maryland, Virginia, North Carolina, South Carolina, Georgia, Tennessee, Kentucky, West Virginia, southern Ohio, Indiana, and Missouri. Most tobacco produced in the cigar-leaf sections of Wisconsin, Ohio, Pennsylvania, Florida, Georgia, and the Connecticut Valley is marketed on the farm. Cooperative marketing is practiced more or less in every tobacco-producing section of the country. There is only a small amount of tobacco that is not marketed by one of these methods.

Preparation of Tobacco for Sale Under Auction System.

In preparing tobacco to be sold at auction, as soon as the tobacco is cured it is brought into a soft, pliable condition and assorted according to quality, color, length, and other factors. Where the tobacco is cured on the stalk the leaves must first be stripped from the stalks for assorting. The number of lots made by each producer varies considerably, depending upon the accuracy with which the tobacco is assorted and also upon the size and character of the crop. From 5 to 12 lots are usually made from each curing or barn of tobacco. Except for a general knowledge of the qualities of tobacco farmers have no guide in this assorting process. In most cases they separate their tobacco into lots of similar character without knowing to what grades the tobacco belongs or for what use the tobacco is suited. This being true, the farmer is at a loss to know the market value of his tobacco even after carefully assorting it. The principal reason for this condition is due to the fact that there are no generally recognized standard grades for tobacco.

After the tobacco is assorted into various lots by the farmer it is tied into hands, or bundles, as they are some-

times called, each hand containing 5 to 25 leaves. The hands are then hung on laths or sticks so that they can be handled easily without breaking or tangling the tobacco. The tobacco is then conditioned for market. Tobacco is usually conditioned on the farm in one of three ways, (1) by hanging it loosely in an open shed during a warm moist day, (2) by hanging it in a damp cellar or steam room, (3) by sprinkling it lightly with water and packing it into a bulk. In conditioning for market the general tendency is to put too much moisture in the tobacco, especially when it is sprinkled, and sometimes it is delivered wet and badly bruised. To be in the best marketable condition the tobacco should contain from 15 to 20 per cent of moisture.

The Auction Methods of Selling.

Tobacco is sold at auction in three ways—by publicly selling loose or unpacked tobacco to the highest bidder, by publicly selling in packed form to the highest bidder, and by closed-bids auction of packed tobacco.

The loose-leaf auction system.—The first method, often referred to as the loose-leaf auction system, is the method by which the majority of tobacco produced in the United States in the past two decades has been sold. Practically all of the auction markets of the country operate on the loose-leaf auction plan, with the exception of Baltimore, Md., which is a packed-tobacco market operating under the closed-bid auction plan, and Louisville, Ky., which is a packed-tobacco market operating on the public-auction plan. The market at Cincinnati, Ohio, is operated principally on the loose-leaf auction plan, but it has also a public auction market for packed tobacco.

As a rule the tobacco is taken to the loose-leaf auction market on the laths, where each lot is stripped from the laths and placed into a large flat-bottomed basket. The baskets containing the tobacco are then weighed and arranged according to quality in rows on the floor of a loose-leaf auction sales warehouse. In some markets, instead of using baskets, the lots are merely weighed and placed in piles on the floor of the warehouse. On each basket or pile is placed a ticket showing the name of the farmer who owns the tobacco, the number of pounds contained in the lot, and

the consecutive number given to the lot. The tobacco is then sold in piles or lots ranging from 10 to 1,500 pounds to the highest bidder at public auction. As the sale proceeds from basket to basket a clerk of the warehouse enters on each ticket the price per pound at which the tobacco is sold, the name of the buyer, and the grade assigned to the lot by the buyer. As a rule, the buyers for the large companies are governed in their bids entirely by their private grades, so it becomes largely a matter on the auction floors

LOOSE LEAF FLOOR OF AUCTION SALES WAREHOUSE.

FIG. 21.—The different lots of tobacco as brought in by the farmer are weighed, properly tagged, and arranged in piles on the warehouse floor according to grade, usually after having first been placed in flat-bottom baskets. At the appointed hour the piles are auctioned off in rapid succession. The warehouseman, after deducting certain fees, pays to the farmer the net proceeds and collects this amount from the buyer.

for the buyer first to determine to which of his grades, if any, a certain lot of tobacco belongs. Having determined the grade, he knows the limit that his company allows him to bid on the lot. Each buyer or manufacturer has for his own use a private system of grades. After the tobacco once leaves the farmer's hands it is handled almost entirely by grade.

In some of the larger markets the sales proceed very rapidly. In many markets the local board of trade requires the auctioneer to sell as high as 240 lots of tobacco in an hour's time. After the sale is over the farmer has a right to refuse the price offered, in which case he can either have the tobacco put up at auction the second time or have it removed from the warehouse for sale elsewhere. If the price offered is accepted, the auction-sales warehouseman renders the farmer an account, showing the number of pounds and the price of each lot sold, and gives him a check for the total amount of the sale, less the warehouse charges, which usually include an auction fee, a weighing charge, and a commission for selling.

Each buyer removes the tobacco purchased by him from the auction-sales warehouse to a redrying plant or packing house, where the tobacco is placed in a safekeeping condition and packed into hogsheads, ready for storage or shipment. A large percentage of the tobacco is bought direct by the manufacturer, in which case the tobacco, after being conditioned and packed, is usually shipped to the private-storage warehouse of the manufacturer, where it remains in storage until it is ready to be manufactured. The large amount of tobacco bought for export trade is shipped abroad for storage. Most of the independent buyers have their tobacco stored in public storage warehouses, where the tobacco is held for resale. In such cases tobacco is usually resold on samples which are taken from the hogsheads of tobacco while in storage.

Selling in packed form at public auction.—Tobacco to be sold at public auction in packed form is prepared by the farmers in the same way as tobacco to be sold under the loose-leaf auction system, except that it is packed into hogsheads or tierces containing from 500 to 2,000 pounds and then shipped to sales warehouses. When tobacco is offered for selling, the packages are arranged in rows on the floor of the warehouse in very much the same manner that the baskets are arranged on the floor of a loose-leaf auction warehouse. The packages are then opened up in a manner that will not disturb the form of packing. The tobacco is then sold at public auction as the buyers pass from lot to lot examining and bidding on the tobacco. When the sale is

over the lots are placed back into the same containers and returned to storage, where the tobacco is held for resale or manufacture by the new owner.

The closed-bid auction method.—Under the closed-bid auction plan the packages are prepared in the same form as when the tobacco is sold in packed form, but the containers are opened up and sampled when they are received at the warehouse. Samples are made up of from four to nine hands drawn from different parts of the package and are labeled to preserve the identity of the sample and sealed to prevent substitution. At some warehouses these samples are drawn and sealed by persons who are licensed under the United States warehouse act for the purpose. The samples are then displayed by the broker or commission merchant to whom the tobacco was consigned for sale. Each buyer enters on a slip of paper, opposite the number of each sample, the price per pound which he is willing to give for the lot represented by the sample and drops it into a box. At the end of the day the box is opened and the tobacco is sold to the buyer who offers the highest price.

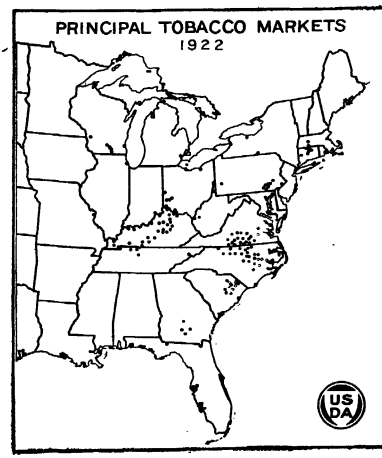


FIG. 22.—Market centers for first-hand sales of leaf tobacco are located mainly within the principal producing districts. Where the loose-leaf auction system of selling prevails there are usually numerous smaller markets, in addition to the larger market centers.

The distribution of principal markets for the first-hand sale of leaf tobacco is shown in Figure 22.

Farm Selling of Tobacco.

Possibly next to the auction-sales method of selling tobacco the most general practice is to sell the tobacco on the farm to buyers who visit producing districts. In most sections in which tobacco is thus sold the farmer makes little

attempt to assort his tobacco with respect to quality. As soon as the tobacco is cured, the farmer watches an opportunity when he can find the tobacco in a natural condition, soft enough to be handled without breaking. He then takes the tobacco down from the barns or sheds, strips the leaves from the stalks, and ties them roughly into large hands, which are packed into bundles of approximately 100 pounds each. Usually before the tobacco is taken down from the barns or after it has been placed into bundles it is examined by country buyers and bought, but very often it is bought at a general average price without being examined. The tobacco is then delivered to a place designated by the buyer, where the bundles are opened up, the hands untied, and the tobacco assorted according to the buyer's grades. The tobacco is then retied into hands and conditioned for storage. After conditioning the tobacco is ordinarily packed into cases averaging about 300 pounds and placed in storage warehouses.

After the tobacco has passed through the spring sweat the cases are opened up and sampled, at which time it is offered for sale to the manufacturer. The tobacco is usually sold by the dealers according to the quality of each lot, whereas the farmer sells the tobacco unassorted for a general average price. In some instances the tobacco is bought by representatives of the manufacturer direct from the farmer, in which case the manufacturer has the tobacco assorted and packed for storage in the same manner as is ordinarily practiced by the independent country buyer. The contract method of buying is practiced to a large extent in many of the cigar-leaf producing sections. Very often the country buyers purchase a large percentage of the year's crop before it is harvested, the farmer agreeing to deliver the tobacco after it is produced, cured, and packed into bundles.

In all sections in which farm selling is practiced the farmers have practically no conception of tobacco grades, and very few realize the wide variation in the prices of tobacco of different qualities. Their main source of information as to the value of tobacco is the price received by neighbors, which is usually a flat price of so many cents per pound for all qualities of tobacco. The farmer who

sells his tobacco at an average of 30 cents has very little idea what proportion of it has a market value of from 3 to 5 cents per pound and what from 80 to 90 cents per pound. This is due to the fact that there are no standard grades by which the farmer can be governed. With tobacco varying in price from 1 cent to $2 per pound, it is not practical for a farmer to estimate with any degree of accuracy the market value of his tobacco without the use of some uniform system of grades. Neither is it possible for market quotations to be of much value without standard grades.

Cooperative Marketing.

Cooperative marketing has followed principally three general lines: Cooperative packing, cooperative sales agencies, and cooperative pooling.

Cooperative packing.—In many sections farmers have found that it was impracticable for them to pack their individual crops for storage, due to the fact that they were unable to employ expert assorters and also on account of the small size of the lots of tobacco of a particular quality that would be produced on a single farm. To own and operate cooperative packing houses where the tobacco could be assorted into lots of like qualities by trained men has proved of advantage. In this way the farmers were able to pack complete cases or hogsheads of tobacco of similar quality, whereas in individual packing it would be necessary in most instances to mix the different qualities in order to fill cases of commercial size. The packing houses as a rule have not been altogether successful, due, perhaps, to the fact that they were not able to operate continually from year to year. In years in which there was little demand for tobacco the packing houses had more tobacco than they could conveniently care for, while in other years when the demand and prices were good the farmers would sell their tobacco direct to the dealers and manufacturers without packing, leaving the packing houses idle. Ordinarily no special provisions were made for the sale of the tobacco which was jointly packed in this manner. Each farmer or group of farmers interested in a particular packing was required to be his own sales agent.

Cooperative sales agencies.—In some sections farmers organize cooperative sales agencies in connection with their packing houses. These agencies sell the tobacco that is cooperatively packed by the farmers. In practically all cases the individual farmer reserves the right to accept or reject the price offered to these agencies, and in most cases the individual farmer is allowed to sell his packing independent of agencies. However, this is limited to some extent in some agencies by requiring the individual producer when selling his tobacco independent of the agency to pay a fee to the agency. In other sections the agencies were formed independent of the cooperative-packing plants. In these sections the individual farmer usually does his own assorting and packing and ships his tobacco to a storage warehouse under consignment to the cooperative-selling agency. The cooperative agency in this particular instance performs the function of a commission merchant.

Cooperative pooling.—The most common form of cooperative marketing that is practiced is cooperative pooling. Pools have been formed in practically every section of the country in which tobacco is produced. Until recent years the pooling idea has been worked out on a small scale in most sections, but during the last two years several very large pools have been formed. These large cooperative pools have absorbed a number of the smaller pools, and one of the principles on which they are formed is to control a large percentage of the production in certain areas. In organizing a pool of this kind, from 50 to 75 per cent of the tobacco produced in a particular section is determined upon as a goal, and the organization is not put into operation until this percentage of the tobacco has been pledged to the pool by individual farmers who sign contracts. In these contracts the farmers agree to sell and deliver their entire crops of tobacco for a certain number of years to the pool, or cooperative association, which will sell the tobacco and make returns to the farmers after deducting all operating expenses. These cooperative associations are organized without capital stock.

To secure the necessary funds to pay for the operating expenses of the association and to make advances to its members the association borrows money on its notes, which are

usually secured by warehouse receipts showing the type, form, grade, weight, and condition of the tobacco, and the obligations assumed by the warehouseman. The grade or other class of the tobacco shown on the warehouse receipts, if issued under the United States warehouse act, are usually taken from an official inspection, grade, and weight certificate issued at the conditioning plant. This is done in order to save opening up the tobacco after being received into storage, which is not only expensive but causes considerable damage to the tobacco.

The associations found that in many cases the number of public storage houses available was not sufficient to take care of their storage requirements, and it became necessary to organize subsidiary warehousing corporations to perform this function. These corporations are organized as a rule with sufficient capital stock to purchase, own, and operate storage warehouses. In some cases these subsidiary corporations own and operate redrying and conditioning plants in connection with the operation of storage warehouses, and in other cases they own and operate assorting and packing houses in which the tobacco is prepared for storage.

Under the pooling plan the tobacco is assorted and tied into hands by the individual farmer and delivered to the receiving warehouses of the association at such times and places as it directs. As the tobacco is received into the warehouses of the association it is weighed, placed into baskets, and tagged in the same manner as in the case of the auction system, but instead of selling it at auction the baskets are graded by expert graders who are employed by the association. Each farmer is given a statement showing the grades of the tobacco delivered to the association with the weight of each grade. At the same time an advance payment is made on the tobacco delivered. The amount of this advance is governed by the association and proportioned according to the particular quantity of each grade delivered to the association.

The association has full jurisdiction over the tobacco after it has been received and may condition, warehouse, or sell it at will. A certain percentage of the tobacco as a rule is sold direct to dealers and manufacturers from the loose-leaf receiving floors of the association. The remainder of the

tobacco is shipped by the association to conditioning plants, where it is conditioned and packed into hogsheads or cases for storage. As the tobacco is packed it is inspected, regraded, sampled, and weighed by competent and reliable persons, many of whom are licensed for the purpose under the United States warehouse act. It is then delivered to public storage houses, many of which are also licensed under the same law.

Prices of Tobacco.

Under the systems used in marketing tobacco, what may be called a wholesale market for unmanufactured tobacco

PRICES OF LEADING TYPES OF TOBACCO, 1909–1921.

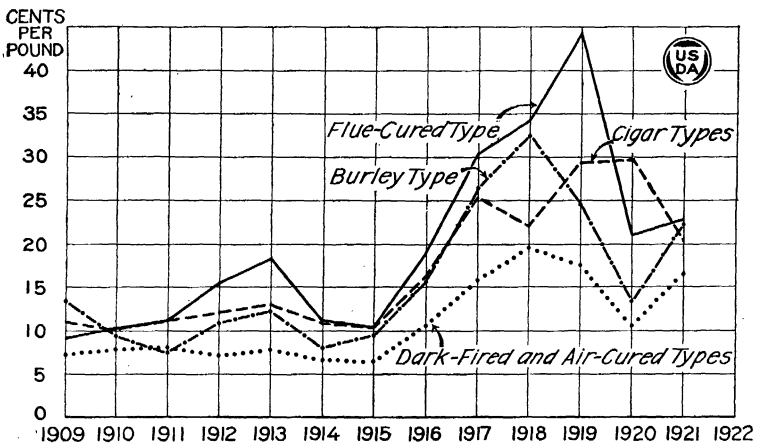


FIG. 23.—In recent years the bright flue-cured type has maintained the highest price level because of increased demand for this type in the domestic manufacture of cigarettes and in export trade. The lowest price level is shown by the dark fire-cured and air-cured types, the greater portion of which is exported.

has not been developed as has been for other commodities. As a rule, when tobacco is sold in large quantities sale is effected through private methods, and limited data are available as to prices received. The only prices are the general prices received by farmers. These are based as a rule upon the average price received for all qualities of tobacco. It has not been practicable to compile prices by grades, owing to the absence of any uniform system of grading. In securing data as to the average prices by types it has been necessary to follow the line of geographical division rather than of type characteristics.

In the graph showing tobacco prices by principal types (Fig. 23) it has been necessary to group all tobacco into four divisions: First, the cigar types cover wrapper, binder, and filler tobacco of Wisconsin, Ohio, Georgia, Florida, Pennsylvania, New York, and the Connecticut Valley, on which the farm prices range from 3 cents to $4 per pound; second, the Burley type covers all grades of Burley tobacco grown in Indiana, Ohio, West Virginia, Kentucky, and Tennessee, on which the price ranges from 1½ cents to $1 per pound;

AVERAGE PRICE OF TOBACCO, UNITED STATES, 1863–1921.

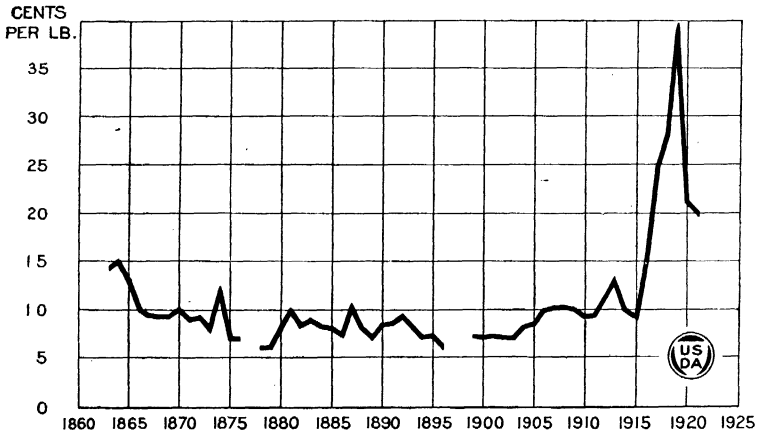


FIG. 24.—From 1865 to 1879 there was a fairly steady decline in average farm price, followed by a somewhat higher price level, for the most part, up to the outbreak of the World War. The abnormally high price level of 1919 was due mainly to the extraordinarily high price of the bright flue-cured type for that year.

third, the flue-cured type covers the "old belt" of Virginia and North Carolina and the "new belt" of North Carolina, South Carolina, and Georgia, on which the price of the various qualities range from 1½ cents to $1.25 per pound; and, fourth, the dark-fired and air-cured types cover all grades of Maryland and eastern Ohio export, Virginia dark-fired and sun-cured, dark-fired types of Kentucky and Tennessee, and the one-sucker and air-cured types of Indiana, Kentucky, and Tennessee, on which the prices range from 1 to 65 cents per pound.

The following table shows the average farm prices for all types and grades, as far as records are obtainable, from 1618 to 1853:

The accompanying graph (Fig. 24) shows the prices from 1863 to 1921. The World War caused the abnormally high average farm price of 39 cents per pound in the year 1919, which had not been previously equaled with the exception of the English Government prices of 1618, 1619, and 1620. The general price for half a century, from 1866 to 1915, was 8.5 cents per pound. During the five years from 1917 to 1921 the general average price was 26.4 cents per pound.

Average farm price of tobacco in the United States (cents per pound).

Year.	Price.	Year.	Price.	Year.	Price.	Year.	Price.
1618	54.75	1684	4.12	1730	1.52	1765	2.03
1619	54.75	1688	3.08	1735	4.2	1771	4.56
1620	54.75	1695	3.09	1743	3.04	1780	3.04
1639	6.08	1697	3.09	1744	4.06	1790	3.4
1640	6.08	1698	3.62	1762	4.56	1847	5.0
1647	6.08	1699	3.13	1763	4.56	1849	7.0
1664	3.09	1703	2.03	1764	4.06	1853	10.0

Financing the Marketing of Tobacco.

Tobacco is not suitable for manufacture until it has aged properly, which ordinarily means that it must be in storage from two to three years. In recent years the tendency has been to shorten the aging period by artificial sweating or by using a larger percentage of new tobacco in the blends, which are ordinarily made up of tobacco 1, 2, and 3 years old. In the manufacture of most tobacco products the tobacco used is, on an average, 18 months old. This makes it necessary for the trade to carry large stocks of tobacco on hand. The burden of carrying these stocks has been, for the most part, placed upon the dealers and manufacturers, as the farmer usually disposes of his tobacco as soon as possible after it has been produced. In the cigar-leaf producing States and in Maryland some farmers have held their tobacco on the farms or in public storage warehouses for considerable periods awaiting more favorable markets.

When tobacco is placed in a warehouse a warehouse receipt is issued therefor. This receipt is frequently used by the depositor as collateral for a loan. Comparatively few

farmers have used warehouse receipts because of the quite general practice on the part of farmers of selling their product as soon as possible after it is harvested. The manufacturer and dealer, on the other hand, are quite familiar with the use of these receipts.

With the development in the past two years in cooperative tobacco marketing organizations, the use of the warehouse receipt on the part of those who control the tobacco before it passes into the hands of dealers and manufacturers has

FEDERAL BONDED WAREHOUSE FOR STORING TOBACCO.

FIG. 25.—When tobacco is placed in a warehouse, licensed and bonded under the United States warehouse act, a negotiable warehouse receipt of prescribed form is issued therefor. This receipt is generally acceptable as collateral for loan purposes.

become quite general. These associations, almost without exception, have placed their tobacco in warehouses licensed under the United States warehouse act. They have found receipts issued under this act to constitute a high type of collateral, which is acceptable to the War Finance Corporation and generally acceptable to the leading banks as collateral for loan purposes. The value of these receipts is apparent from a study of the following copy of the form in use:

W. A. Form T-6 TOBACCO

PAID IN CAPITAL STOCK
$20,270.00

AMOUNT OF BOND
$50,000.00

THE DOE WAREHOUSE COMPANY

INCORPORATED UNDER THE LAWS OF NORTH CAROLINA

LICENSED AND BONDED UNDER THE U. S. WAREHOUSE ACT

LICENSE NO. 5-62, EXPIRES MAY 3, 1923

WAREHOUSE RECEIPT FOR ONE PACKAGE OF TOBACCO

ORIGINAL
NEGOTIABLE

WAREHOUSE RECEIPT
AND PACKAGE
NO.....

RECEIVED from.....of....., the tobacco described below, stored in THE DOE WAREHOUSE, Bonded Compartment No....., at Oxford, N. C., for which this receipt is issued, subject to the United States warehouse act, the regulations for tobacco warehouses thereunder, and the terms of this contract.

PRIVATE HOGSHEAD NUMBER AND MARKS.	GROSS WT.	TARE WT.	NET WT.	FORM	TYPE		CONDITION OF THE TOBACCO
				UNSTEMMED	[1] GRADE	UNIFORMITY OF GRADE	[2] Re-dried / Air-dried / Green

[1] According to the standards of the tobacco trade in this locality.

[2] Strike out words not applicable.

The warehouseman claims a lien on said tobacco for charges, advances made, and other liabilities incurred as follows:

Storage from date (including receiving and delivering) $1.50 for first four (4) months or fraction thereof; for each additional month or fraction thereof at rate of 25 cents..... $.....
Inspecting and Sampling $1.50 per Hgs..... $.....
Grading..... $.....
Weighing..... $.....
Freight and Drayage..... $.....
..... $.....
..... $.....
..... $.....

Said tobacco is NOT INSURED by the undersigned warehouseman against loss or damage by fire or lightning unless expressly stated otherwise on the face of this receipt.

Said tobacco is accepted for storage under this receipt, subject to said act and regulations, for a period not exceeding three years from the date hereof.

Said warehouseman is not owner of the tobacco, either solely or jointly, or in common with others, unless shown by "yes" here.....

Upon the return of this receipt properly indorsed and the payment of all liabilities due the undersigned warehouseman therefor, as described herein, said tobacco will be delivered to the above named depositor or his order.

Issued at Oxford, N. C., on....., 192..

THE DOE WAREHOUSE COMPANY

Per.....

Back of W. A. Form T-6.

STATEMENT OF OWNERSHIP AND ENCUMBRANCES.

Each of the undersigned hereby certifies on the date stated that he is the owner of the tobacco covered by this receipt and that, other than the warehouseman's lien evidenced on the face of this receipt and the following, there are no liens, mortgages, or other encumbrances on said tobacco:

_____

_____

_____

_____, 192__.

(Signed) _____

_____

_____

_____

_____, 192__.

(Signed) _____

INDORSEMENTS.

Upon demand, deliver the tobacco covered by this receipt to _____ or his order.

_____, 192__.

(Signed) _____

Upon demand, deliver the tobacco covered by this receipt to _____ or his order.

_____, 192__.

(Signed) _____

_____

_____

_____

Received delivery of the tobacco covered by this receipt.

_____, 192__.

(Signed) _____

In Figure 26 are shown the locations of United States licensed warehouses and the points at which are functioning inspectors, graders, and weighers licensed under this act in connection with these licensed warehouses.

Exports and Imports.

Tobacco was the first article of export of the colonies, and 20,000 pounds were sent to England from Jamestown in 1618. Exports had reached 100,000,000 pounds just prior

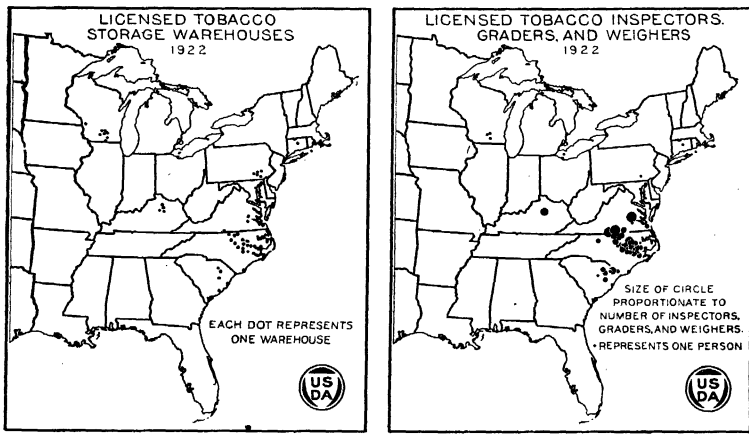


FIG. 26.—Licensed storage warehouses, and inspectors, graders, and weighers are now (1922) to be found in most of the principal tobacco-growing sections, thus affording approved facilities for placing tobacco in storage when growers do not wish to immediately sell their crop.

to the Revolutionary War, and by 1870 the average was in excess of 200,000,000 pounds. In the last three decades there has been a fairly uniform increase in average exports of leaf tobacco from 250,000,000 pounds in 1891 to 460,000,000 pounds for the 10-year period ending with 1921. At the close of the World War exports temporarily were in excess of 750,000,000 pounds. Exports of manufactured tobacco, though considerable, normally aggregate less than one-tenth of the leaf exports, the principal items being cigarettes, plug, and smoking tobacco. During and immediately following the World War, however, exports of cigarettes were greatly increased, the maximum of about 48,000,000 pounds having been reached in 1919. The United Kingdom is much the

largest purchaser of American tobacco, taking more than a third of the total exports, while France, Italy, and Germany each take about 10 per cent, the Netherlands about 6 per cent, Spain 5 per cent, Australia and Canada each 4 per cent, Belgium 3 per cent, and China 2 to 5 per cent. Exports to China have increased decidedly in recent years.

The increase in exports of leaf tobacco have not kept pace with increased production. Originally the bulk of the crop was exported, and in 1790 over 75 per cent of the total went abroad, while by the middle of the last century the fraction exported was two-thirds. At the close of the century exports averaged only about 38 per cent of the production, but since that time there has been no further permanent decline in the portion of the crop exported. Statistics of exports by types are not available, and only estimates can be made. It is well known that the dark fire-cured and air-cured types and the bright flue-cured furnish the bulk of leaf exports. The quantity of cigar leaf sent abroad is relatively unimportant, and perhaps not more than 10 to 15 per cent of the Burley crop is exported. It is estimated that about 75 per cent of the combined dark fire-cured and air-cured types goes to foreign countries. Since the production of these types is not increasing much, it is apparent that the increased exports of leaf are being derived largely from the bright flue-cured cigarette type. This indicates a foreign as well as a domestic increase in demand for the cigarette. Available information indicates that somewhat more than half the production of flue-cured leaf is exported.

Imports of leaf tobacco averaged 5,000,000 pounds at the outbreak of the Civil War and at the outbreak of the World War averaged about 60,000,000 pounds, or somewhat more than 14 per cent of the exports. Three principal types are imported, namely, cigar-wrapper leaf from Sumatra and Java, cigar filler and wrapper from Cuba, and cigarette tobaccos from Turkey and Greece. Considerable quantities of leaf have been imported from Cuba for a century, and Cuban tobacco largely formed the basis of development of the great cigar-manufacturing industry. For the period 1891–1895 imports from Cuba averaged 20,000,000

pounds annuallly and for the 10 years ending with 1910 the average was 22,000,000 pounds. In the past 10 years there has been little change in average imports. Cuban leaf is used in domestic manufacture of all-Havana cigars and for blending with domestic cigar leaf in manufacture. Imports of Sumatra wrapper leaf first became important in 1882, and for the 10 years ending with 1891 averaged 4,300,000 pounds annually. By 1894 the 10-year running average was 5,000,000 pounds, and since 1906 the average has remained near 6,000,000 pounds. This product is used almost exclusively for wrapping the domestic and blended fillers of low and medium priced cigars.

Imports of Turkish tobacco were nominal prior to 1903, but the rapid increase since that time has been the outstanding feature of tobacco imports. For the 10 years ending with 1912 average imports were in excess of 10,000,000 pounds and a 10-year average of 20,000,000 pounds was reached in 1919. In 1920 total imports of Turkish leaf reached 36,000,000 pounds, but in 1921 there was a decrease to approximately 26,000,000 pounds. The bulk of the imported Turkish leaf is used for blending with domestic flue-cured tobacco and, to a lesser extent, with Burley in the manufacture of cigarettes. The rapid increase in imports of Turkish tobacco closely parallels the great expansion in cigarette manufacture and in the production of flue-cured leaf. Imports of manufactured tobacco are relatively small, consisting chiefly of cigars from the Philippines and Cuba.

Domestic Consumption.

In Colonial days tobacco was grown primarily for export, but with increase of population and wider use of tobacco in its various forms among the colonists a steadily increasing proportion of the crop entered into domestic consumption, and this progressive change in distribution has continued, even through recent years. In the history of Virginia there are references to tobacco manufactories as early as 1732, though the product was used both for export and for domestic consumption. A considerable quantity of tobacco, however, has always been grown as a garden crop for home consumption in the unmanufactured state. In general, tobacco requires an aging process of from one to three years

in preparation for manufacture, so that, at least in later periods, since manufacturing has become more fully developed, there has been a very large carry-over each year; but the relation between production, consumption, and exports can be arrived at on the basis of averages for a period of years, consumption being regarded as represented by excess of production and imports over exports. Data for this method of computation are wanting, however, for early periods. For the year 1790 it appears that the quantity retained for domestic consumption amounted to about 29,000,000 pounds, or 22 per cent of the production for that year. For the census year 1839 the excess of production over exports of leaf was 100,000,000 pounds, or 45 per cent of the production, disregarding a net export of 6,000,000 pounds of manufactured tobacco in that year. For the 5-year period—1881–1885—the apparent average annual consumption was nearly 287,000,000 pounds, or 56 per cent of the production. For the years 1891–1895 consumption averaged nearly 340,000,000 pounds, which was 56.3 per cent of the production. For the period 1901–1905 the average consumption rose to 483,000,000 pounds, constituting 61 per cent of the production. For the pre-war period—1909–1913—the annual consumption was 650,000,000 pounds, or 65 per cent of the production. During the five years ending with 1921 consumption averaged 892,000,000 pounds, which was 65.5 per cent of the production. In arriving at the above estimates for dates since 1839 exports and imports of manufactured tobacco are included.

The per capita consumption of tobacco has been steadily increasing for many years. Prior to the Civil War it seems to have been less than 4 pounds. For the period 1881–1885 per capita consumption was 5.3 pounds, for 1891–1895 it receded to 5 pounds, but for 1901–1905 it had increased to about 6 pounds. During the 5-year period ending with 1913 the quantity consumed per capita had further increased to 7 pounds, and for 1917–1921 it reached 8.5 pounds. These figures probably mean that a steadily increasing proportion of the population is using tobacco.

The Commissioner of Internal Revenue secures accurate record of the quantities of leaf tobacco used each year in the various forms of manufacture. In Figure 27 is shown

graphically the distribution of leaf in the manufacture of cigars, cigarettes, and tobacco and snuff. The figures include most of the imported leaf, which constitutes 5 to 10 per cent of the total leaf consumed in manufacture. So far as concerns comparison with production on the basis of farm weight, however, these imports are fully offset by the shrinkage in weight which tobacco undergoes during the aging process, which amounts on the average to about 10 per cent. With an average total consumption of leaf amounting to about 370,000,000 pounds for the five-year period 1897–1901, 26 per cent of this total was used for the manufacture of cigars, 4 per cent for cigarettes, and 70 per cent for tobacco and snuff. For the period 1907–1911 the total leaf consumed averaged 507,000,000 pounds, with cigars accounting for 28 per cent, cigarettes 5.2 per cent, and snuff and tobacco 66.8 per cent. For the five years ending in 1921 the total leaf consumed averaged 672,000,000 pounds, of which 25 per cent was used for cigars, 26.3 per cent for cigarettes, and 48.7 per cent for tobacco and snuff. The remarkable increase in quantity of leaf used for manufacture of cigarettes, as well as the accelerating rate of this increase, which began after a period of decline from 1897 to 1902, are seen in Figure 27.

TREND IN CONSUMPTION OF LEAF TOBACCO: CIGARS, CIGARETTES, TOBACCO, AND SNUFF, 1897–1921.

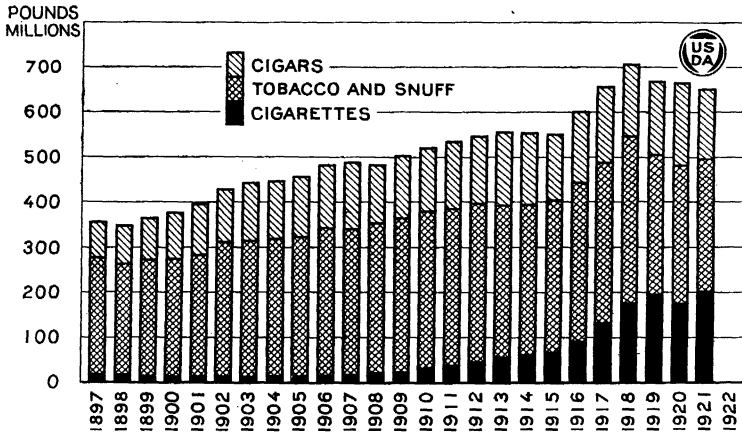


FIG. 27.—Since about 1908 there has been an exceedingly rapid increase in the quantity of tobacco used in cigarette manufacture. The manufacture of cigars shows only a moderate increase in recent years, while the quantity of leaf used for chewing and smoking tobacco and snuff shows almost no increase in the past 20 years.

This enormous expansion in the manufacture of the machine-made cigarette is the outstanding feature of the past quarter of a century in the tobacco industry.

The returns of the Commissioner of Internal Revenue include under the general head of "tobacco and snuff" the forms of manufacture known as plug, twist, fine cut, and smoking tobacco, in addition to snuff. It is significant that the production of plug, used principally for chewing, which has long been a principal form of manufacture, reached a maximum of nearly 186,000,000 pounds as early as 1897, and in recent years has shown a tendency to decline. The production of twist, which is used mainly for chewing, is not large, the maximum production of 17,000,000 pounds having been reached in 1918. Maximum production of fine cut, also chiefly used for chewing, amounting to 19,000,000 pounds, was reached in 1881 and has since steadily declined. Production of smoking tobaccos, extensively used for rolling of cigarettes by hand as well as for pipe smoking, has increased from 85,000,000 pounds in 1897 to a maximum of 258,000,000 pounds in 1918, although the increase since 1910 has been relatively small. Production of snuff has steadily increased from 14,000,000 pounds in 1897 to a maximum of 37,000,000 pounds in 1918. In 1890 the production of cigars first exceeded 4 billions in number, and in 1901 6 billions were produced. The 7-billion mark was reached in 1906, but since that date there has been little increase in production, except that in the single year 1920 the 8-billion mark was temporarily passed. It is worthy of note, however, that the average size or weight of the individual cigar has increased considerably in recent years. In the above figures the relatively unimportant item of so-called little cigars is not included. Production of cigarettes first exceeded 1 billion in number in 1885, and in 1895 more than 4 billions were manufactured, of which a half billion was exported. In 1905 the production was 5½ billions, of which two-thirds were retained for domestic consumption. In 1910 production had increased to 8½ billions, exclusive of manufactures in bonded warehouses for export. In 1917 the total production was in excess of 44 billions, including manufactures in bonded warehouses, of which 37 billions remained at home

for consumption. In 1921 production reached the enormous number of 60 billions, of which about 8½ billions were exported. In brief, the use of tobacco for chewing has been giving way to smoking, the first evidence of which could be seen in increased consumption of cigars and smoking tobacco, while more recently these forms of smoking are giving place to the machine-made cigarette.

Utilization of Tobacco By-Products.

The stem or midrib of the leaf can not be utilized in some classes of manufactured tobacco, and in the aggregate a large surplus of stems thus accumulates, of which only a small proportion is exported. These stems, together with considerable quantities of inferior or damaged leaf and leaf scrap and, to some extent, the tobacco stalks, furnish the sources of various nicotine preparations. Nicotine is a valuable insecticide and is widely used for control of certain insect pests of plants. It is also extensively used in dips for control of mange or scab on sheep and cattle. Stems and other tobacco by-products, with or without previous extraction of the nicotine, are used in large quantities as fertilizer, their value for this purpose depending mainly on their content of nitrogen and potassium. No statistics are available as to quantities of tobacco by-product utilized in the preparation of insecticides or as fertilizer.

International Trade in Unmanufactured Tobacco.

A large portion of the world's crop of tobacco does not enter into commerce, being consumed by the producer in the unmanufactured state. On the other hand, to meet fully the requirements for various forms of manufacture, including the blending of mixtures according to the varying tastes of consumers, countries supplying large exports may also find it necessary to import certain foreign types of leaf, as is true of the United States. Some of the large consuming countries, moreover, produce little or no tobacco. Including those countries for which statistics are available, the average

yearly exports of tobacco in the world's trade for the period 1909 to 1913 amounted to 929,000,000 pounds. As shown in Figure 28, the United States is much the largest exporting country, furnishing 41 per cent of the total. The Dutch East Indies contributed nearly 18 per cent, Brazil about 6.5 per cent, Cuba 4 per cent, British India and the Philippine Islands each about 3 per cent. The tobacco exports of Turkey undoubtedly were important for this period, both in quantity and quality of product, and while full statistics are not available she probably ranked along with Brazil in quantity of leaf supplied.

INTERNATIONAL TRADE IN UNMANUFACTURED TOBACCO, YEARLY AVERAGE, 1909–1913.

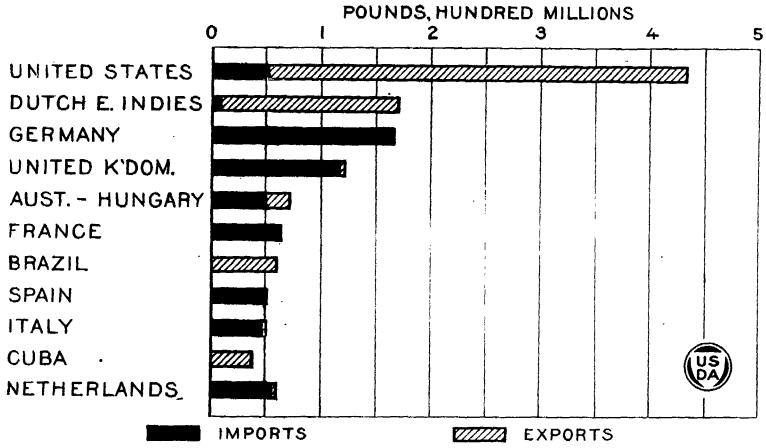


FIG. 28.—The United States is by far the leading country in exports but also imports considerable quantities of leaf tobacco. The Dutch East Indies rank second in volume of exports. Germany and the United Kingdom lead in imports.

Of the total imports in world trade for the same period, amounting to 844,000,000 pounds, Germany received 20 per cent, the United Kingdom 14 per cent, France 7.5 per cent, Netherlands 7 per cent, the United States, Spain, and Austria-Hungary each about 6 per cent, Italy 5.5 per cent, and Belgium 2.5 per cent.

Import Duties and Internal Revenue Taxes on Tobacco.

Import Levies.

Import duties have been levied on tobacco, both in manufactured and unmanufactured form, almost from the beginning of the Federal Government. In earlier years the rates were comparatively low, but they were greatly increased during the Civil War period. Since that time the chief increases in rates have been in leaf tobacco. Cigars as such were first included in the act of March 27, 1804, while "paper cigars" were first listed in the act of July 30, 1846, and cigarettes in the act of July 14, 1862. In the latter act a distinction is first made between stemmed and unstemmed leaf, and in the act of March 3, 1883, a distinction is drawn between wrapper and filler grades of cigar leaf. The annual revenue accruing to the Government from tobacco imports averaged for the period 1868–1872 somewhat less than $4,000,000, for the period 1888–1892 over $12,000,000, and for the period 1908–1912 approximately $24,000,000. The aggregate revenue from this source for the 50-year period 1872–1921 was more than $800,000,000.

The following digest embraces a list of tariff acts relating to tobacco, with rates of duty, from 1789 to date:

Rates of duty on tobacco imports under the Constitution.

Date of act (and when effective).	Rates of duty.
July 4, 1789 (Aug. 1, 1789).	Snuff, 10 cents per pound; manufactured tobacco, 6 cents per pound; unmanufactured tobacco, 5 per cent.
Aug. 10, 1790 (Jan. 1, 1791).	Snuff, 10 cents per pound; unmanufactured, 5 per cent; manufactured, 6 cents per pound.
May 2, 1792 (July 1, 1792).	Unmanufactured, 7½ per cent: other tobacco duties remain.
June 5, 1794 (Oct. 1, 1794).	Snuff, 22 cents per pound; unmanufactured remains 7½ per cent; manufactured, 10 cents per pound.
June 7, 1794 (July 1, 1794).	Snuff remains 22 cents per pound; unmanufactured, 10 per cent: manufactured remains 10 cents per pound.
May 13, 1800 (July 1, 1800).	Snuff remains 22 cents per pound; unmanufactured, 12½ per cent: manufactured remains 10 cents per pound.
Mar. 26, 1804 (July 1, 1804).	Snuff remains 22 cents per pound; unmanufactured, 15 per cent; manufactured remains 10 cents per pound.

Rates of duty on tobacco imports under the Constitution—Continued.

Date of act (and when effective).	Rates of duty.
Mar. 27, 1804 (July 1, 1804).	Cigars, $2 per 1,000; other existing rates remain.
July 1, 1812 (July 1, 1812).	Existing rates doubled until one year after the war.
Apr. 27, 1816 (July 1, 1816).	Snuff, 12 cents per pound; cigars, $2.50 per 1,000; other manufactured, 10 cents per pound; unmanufactured, 15 per cent.
Mar. 2, 1833 (Jan. 1, 1834).	Existing rates in excess of 20 per cent to be reduced to 20 per cent by yearly reductions to July 1, 1842.
Sept. 11, 1841 (Oct. 1, 1841).	Unmanufactured, 20 per cent; other rates remain.
Aug. 30, 1842 (Aug. 31, 1842).	Snuff, 12 cents per pound; cigars, 40 cents per pound: other manufactured, 10 cents per pound; unmanufactured, 20 per cent.
July 30, 1846 (Dec. 2, 1846).	Snuff, 40 per cent; cigars and paper cigars, 40 per cent; other manufactured, 40 per cent; unmanufactured, 30 per cent.
Mar. 3, 1857 (July 1, 1857).	Manufactured, 30 per cent; unmanufactured, 24 per cent.
Mar. 2, 1861 (Apr. 2, 1861).	Snuff, 10 cents per pound. Cigars: Value of $5 or less per 1,000, 20 cents per pound; value over $5 to $10 per 1,000, 40 cents per pound; value over $10 per 1,000, 60 cents per pound and 10 per cent; unmanufactured in leaf, 25 per cent; other manufactured and other unmanufactured, 30 per cent.
July 14, 1862 (Aug. 2, 1862).	Snuff, 35 cents per pound. Cigars and cigarettes: Value of $5 or less per 1,000, 35 cents per pound; value over $5 to $10 per 1,000, 60 cents per pound; value over $10 to $20 per 1,000, 80 cents per pound and 10 per cent; value over $20 per 1,000, $1 per pound and 10 per cent. Unmanufactured in leaf and unstemmed, 25 cents per pound; stemmed, 35 cents per pound; other manufactured, 35 cents per pound.
Apr. 29, 1864 (Apr. 29, 1864).	Existing rates increased 50 per cent for 60 days.
June 30, 1864 (July 1, 1864).	Snuff and snuff flour, 50 cents per pound. Cigars and cigarettes: Value of $15 or less per 1,000, 75 cents per pound and 20 per cent; value over $15 to $30 per 1,000, $1.25 per pound and 30 per cent; value over $30 to $45 per 1,000, $2 per pound and 50 per cent; value over $45 per 1,000, $3 per pound and 60 per cent. Unmanufactured, in leaf and unstemmed, 35 cents per pound; stemmed, 50 cents per pound; other manufactured, 50 cents per pound.
Mar. 3, 1865 (Apr. 1, 1865).	Stems, 15 cents per pound.
July 28, 1866 (Aug. 11, 1866).	Cigars, cigarettes, and cheroots, $3 per pound and 50 per cent.
Mar. 3, 1883 (July 1, 1883).	Snuff and snuff flour, 50 cents per pound; cigars, cigarettes, and cheroots, $2.50 per pound and 25 per cent. Unmanufactured, in leaf and unstemmed 85 per cent suitable for cigar wrappers, and more than 100 leaves in pound, 75 cents per pound; stemmed, $1 per pound. Other leaf, unstemmed, 35 cents per pound; stemmed, 40 cents per pound. Other unmanufactured, 30 per cent; stems, 15 cents per pound; other manufactured, 40 cents per pound.

Rates of duty on tobacco imports under the Constitution—Continued.

Date of act (and when effective).	Rates of duty.
Oct. 1, 1890 (Oct. 6, 1890).	Snuff and snuff flour, 50 cents per pound: cigars, cigarettes, and cheroots, $4.50 per pound and 25 per cent. Unmanufactured, in leaf for cigar wrappers—unstemmed, $2 per pound; stemmed, $2.75 per pound. Other leaf—unstemmed, 35 cents per pound; stemmed, 50 cents per pound. Stems, free. Other manufactured, 40 cents per pound.
Aug. 27, 1894 (Aug. 1, 1894).	Snuff and snuff flour, 50 cents per pound; cigars, cigarettes, and cheroots, $4 per pound and 25 per cent. Wrapper, unstemmed, $1.50 per pound; stemmed, $2.25 per pound. Filler, unstemmed, 35 cents per pound; stemmed, 50 cents per pound. Stems, free. Other unmanufactured and manufactured, 40 cents per pound.
July 24, 1897 (July 24, 1897).	Snuff and snuff flour, 55 cents per pound; cigars, cigarettes, and cheroots, $4.50 per pound and 25 per cent. Wrapper, and filler when mixed or packed with more than 15 per cent of wrapper, and all leaf the product of two or more countries when mixed or packed together, unstemmed, $1.85 per pound; stemmed, $2.50 per pound. Other filler, unstemmed, 35 cents per pound; stemmed, 50 cents per pound. Stems, free. Other unmanufactured and manufactured, 55 cents per pound.
Apr. 12, 1900 (Apr. 12, 1900).	Shipments from Porto Rico to United States, 15 per cent of existing rates + internal-revenue tax.
July 25, 1901.....	Shipments from Porto Rico/to United States, free. (Proclamation by President.)
Mar. 8, 1902 (Mar. 8, 1902).	Imports from Philippine Islands of articles grown and produced there, 75 per cent of existing rates + internal-revenue tax. (Ceased Aug. 6, 1909.)
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).	Rates of July 24, 1897: Scrap, 55 cents per pound. These are the rates of the minimum tariff. The maximum tariff is 25 per cent higher and is to be in force to Mar. 31, 1910, and thereafter unless President by proclamation declares no discrimination by particular countries. These rates apply to Philippine Islands; imports exceeding 300,000 pounds of wrapper and filler mixed or packed with more than 15 per cent of wrapper; exceeding 1,000,000 pounds of filler; and exceeding 150,000,000 cigars. Internal revenue to be paid.
Oct. 3, 1913 (Oct. 4, 1913).	Rates of July 24, 1897, except scrap, 35 cents per pound. All articles the growth or product of the Philippine Islands, free.
May 27, 1921 (May 28, 1921).	Wrapper, and filler when mixed or packed with more than 15 per cent of wrapper, and all tobacco the product of two or more countries when mixed or packed together, unstemmed, $2.35 per pound; stemmed, $3 per pound. Other filler (all other leaf), unstemmed, 35 cents per pound; stemmed, 50 cents per pound. Other existing rates not changed.

Rates of duty on tobacco imports under the Constitution—Continued.

Date of act (and when effective).	Rates of duty.
Sept. 21, 1922 (Sept. 22, 1922).	Snuff and snuff flour, 55 cents per pound; cigars, cigarettes, and cheroots, $4.50 per pound and 25 per cent. Wrapper, and filler when mixed or packed with more than 35 per cent of wrapper, and leaf the product of two or more countries when mixed or packed together, unstemmed, $2.10 per pound; stemmed, $2.75 per pound. Other filler, unstemmed, 35 cents per pound; stemmed, 50 cents per pound. Scrap, 35 cents per pound; stems, free; other unmanufactured and manufactured, 55 cents per pound. From Philippine Islands, if grown or produced there, free + United States internal revenue tax. All rates subject to change by the President after investigation of cost of production, domestic and foreign.

Internal Revenue Taxes.

Internal-revenue taxation of tobacco as a more or less fixed policy began during the Civil War. As a whole the rates of taxation reached a maximum during the later years of that war, while relatively high rate levels also came into effect in 1875 and again following the World War. At the outset a sliding scale of rates, according to value of the product, was applied to cigars, while for smoking and chewing tobaccos there was also a sliding scale based on value of product; but, in addition, rate differences based on character of raw material used in manufacture were applied. After a long period of flat rates, which began in 1867, the principle of a sliding scale according to value was revived for large cigars in 1917. On the other hand, flat rates have been applied to smoking and chewing tobaccos since 1872, and since 1898 snuff has been classed with these tobaccos. With the exception of the act of 1901, flat rates have been applied to cigarettes since 1867, so far as concerns value, but since 1868 there has been a difference in rates as between cigarettes weighing not more than 3 pounds per 1,000 and those weighing more than 3 pounds. The same distinction as to weight was first applied to cigars in 1897.

The amount of revenue derived from internal-revenue taxes in 1863 was somewhat more than $3,000,000, while 10 years later the amount was more than $34,000,000. In 1902 the revenue amounted to nearly $52,000,000, in 1917 over $103,000,000, and in 1920 approximately $294,000,000. The total revenue derived from these taxes from 1862 to 1921, inclusive, a period of 60 years, was considerably over $3,000,000,000.

The following summary, based on compilations by the Commissioner of Internal Revenue, United States Treasury Department, shows the rates of taxation on cigars and cigarettes as fixed in internal revenue acts from 1862 to date. Only half of the increase in rates provided in the act of October 3, 1917, were applicable during the first month of its operation.

Date of internal revenue acts imposing tax on cigars and cigarettes and rates of tax.

Date of act (and when effective).	Product.	Rate of tax.	Length of time in effect.
		Per 1,000.	*Months.*
July 1, 1862 (Sept. 1, 1862).	Cigars, valued at not over $5 per 1,000	$1.50	22
	Valued at over $5 and not over $10 per 1,000	2.00	22
	Valued at over $10 and not over $20 per 1,000	2.50	22
	Valued at over $20 per 1,000	3.50	22
June 30, 1864 (June 30, 1864).	Cheroots valued at not over $5 per 1,000	3.00	9
	Cigars valued at not over $5 per 1,000	3.00	9
	Valued at over $5 and not over $15 per 1,000	8.00	9
	Valued at over $15 and not over $30 per 1,000	15.00	9
	Valued at over $30 and not over $45 per 1,000	25.00	9
	Valued at over $45 per 1,000	40.00	9
	Cigarettes valued at not over $6 per 100 packages of 25 each.	[1] 1.00	9
	Valued at over $6 per 100 packages of 25 each	[1] 3.00	9
	Cigarettes made wholly of tobacco	3.00	9
Mar. 3, 1865 (Apr. 1, 1865).	Cigars and cheroots made wholly of tobacco or of any substitutes therefor.	10.00	16
	Cigarettes valued at not over $5 per 100 packages of 25 each.	[2] .05	16
	Valued at over $5 per 100 packages of 25 each	[3] .05	16
	Cigarettes made wholly of tobacco or of any substitutes therefor.	10.00	16

[1] Per 100 packages. [2] Per package. [3] Per cent.

***Date of internal revenue acts imposing tax on cigars and cigarettes and rates of tax*—Continued.**

Date of act (and when effective).	Product.	Rate of tax.	Length of time in effect.
		Per 1,000.	*Months.*
July 13, 1866 (Aug. 1, 1866).	Cigars, cigarettes, and cheroots valued at $8 per 1,000 or less.	$2.00	7
	Valued at over $8 and not over $12	4.00	7
	Valued at over $12 per 1,000	[4] 4.00	7
Mar. 2, 1867	Cigars, cigarettes, and cheroots of all descriptions	5.00	17
July 20, 1868 (July 20, 1868).	Cigars and cheroots of all descriptions	5.00	79
	Cigarettes weighing not over 3 pounds per 1,000	1.50	79
	Weighing over 3 pounds per 1,000	5.00	79
Mar. 3, 1875 (Mar. 3, 1875).	Cigars and cheroots of all descriptions	6.00	98
	Cigarettes weighing not over 3 pounds per 1,000	1.75	98
	Weighing over 3 pounds per 1,000	6.00	98
Mar. 3, 1883 (May 1, 1883).	Cigars and cheroots of all descriptions	3.00	183
	Cigarettes weighing not over 3 pounds per 1,000	.50	172
	Weighing over 3 pounds per 1,000	3.00	183
July 24, 1897 (Aug. 15, 1897).	Cigars weighing more than 3 pounds per 1,000	3.00	10
	Weighing not more than 3 pounds per 1,000	1.00	47
	Cigarettes weighing more than 3 pounds per 1,000	3.00	10
	Weighing not more than 3 pounds per 1,000	1.00	10
June 13, 1898 (June 14, 1898).	Cigars weighing more than 3 pounds per 1,000	3.60	37
	Weighing not more than 3 pounds per 1,000	1.00	37
	Cigarettes weighing more than 3 pounds per 1,000	3.60	49
	Weighing not more than 3 pounds per 1,000	1.50	37
Mar. 2, 1901 (July 1, 1901).	Cigars weighing more than 3 pounds per 1,000	3.00	.....
	Weighing not more than 3 pounds per 1,000	.54	108
Apr. 12, 1902 (July 1, 1902).	Cigarettes weighing more than 3 pounds per 1,000	3.00	96
	Weighing not more than 3 pounds per 1,000 of wholesale value or price of—		
Mar. 2, 1901 (July 1, 1901).	Not over $2 per 1,000	.54	108
	More than $2 per 1,000	1.08	108
Aug. 5, 1909 (July 1, 1910).	Cigars weighing more than 3 pounds per 1,000	3.00	87
	Weighing not more than 3 pounds per 1,000	.75	87
	Cigarettes weighing more than 3 pounds per 1,000	3.60	87
	Weighing not more than 3 pounds per 1,000	1.25	87
Oct. 3, 1917 (Oct. 4, 1917).	Classes A–D, cigars, weighing more than 3 pounds per 1,000, if manufactured or imported to retail at:		
	(A) Less than 4 cents each	3.00	16
	(B) 4 cents or more and not over 7 cents each	4.00	16
	(C) More than 7 cents and not over 15 cents each	6.00	16
	(D) More than 15 cents and not over 20 cents each	8.00	16
	Class E, cigars, weighing more than 3 pounds per 1,000, if manufactured or imported to retail at over 20 cents each.	10.00	16
	Cigars weighing not more than 3 pounds per 1,000	1.00	16
	Cigarettes weighing not more than 3 pounds per 1,000.	2.05	16
	Cigarettes weighing more than 3 pounds per 1,000	4.80	16

[4] And 20 per cent.

Date of internal revenue acts imposing tax on cigars and cigarettes and rates of tax—Continued.

Date of act (and when effective).	Product.	Rate of tax.	Length of time ineffect.
		Per 1,000.	*Months.*
Feb. 24, 1919 (Feb. 25, 1919).	Classes A-D, cigars, weighing more than 3 pounds per 1,000, if manufactured or imported to retail at:		
	(A) Not more than 5 cents each	$4.00	33
	(B) More than 5 cents and not more than 8 cents each.	6.00	33
	(C) More than 8 cents and not more than 15 cents each.	9.00	33
	(D) More than 15 cents and not more than 20 cents each.	12.00	33
Feb. 24, 1919 (Feb. 25, 1919).	Class E cigars, weighing more than 3 pounds per 1,000, if manufactured or imported to retail at over 20 cents each.	15.00	33
	Cigars weighing not more than 3 pounds per 1,000.	1.50	33
	Cigarettes weighing not more than 3 pounds per 1,000.	3.00	33
	Cigarettes weighing more than 3 pounds per 1,000.	7.20	33
Nov. 23, 1921 (Nov. 23, 1921).	Cigars, made of tobacco or any substitute, weighing more than 3 pounds per 1,000, if manufactured or imported to retail at:		
	(A) Not more than 5 cents each	4.00	.....
	(B) More than 5 cents and not more than 8 cents each.	6.00	.....
	(C) More than 8 cents and not more than 15 cents each.	9.00	.....
	(D) More than 15 cents and not more than 20 cents each.	12.00	.....
	(E) More than 20 cents each	15.00	.....
	Cigars, made of tobacco or any substitute, weighing not more than 3 pounds per 1,000.	1.50	.....
	Cigarettes, made of tobacco or any substitute, weighing more than 3 pounds per 1,000.	7.20	.....
	Cigarettes, made of tobacco or any substitute, weighing not more than 3 pounds per 1,000.	3.00	.....

In the following summary, based on compilations by the Commissioner of Internal Revenue, are shown the rates of taxation applying to smoking and chewing tobaccos and snuff, as fixed in internal revenue acts from 1862 to date. Only one-half of the increase in rates provided in the act of October 3, 1917, was applicable during the first month of its operation.

Dates of internal revenue acts imposing tax on chewing and pipe-smoking tobaccos and snuff, and rates of tax.

Date of act (and when effective).	Form of manufacture.	Rate of tax per pound.	Length of time in effect.
		Cents.	*Months.*
July 1, 1862 (July 1, 1862).	Smoking, made exclusively of stems	2	.....
	Smoking, prepared with all the stems in	5	22
	Cavendish, plug, twist, fine cut, valued at not over 30 cents per pound.	10	6
	Cavendish, plug, twist, fine cut, valued at over 30 cents per pound.	15	6
	Snuff	20	22
Mar. 3, 1863 (Mar. 3, 1863).	Smoking, made exclusively of stems	5	1
	Cavendish, plug, twist, fine cut, and manufactured tobacco of all descriptions, except smoking tobacco.	15	16
June 30, 1864 (June 30, 1864).	Smoking, made exclusively of stems	15	25
	Smoking, prepared with all the stems in, and fine-cut shorts.	25	9
	Cavendish, plug, twist, etc., and fine-cut chewing	35	9
	Snuff	35	9
Mar. 3, 1865 (Apr. 1, 1865).	Twisted by hand	30	16
	Smoking, of all kinds, not otherwise provided for	35	16
	Cavendish, plug, twist, etc., and fine-cut chewing	40	16
	Snuff	40	40
July 13, 1866 (Aug. 1, 1866).	Smoking, not sweetened, stemmed, or butted	15	24
	Twisted by hand, etc., and fine-cut shorts	30	24
	Smoking, sweetened, stemmed, or butted	40	24
	Chewing	40	24
July 20, 1868 (July 20, 1868).	Chewing, etc., smoking, etc., part of the stems removed	32	47
	Smoking, exclusively of stems, etc	16	47
	Snuff	32	129
June 6, 1872 (July 1, 1872).	All kinds, except snuff, cigars, cheroots, and cigarettes.	20	32
Mar. 3, 1875 (Mar. 3, 1875.	.....do	24	50
Mar. 1, 1879 (May 1, 1879).	All kinds, except snuff, cigars, cheroots, and cigarettes.	16	48

Dates of internal revenue acts imposing tax on chewing and pipe-smoking tobaccos and snuff, and rates of tax—Continued.

Date of act (and when effective).	Form of manufacture.	Rate of tax per pound.	Length of time in effect.
		Cents.	*Months.*
Mar. 3, 1883 (May 1, 1883).	All kinds, except snuff, cigars, cheroots, and cigarettes.	8	91
Oct. 1, 1890 (Jan. 1, 1891).	Smoking and manufactured tobacco and snuff	6	90
June 13, 1898 (June 14, 1898).	Manufactured tobacco and snuff	12	49
Apr. 12, 1902 (July 1, 1902).	do	6	96
Aug. 5, 1909 (July 1, 1910).	do	8	86
Oct. 3, 1917 (Nov. 2, 1917).	do	13	15
Feb. 24, 1919 (Feb. 25, 1919).	do	18	33
Nov. 23, 1921 (Nov. 23, 1921).	do	18	

Summary and Outlook.

Concomitant with the comparatively steady expansion in acreage and production of tobacco during and since colonial days the industry has undergone a high degree of specialization. Primarily as a result of the exacting requirements as to soil and climate for producing the particular kinds of tobacco needed for various purposes of manufacture and export, tobacco culture has become sharply localized. Each producing section supplies a definite type peculiarly suited for specific trade purposes. Other sections formerly growing tobacco but having soil and climatic conditions less favorable for producing the types now in demand have been forced to abandon the crop. These distinctive types are in large measure noncompetitive, so that important economic changes or tendencies may have very different effects on the various centers of production.

The Tobacco Crop as a Whole.

Considering the tobacco crop as a whole there has been marked and almost continuous increase in production during the past 40 years. The rate of increase has more than kept pace with the increase in population. Under a well-balanced system of diversified farming, including winter feeding of steers, the yield per acre of tobacco shows an upward tendency. Under a highly intensive one-crop system, heavy fertilizing and manuring is apparently failing to maintain yields at the high levels which were first established. With an extensive system on rather poor soils, in which cropping to tobacco alternates with a period of "resting" the land, the yield is being maintained, though at a relatively low level. Under these circumstances the level of yields has been considerably raised by use of commercial fertilizers. Imports of tobacco are considerable and have increased decidedly in recent years, though in the aggregate they amount to hardly more than 10 per cent of exports. A large proportion of the leaf tobacco imported is used for blending purposes and therefore does not come into competition with domestic leaf. Net exports of tobacco, though large and increasing, have not kept pace with the increase in production. Serious effort is being made in various parts of the world to produce tobaccos similar to those exported from this country, but it remains to be seen what success will follow these endeavors. Domestic consumption of tobacco has been increasing steadily for many years, and even on a per capita basis this increase has been considerable. The tobacco industry reacted sharply to conditions created by the World War. Abnormally high prices resulting from greatly increased foreign and domestic demand stimulated heavy production which culminated in a crop of more than 1½ billion pounds in 1920. The precipitate drop in prices in that year for a crop grown at heavy cost resulted in serious losses. Largely as a consequence of these conditions production in 1921 virtually receded to the prewar level of

1 billion pounds. The average farm price for the 1921 crop was about 89 per cent above prewar figures.

Relative Position of the Distinctive Types of Tobacco.

With respect to the several distinctive types of tobacco, significant changes have taken place both at home and abroad in popularity of the different forms in which tobacco is consumed. These changes necessarily affect the relative demand of the different types of leaf. Maximum production of chewing tobaccos was virtually reached as early as 1897. On the other hand, production of pipe-smoking tobaccos increased rapidly until about 1910, while the subsequent rate of increase has been much slower. Manufacture of cigars increased rapidly until about 1906, but since that time the rate of increase has fallen off. Beginning about 1910 the production of machine-made cigarettes began to increase with remarkable rapidity, and this rate of increase has been steadily maintained. It is apparent that chewing is less popular than formerly and is giving way to smoking, and the cigarette is now becoming the favorite smoke. In line with these facts there has been a very large increase in production of the bright flue-cured tobacco, which is the leading cigarette and granulated pipe-smoking type, with an upward trend in price. There has been, moreover, an increasing foreign demand for this type, thus placing it in a relatively strong position. Flue-cured tobacco has long occupied an important position in the manufacture of plug, but any loss in demand in this direction has been more than offset by the gain in domestic and foreign demand for smoking purposes. Burley, which has been the leading type of leaf for the manufacture of plug, also has recently come into great demand for cigarette and smoking grades of leaf, the net result being a moderate increase in total demand for this type. The dark fire-cured and air-cured tobaccos have always been mainly export types, domestic use being confined mostly to the production of chewing tobacco and snuff. Foreign markets are indicating more and more a preference for the light colored cigarette types of leaf, at least so far as concerns increased purchases in this country. As would be

expected from these facts, there has been no notable permanent increase in production of the dark types in recent years. Cigar leaf is largely restricted to a single domestic use, and production has shown but little increase in the past decade, thus further indicating a slowing down of the increase in consumption of cigars.

Tobacco Culture in New Territory.

The question is frequently raised whether tobacco could be grown with profit in sections where it is not at present a commercial crop. In the search for new crops in various regions it is natural that attention should be directed toward tobacco because of the fact that it is a cash crop of high acre value. For the five-year period ending with 1920 the average acre value of tobacco was approximately $205, as compared with $126 for potatoes, $42 for cotton, and $26 for hay. There are two principal aspects of the question as to prospects for tobacco culture in new territory, namely, whether present production fully equals the demand and whether new regions could successfully compete with the sections already growing tobacco. As a matter of fact, from the earliest days of the colonists overproduction has been the one greatest menace to profitable tobacco culture. In most of the principal centers of production less than 10 per cent of the total acreage of the tobacco farms is devoted to this crop each year and rising prices for tobacco are almost invariably followed by marked increase in production. In recent years by far the most marked increase in demand and in production has been in the flue-cured type of the South Atlantic States, but in these States there is a very large acreage of land lying idle which is not sufficiently productive for general farming but is available for meeting any increase in demand for flue-cured tobacco. It is apparent, therefore, that commercial tobacco culture in new territory must be at the expense of the established producing districts. As bearing on the second phase of the question, it has already been made clear that through a long process of evolution and specialization tobacco production has become definitely localized, each region because of its particular combination of soil and climate producing a type of leaf

peculiarly suited for certain uses and differing in important characteristics from other types. So marked are the effects of soil and climate that it rarely if ever happens that two different regions will produce exactly the same type of leaf, and for this reason the trade usually looks to some particular section producing tobacco of known characteristics for the required supply of each of the commercial types of leaf. Under ordinary circumstances, therefore, commercial tobacco culture is not likely to prove successful in new territory.

OATS, BARLEY, RYE, RICE, GRAIN SORGHUMS, SEED FLAX & BUCKWHEAT

By C. R. Ball, T. R. Stanton, H. V. Harlan, C. E. Leighty, C. E. Chambliss, and A. C. Dillman, *Bureau of Plant Industry;* and O. C. Stine, O. E. Baker, O. A. Juve, and W. J. Spillman, *Bureau of Agricultural Economics.*

Introduction.

OF the seven crops named, the first five are members of the grass family, while the last two represent two different and unrelated families. Only members of the grass family properly are called cereals. Flax really is an oil crop and is grouped with the cereals because it is a field crop grown in the same areas and handled largely by the same machinery and processes. Buckwheat, while not a true cereal, is used as a flour grain, and hence is a cereal substitute.

The true cereals grown extensively in the United States are wheat, oats, barley, rye, and rice, commonly called "small grains," and corn (maize) and the grain sorghums, which might be called "large grains," by way of contrast. Commercially oats, barley, and corn, used chiefly for feeding animals, are called "coarse grains," in distinction from wheat, rye, and rice, used chiefly for feeding humans, and often called "food grains." The comparative values of most

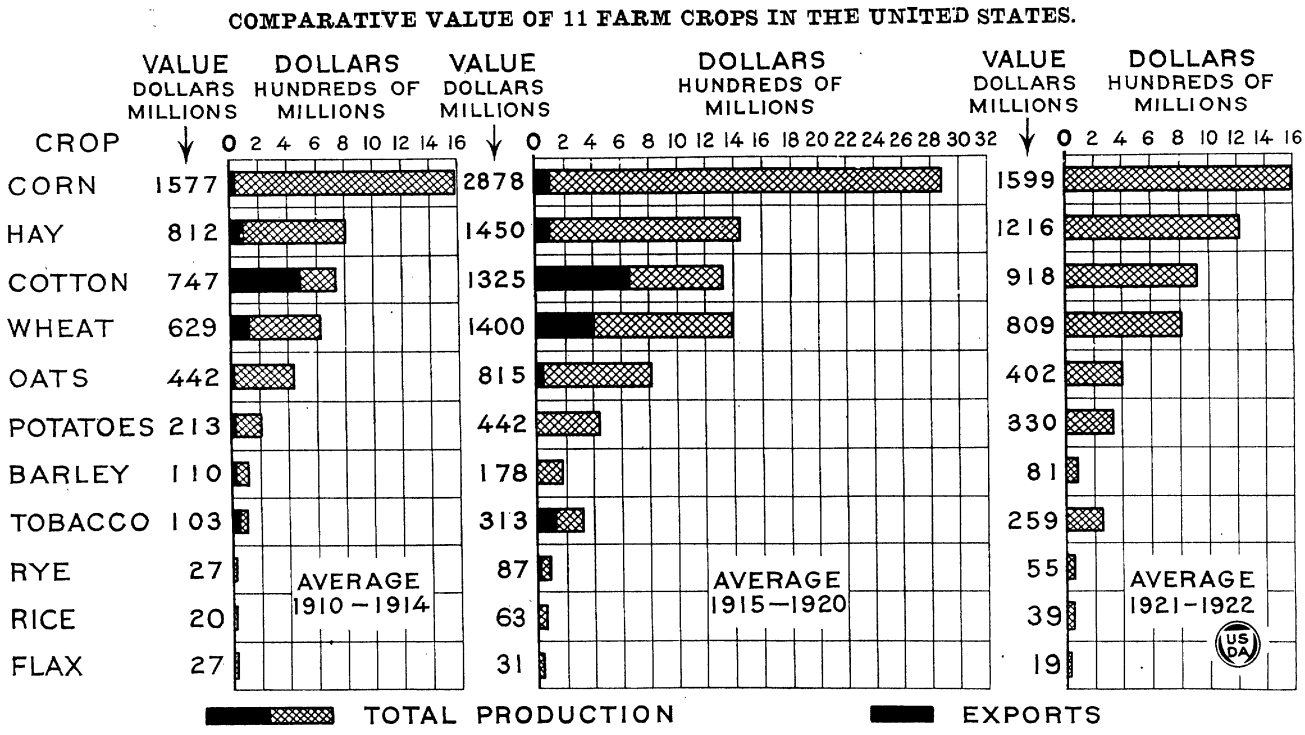


FIG. 1.—Oats ranks fifth in value among the crops in all three periods. Barley ranks seventh or eighth, rye ninth, rice usually tenth, and seed flax eleventh.

of these cereals and of some other farm crops, in different periods, are shown in Figure 1.

In the following treatment of these crops some phases of their production are discussed for each crop separately, while other phases are discussed for all or part of them combined. Each crop is discussed separately, for instance, with reference to its importance, world production, the trend and historical development of production in the United States, factors affecting production (including soil, climate, diseases, and insects, as well as some special economic factors), and the problems of marketing, quality, domestic uses, and exports. Costs of production and crop position are discussed in special chapters after the individual crops.

Wheat and corn were treated in full in the Yearbook of 1921 and are not discussed here, except in so far as they affect these other crops in farm organization and in uses.

Damage by rodents to agricultural products, chiefly grain crops, in the field has been estimated by the Department of Agriculture at more than $150,000,000 annually, while house rats and mice take an added toll of $200,000,000 through damage to grain and its products in storage and transit.

Food Value of Cereals.

Cereal grains are very valuable foods because of the large amount of starch, about 75 per cent of the total grain, which they supply for body fuel, and the 8 or 10 per cent of protein which, with 2 per cent of ash and 2 to 3 per cent of fat, make up the nutritive substances present. The germ portion of the grain supplies vitamine and the outer or bran layers add bulk to the diet and are regarded as laxative. The average fuel value is around 1,600 calories per pound.

Oats.

The Importance of Oats.

Of the major cereal crops of the United States the oat crop ranks third in importance. In acreage and value it is exceeded only by corn and wheat (Fig. 1). The important and rather unique place this crop occupies, regardless of the fact that its cash value alone seldom offers much inducement

for production, is due to (1) its unsurpassed feeding value for horses and young stock, (2) the difficulty of replacing it by any other crop in our general farming system, and (3) the economy of labor in growing and handling the crop.

Oats traditionally constitute the banner horse feed of the world. Their bone and muscle building ingredients also make this grain most valuable for feeding young stock, as well as for feeding breeding stock.

Oats usually are not considered a cash crop. They are grown largely to complete the rotation system in order that wheat and other cash crops may be grown successfully. There is no other crop that fits in as well as do oats between corn and wheat or corn and grass in the rotations and utilizes land and some labor that might otherwise be unproductive. In some sections barley or soy beans may be substituted with good results, but under most conditions these crops have certain disadvantages that still make oats the most satisfactory intermediate crop.

Economy of labor in the production of oats also is an important factor. Usually no plowing is necessary in preparing the seed bed, particularly where the crop follows corn.

World Production of Oats.

The distribution of oat acreage throughout the world and the average percentage of total production which was furnished by each of the leading producing countries in about five years ending with 1914 is shown on the map in Figure 2. The two great centers of oat production were found in western Europe and the north-central portion of the United States. Slightly more than one-fourth of the world oat crop was produced in the United States. Russia was a very close second, with 24 per cent of the total. Other countries of large production were Germany, Canada, France, Austria-Hungary, and the United Kingdom, in the order named.

During the 20-year pre-war period from 1895 to 1914, inclusive, the annual production of oats in the United States averaged, in round numbers, 969 million bushels, in Russia 901, in Germany 523, in France 317, in Austria-Hungary 221, and in the United Kingdom 176 million bushels. In

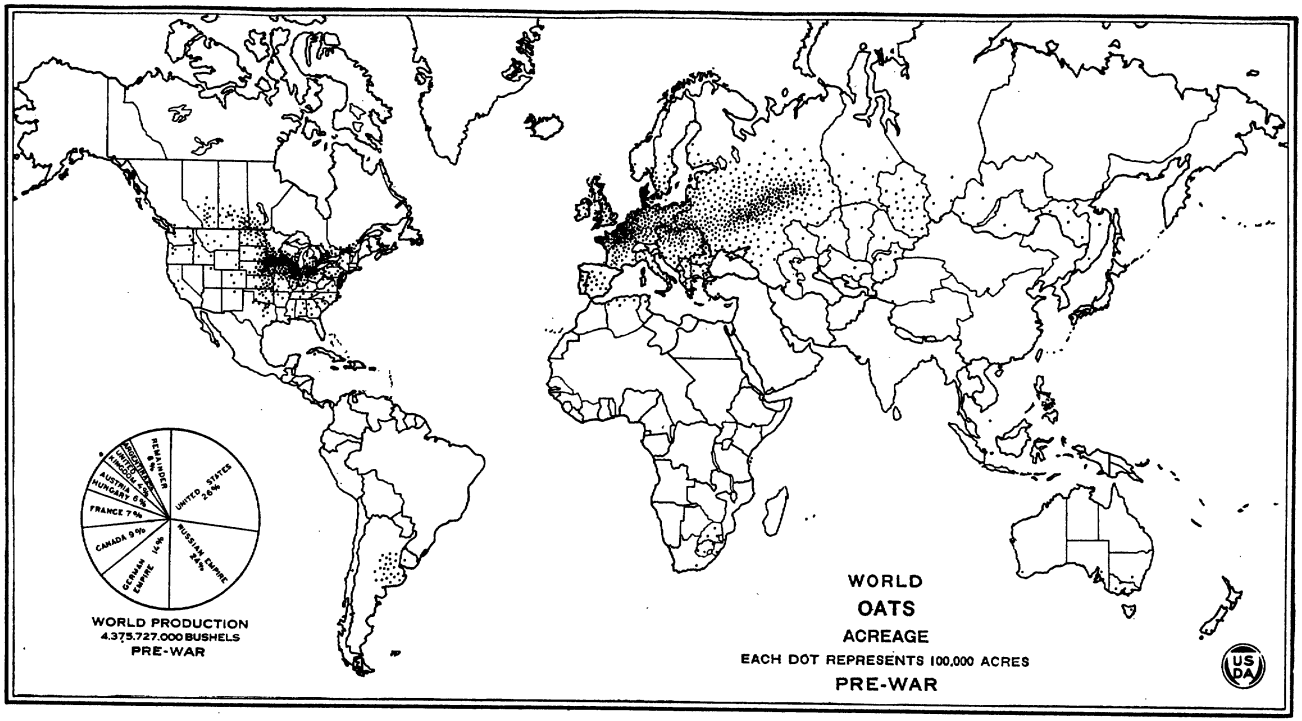


FIG. 2.—Pre-war oat acreage and production of the world. The United States led in acreage then, with Russia a close second. Germany, Canada, France, and Austria-Hungary followed in the order named. Complete postwar statistics are not available from several important producing countries. Like wheat, most of the world oats is produced in the North Temperate Zone.

the last seven years of this period Canada, for which earlier annual statistics are not available, outranked both the United Kingdom and Austria-Hungary. In the period from 1915 to 1922, inclusive, average production in the United States has increased about one-fourth over that of the pre-war period.

The production of the oat crop is chiefly in the cooler portions of the North Temperate Zone. A relatively small production occurs in Australia, South Africa, and South America. In Europe, especially, oats are grown in a cooler and moister climate than wheat. The northern geographical limit of oat production extends to the Arctic Circle in Sweden and Finland.

Oats, like rye, enter much less into commerce than wheat or barley, because they are too bulky in relation to price to bear the cost of long-distance transportation. Therefore, the greater portion of the crop always is consumed in the country in which it is produced.

Trend of Production in the United States.

Acreage and production of oats in the United States have increased rapidly and consistently since annual estimates became available in 1866 (Fig. 3). However, production has shown some fluctuation, due chiefly to low acre yields in poor oat years and high acre yields in good years. The peak of production occurred in 1917, when the United States produced 1,592,740,000 bushels of oats. The largest acreage up to the end of the World War was grown in 1918, when 44,349,000 acres were harvested, from which 1,538,124,000 bushels were garnered. The heavy drop in acreage in 1919 was followed immediately by a rise to 42,491,000 acres in 1920, and a still further increase to 45,495,000 acres in 1921, the greatest acreage ever grown. Following the record acreage of 1921 with an average acre yield of 23.7 bushels, the lowest since 1890, a decided drop in acreage occurred again in 1922, when only 40,693,000 acres were grown. The acre yield also has increased rather steadily since about 1890.

The farm price of oats fell while the acreage was expanding rapidly, and continued to fall to 1896, since which year the trend of prices has been upward.

OATS: ACREAGE, PRODUCTION, ACRE YIELD, AND FARM PRICE, UNITED STATES, 1866–1922.

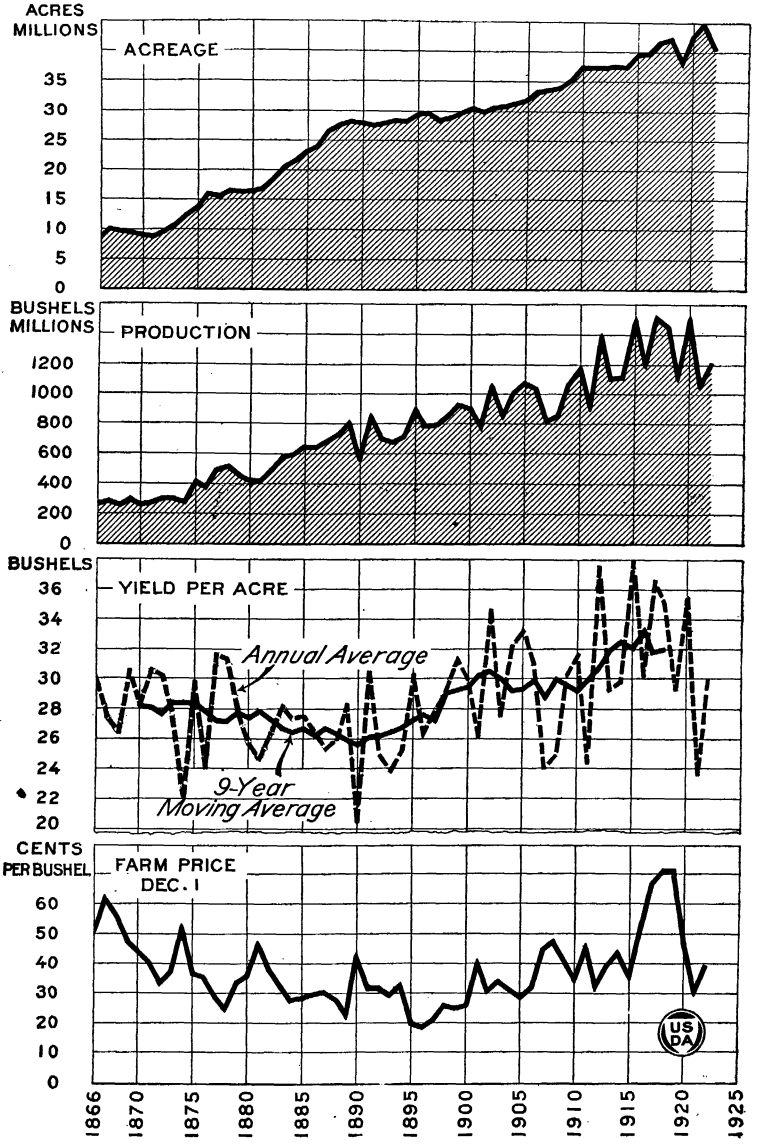


FIG. 3.—The average of oats has increased steadily since 1865, though the production shows the effects of seasonal variations in yield. Acre yield increased in general from 1890 to 1915, but apparently has decreased since. Price was lower in 1921 than at any time since 1905.

Historical Development of Production.

The early history and development of oat production in the United States closely parallels that of wheat. Culture of the crop began on the Atlantic seaboard about 1630 or earlier, and was carried westward with the march of settlement. Like wheat, the first great shift in oat production westward followed the close of the Revolutionary War and extended up to the middle of the last century. Production in this period was carried across the Appalachian Mountains into the Ohio Valley and the prairie region immediately to the west (Figs. 4–11).

From 1871 to about 1890 was a period of very rapid expansion in oat acreage, as it also was a period of very rapid expanison in American agriculture. As the area expanded the acre yield dropped. This expansion took place mostly in the Corn Belt. From 1890 to about 1905 the area seeded to oats expanded more slowly and the acre yield increased, resulting in a gradual increase in production. This was followed by rapid expansion of acreage in the upper Mississippi Valley, which raised the acreage to the high point reached in 1918.

Natural Factors Influencing Production.

Among the important natural factors influencing the production of oats from year to year are climatic conditions, such as moisture and temperature, and pests, such as fungous diseases, insects, and rodents. Those making up the climatic conditions are the most important.

Oats attain their best growth in regions of cool, moist climate, such as are found in many of the northern European countries, in the northern United States, and in Canada. In these areas the varieties of the species *Avena sativa* L. are grown exclusively, and are spring sown. In the United States this type of oat is best represented by such well-known varieties as Swedish Select, Silvermine, Kherson, White Tartar (White Russian), etc.

In regions of high temperatures, such as the Mediterranean countries, Australia, the southern United States, and California, this type of oat is not adapted. In these areas

the culture of oats is limited to the varieties of another species, *Avena byzantina* C. Koch (*A. sterilis* L.). This is a distinct type, adapted to warm climates, and is represented in this country by the well-known Red Rustproof variety and its relatives. In the southeastern States, where the winters are mild, the Red Rustproof oat is grown from both fall and spring sowing.

Moisture.—The great oat-producing areas are confined mostly to the more humid portions of the United States. Precipitation therefore is not as much of a limiting factor in the production of oats as in wheat. The seasonal distribution of the precipitation in the production of oats frequently is more of a limiting factor than the total rainfall.

Temperature.—Conditions of temperature also frequently have a similar effect. The occurrence of hot, dry weather during the ripening period is one of the most common causes of reduced production in the Corn Belt. As less than one-tenth of the oat crop is fall-sown, winter-killing is not an important factor in oat production.

TABLE 1.—*Estimated annual loss of oats from disease, 1917–1921, inclusive.*

Disease.	1917	1918	1919	1920	1921
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Smuts	91,648,000	64,396,000	39,238,000	40,143,000	35,810,000
Stem rust	27,502,000	(1)	15,027,000	14,783,000	16,223,000
Crown rust		(1)	15,167,000	6,785,000	21,874,000
Other diseases	34,825,000	(1)	8,915,000	16,488,000	25,252,000
Total loss	153,975,000	(1)	78,347,000	78,199,000	99,159,000

[1] No estimate made.

Fungous diseases.—The oat crop is subject to several diseases, chief among which are loose and covered smuts, stem rust, and crown rust. Of these, the smuts and stem rust are the most destructive. The smuts are easily controlled by seed treatment, a practice now quite generally adopted throughout the principal oat-producing sections of the country. The rusts, however, can be controlled only through the general adoption of rust-resistant varieties, the develop-

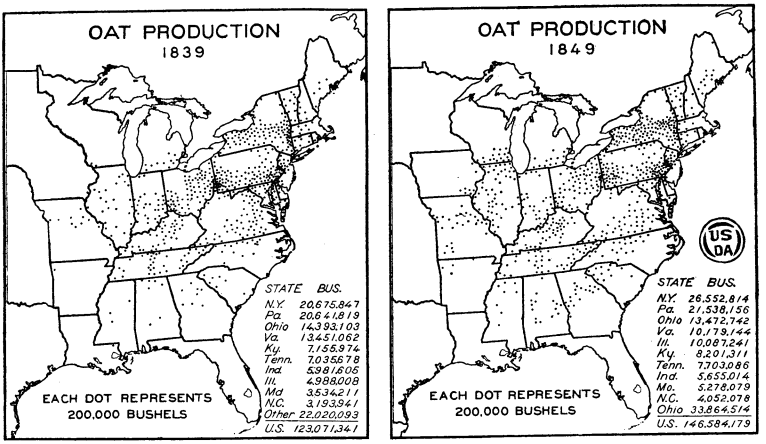


FIG. 4.—In 1839 production of oats was confined almost entirely to the territory east of the Mississippi River. Already more than half the oats produced were grown west of the Allegheny Mountains, the Ohio Valley having become an important area of production. Production was just beginning in southern Michigan and in Illinois. In the decade ending with 1849 the States leading in production remained the same as in 1839. Production advanced slightly northward in Michigan and Wisconsin. The growing of oats spread rather generally over Missouri and production began in southeastern Iowa. There also was some expansion southward.

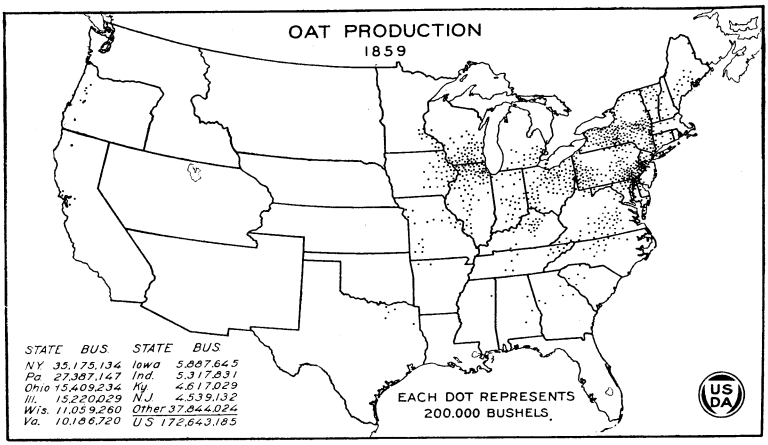


FIG. 5.—During the decade ending with 1859 oat production continued its advance westward. With the settlement of California, following the discovery of gold, production began in that State. Production also was started in western Oregon. Rapid expansion took place northward into Michigan and Wisconsin and westward into Iowa. Oat growing was started in southeastern Minnesota and also in northeastern Texas. Coincident with a marked decline in the South, Illinois, Iowa, and Wisconsin were rapidly becoming important States in oat production.

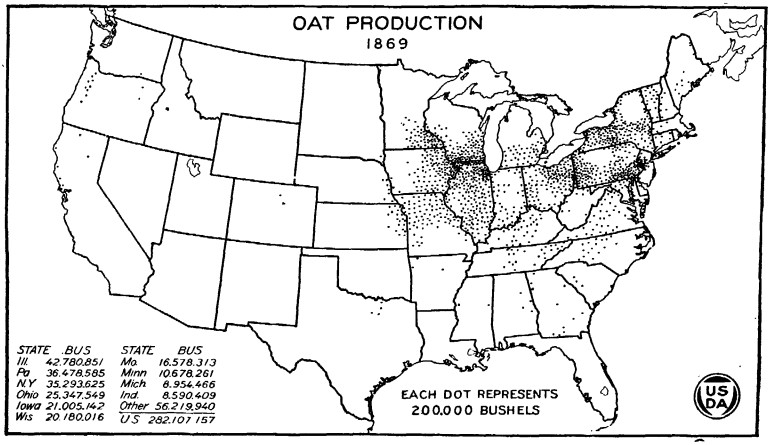


FIG. 6.—In the 10-year period ending with 1869 there was a notable shift westward in the production of oats. The center of production moved from the Ohio Valley to the Upper Mississippi Valley. Illinois replaced New York as the leading State in production. Oat production crossed the Missouri River into Nebraska and Kansas, and also increased in the Pacific Coast States. The greatest expansion occurred in Illinois, Iowa, Wisconsin, and Minnesota. In the States east of these there were no marked changes.

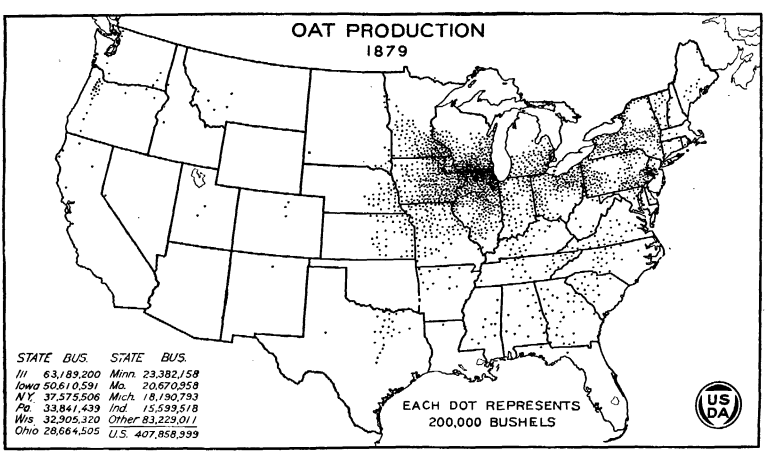


FIG. 7.—During the 10-year period ending with 1879 the westward advance of oat culture continued. Iowa became important and pushed New York into third place. Production also extended northward in Wisconsin and Minnesota, and these had become important oat-producing States. There was a slight resumption of oat production in Georgia and Alabama and some expansion in northeastern Texas. The California production declined, but that in the Rocky Mountain and Great Basin States increased rapidly.

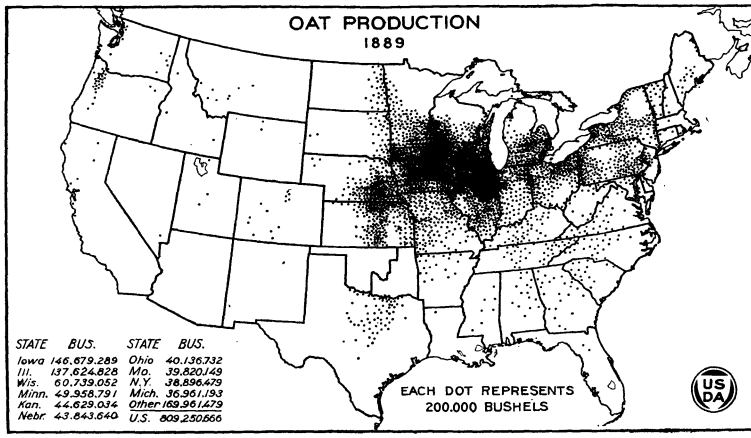


FIG. 8.—During the decade ending with 1889 the total oat production in the United States was doubled. While there was a marked extension westward into Kansas, Nebraska, and the Dakotas, the great increase in production was due mostly to the enormous expansion of oat acreage in Illinois and Iowa, following a decrease in spring-wheat production. These States had become decidedly the most important in oat production. The development of the self-binder as an efficient implement of production contributed largely to the great increase of oat production during the decade, particularly on the rich prairies of the Upper Mississippi Valley States.

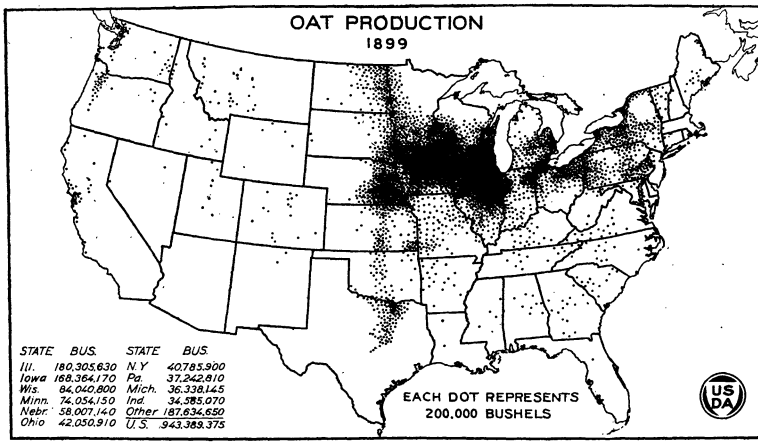


FIG. 9.—In the decade ending with 1899 no great increase in the total production of oats occurred. This apparently was due to an overproduction and the extremely low farm prices which prevailed at that time. With the concentration of oat production in the States of the Upper Mississippi Valley, particularly in Illinois and Iowa, and a corresponding development of railroad transportation, a slight decline in oat production took place in New England, eastern New York, New Jersey, and the South Atlantic States.

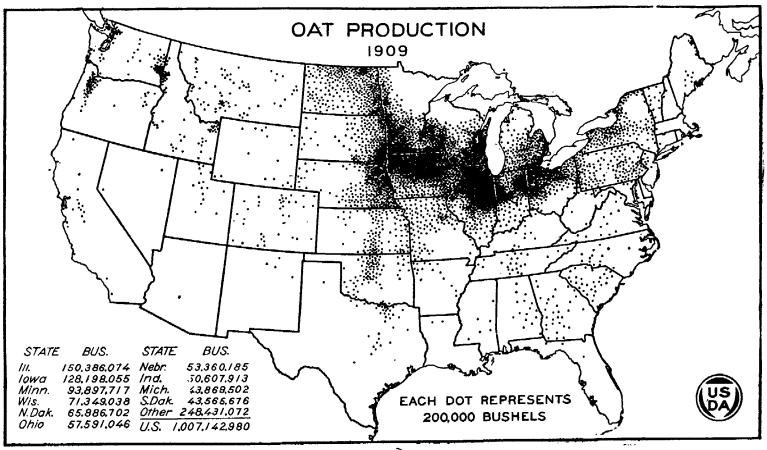


FIG. 10.—Total oat production in the United States in 1909, as in some previous years in this decade, exceeded a billion bushels. The expansion of oat growing in Minnesota, the Dakotas, and other more western States contributed largely to the increase in total production. The decreased production in Illinois and Iowa as compared with 1899 was due more to a lower acre yield in 1909 than to decreased acreage.

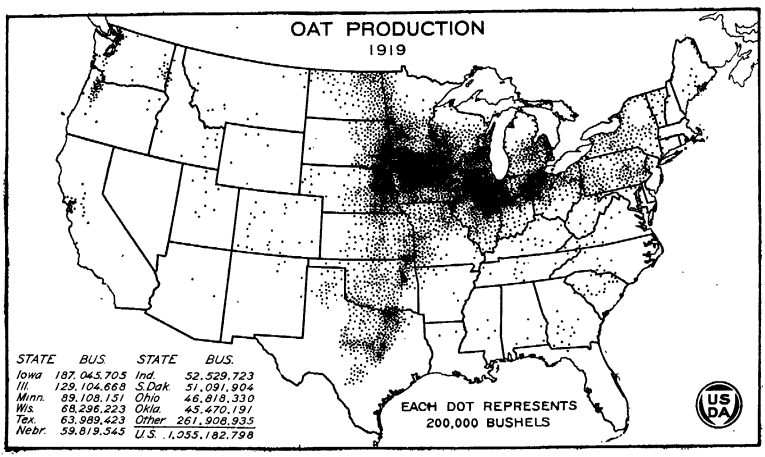


FIG. 11.—During the decade from 1910 to 1919, inclusive, a second great increase in oat production took place in the United States (see Fig. 3), though both acreage and production were low in 1919. In this period the annual production of oats reached the enormous figure of 1½ billion bushels, or a third of the world's production. This second great expansion of oat production was due primarily to the advent of the World War which stimulated prices. More oats were grown in the oat belt and in the southern half of the Great Plains area, especially in central Texas, in 1919, but fewer in the West and Southeast.

ment of which appears promising. The relative economic importance of the diseases of oats is given in Table 1.

Insects.—The growing oat crop is almost free from insect attack except for the periodical inroads caused by outbreaks of the green bug and the oat aphis. This crop is the preferred food of the green bug; but were it not for the lax methods of culture in vogue in parts of Texas, Oklahoma, Kansas, and Missouri in permitting the continuous growth of volunteer oats for forage purposes, this source of interference with the production of oats would be practically eliminated. In 1907 and in 1910 outbreaks of the green bug in the section mentioned caused the abandonment of at least 50 per cent of the acreage in the districts most severely affected.

Marketing Oats.

The oat crop is not as important commercially as wheat and corn. According to the census data, slightly less than a third of the national production of oats in 1919 was sold by farmers. Farm consumption apparently absorbed the remainder of the crop. Of the part sold by farmers a larger proportion goes to terminal markets than in the case of corn, much of which is sold by one farmer to another for feeding and thus never reaches the terminals.

The United States grain standards act requires oats offered for sale in interstate shipment to be inspected and graded by a licensed inspector in accordance with the official standards for oats. These standards divide oats into classes and grades which designate the kind, quality, and condition of the oats.

Classes.—For commercial purposes oats are separated on a color basis into four classes, namely, white, red, gray, and black oats. In this classification white oats include yellow oats.

Grades and grading.—All classes of oats are divided into four numerical grades (1, 2, 3, and 4), dependent upon the following factors: Condition and general appearance, test weight per bushel, sound oats, heat damage, wild oats, and mixtures of other classes of oats. Oats failing to meet the specifications for any one of the four numerical grades are

graded "Sample grade." The oat inspectors are not employees of the Government, but are licensed by the United States Department of Agriculture for the purpose of making inspections. These inspectors usually are employed by State grain inspection departments, chambers of commerce, and boards of trade, but in some cases they operate independently on a fee basis.

Quality as shown by grade.—The annual variation in quality of each class, as shown by grade, for the three crop years July, 1919, to June, 1922, inclusive, and the three-year average are shown graphically in Figures 12 and 13.

Oat Foods, Feeds, and Feeding.

About 3 per cent of the oat crop of the United States is milled for human consumption. This amounts, however, to many thousands of tons. The oat kernel resembles wheat in composition, but contains less carbohydrate and more fat. Oatmeal and similar oat preparations are commonly used as a breakfast food or porridge, and to a very limited extent for puddings and other dishes. A crisp oat bread often is made in England and sometimes in the United States. Oatmeal crackers also are manufactured here.

The by-products from the milling of oats are the basis of a large mixed-feed industry. These by-products are oat feed and oat middlings. They rarely are sold unmixed. The oat middlings are a valuable feed, being high in protein and low in fiber. The oat feed, however, contains oat hulls, often in large amount, which results in low protein and high fiber content, and therefore in lowered feeding value.

Oats are not directly comparable with corn (Fig. 14) as a fattening feed on account of their bulkiness and different composition. For breeding stock oats are superior to corn, as they are relatively richer in protein and mineral matter. Oats contain more crude fiber than any of the other common feed grains. Their greatest usefulness is in feeding horses, for which there is no better feed. Commonly speaking, for horse feeding 2 bushels of oats are equal to 1 bushel of corn. Because of the coarser nature there is not so much danger of overfeeding horses with oats as with corn. Oats are very

OATS: ANNUAL AND AVERAGE VARIATION IN QUALITY.

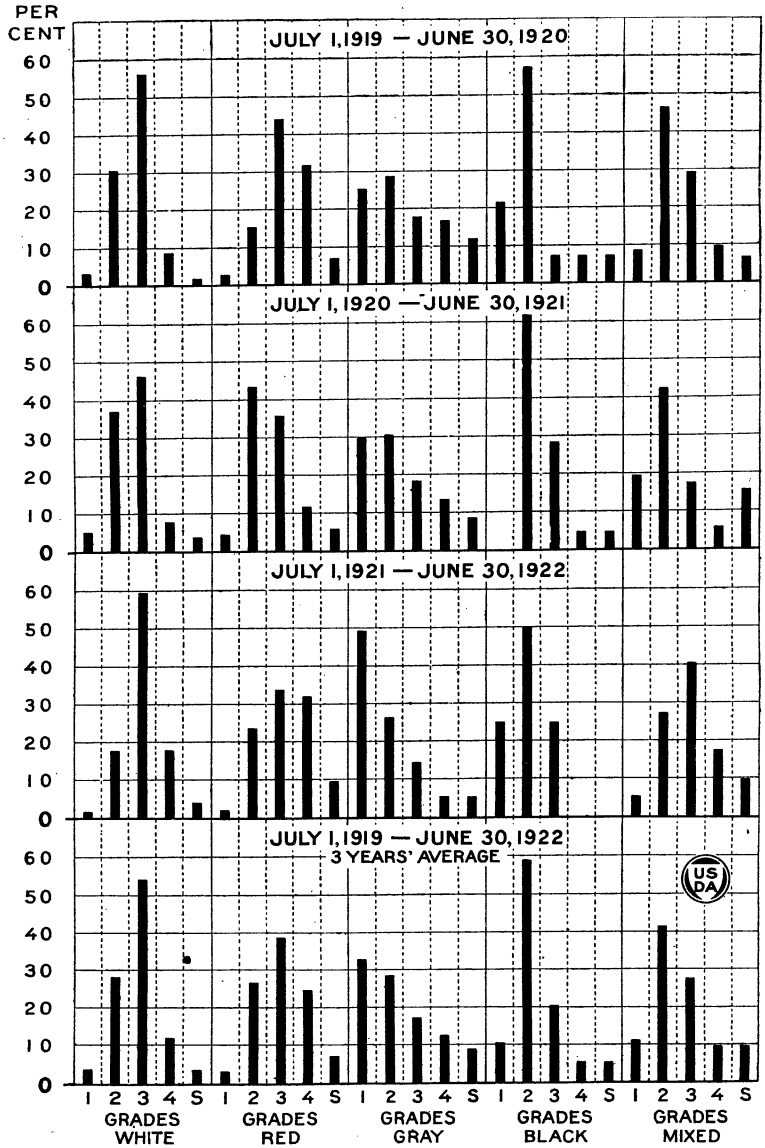


FIG. 12.—Annual and average quality of oats in the three crop-movement years from July 1, 1919, to June 30, 1922, as shown by percentage of total receipts falling into each grade in all five classes at all inspection points, and by the average for the entire three-year period. In most classes much the larger proportion of the total receipts falls into grades 2 and 3. In the gray-oat class, produced chiefly in Oregon and Washington, the larger proportion falls into grade 1. The tendency of oats to discolor quickly is responsible for the large quantity that falls into grade 2.

valuable for diluting a heavy grain ration, such as corn. They may be fed whole to mature stock, but for young stock they generally should be ground, or preferably rolled. For young stock, also, some less bulky grain should be included

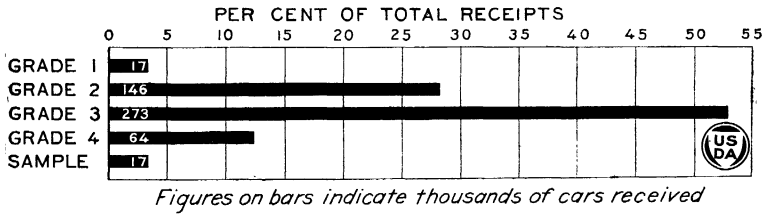


FIG. 13.—The average quality of all classes combined, being the average of the average by classes shown in the lower section of Figure 12, and covering the three years from July 1, 1919, to June 30, 1922. About 53 per cent of all classes fell into grade 3 and about 28 per cent into grade 2.

in the ration. Oats are shipped about the country in large quantities for use as horse feed, but seldom for other classes of live stock.

Situation and Outlook.

The production of oats in the United States probably has reached its highest point. It is probable that the acreage of this crop will be somewhat reduced during the present decade. The advent and rapidly increasing use of motorized

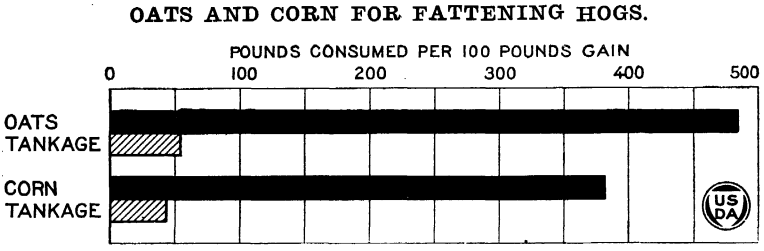


FIG. 14.—This graph is based on the results of two experiments at the Ohio Agricultural Experiment Station, as published in Bulletin 268. In the first experiment, two lots of 5 pigs each, averaging about 50 pounds, were fed for 126 days. The oat-fed pigs did not relish their ration at first. In the second experiment, two lots of 5 shotes each, averaging about 150 pounds, were fed for 84 days. It is concluded that whenever corn is worth more than 2½ times as much as oats per bushel, oats can be satisfactorily used to fatten hogs, especially in the first part of the feeding period.

transfer and trucking in both the city and country are markedly reducing the commercial demand for feeding oats. The farm tractor also probably will reduce the number of work horses on the farm, thus further reducing the quantity of oats required. However, there still will remain a demand for oats by certain industries that will continue to use horses. Notwithstanding the rapid development of the farm tractor, a large percentage of the farms of the United States will continue to be tilled by the use of the horse as the chief source of motive power, and consequently oats will continue to be in demand as one of their principal feeds.

Barley.

Importance of the Crop.

Barley ranks fourth in importance among the cereal crops of the United States, being exceeded in value by corn, wheat, and oats (Fig. 1). The importance of barley in American agriculture is increasing, even though the production is not. The average annual production of barley for the 10 years 1913 to 1922, inclusive, was about 193 millions of bushels. This is not a large quantity when compared with the production of corn or oats; nevertheless, it is significant. Much barley is grown outside the regions where corn and oats do well and furnishes a grain feed for live stock in these regions. Barley gives a high return per acre in feed and the amount fed on farms where grown is constantly increasing.

World Production.

The average annual world production of barley in the 10 years from 1906 to 1915, inclusive, was 1,400,000,000 bushels. This may be considered as the normal world crop. In pre-war times Russia produced over 25 per cent of the world crop. Over half of the total barley export of the world normally came from Russia.

Barley is extensively cultivated in northern India, central Europe, Spain, North Africa, and Japan (Fig. 15). The percentage of the cropped land in barley is highest in Algeria and Japan. Barley is a dominating crop in Al-

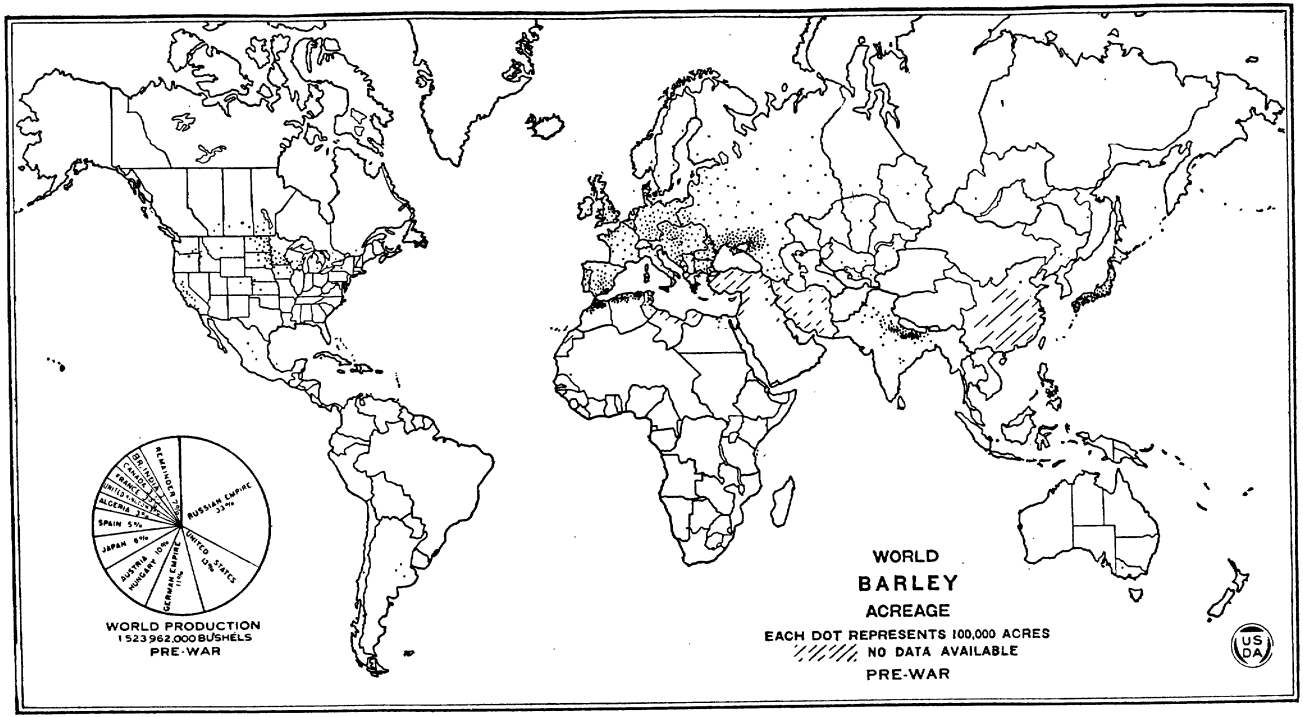


FIG. 15.—World pre-war acreage and world production of barley. No statistics were available for China, Persia, Asia Minor, and part of northern Africa. The four great centers of production are seen to be in southern and western Europe and northern Africa, the United States, British India, and Japan. Complete statistics are not available for many of the large producing countries, notably Russia, since the war.

geria. The climatic conditions of Algeria are not unlike those of California, where barley is the dominant crop in large sections. Since 1916 the average annual reported production has been little more than 1,000,000,000 bushels, but complete statistics have not been available from Russia and other important producing countries.

Trend of Production in the United States.

The acreage annually sown to barley increased uniformly from 1866 until 1910, when it reached more than 7½ million acres (Fig. 16). Since 1910 the average acreage of barley has been about stationary, although the annual acreage has fluctuated violently, due to war conditions.

The acre yield has remained close to 25 bushels since the Civil War. The areas of production have shifted greatly during the years since 1910, and especially since the enactment of prohibition legislation. While the acreage is the same total, the geographic location is quite different. In those sections where barley was grown as a money crop the acreage has decreased rapidly. This has been balanced by an increase on scattered farms over the whole barley-growing areas of the United States for the purpose of securing feed. The present trend is toward less localization of production and a greater farm use.

In Figure 17 are shown for the 14 years, 1909 to 1922, inclusive, the total production of barley, the quantity moved from the county in which it was grown, including exports, and the quantity consumed in the county where grown. The graph shows that there has been a steady decrease in the percentage of the crop shipped out and a correspondingly steady increase in the proportion used where grown. This has occurred in spite of the fact that exports have not decreased.

Historical Development of Production in the United States.

Barley was introduced by the early Dutch and English settlers into the Atlantic coast colonies and by the Spaniards into Mexico and the Pacific coast. In Mexico and California barley grew well, and the crop soon was established wherever there were settlements. In the East the districts first

BARLEY: ACREAGE, PRODUCTION, ACRE YIELD, AND FARM PRICE, UNITED STATES, 1866–1922.

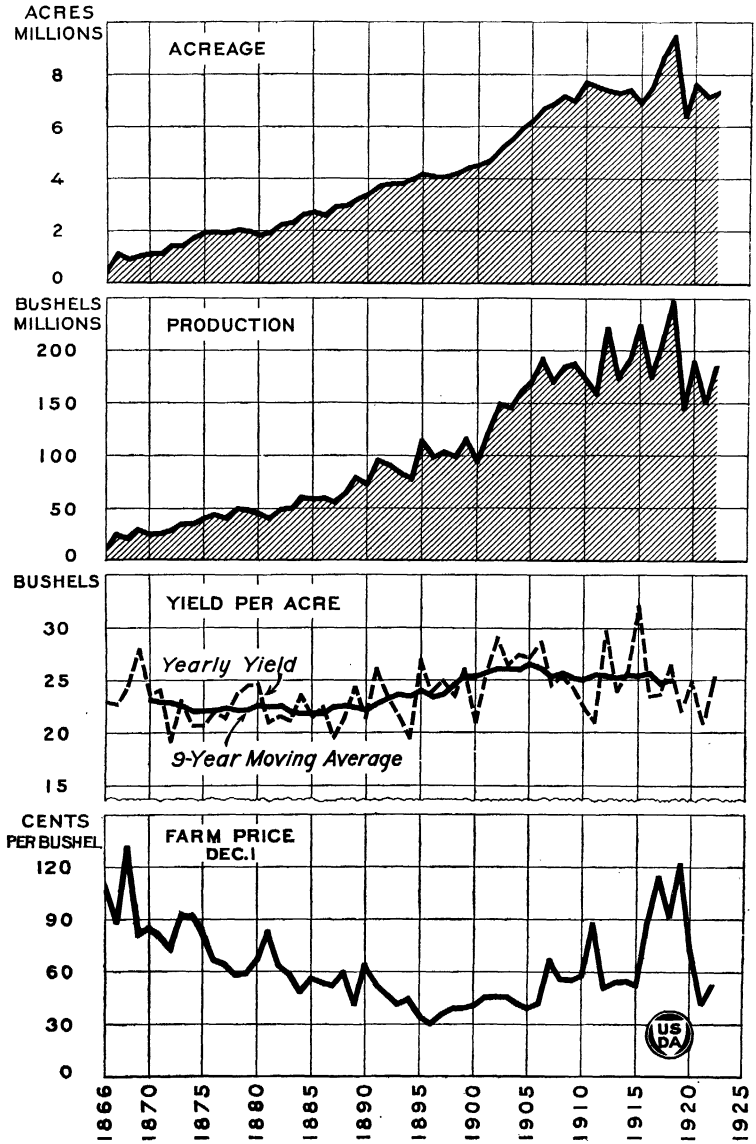


FIG. 16.—Acreage and production steadily increased since annual estimates became available in 1866 until very recent years. Acre yield also increased until 1905 and recently has been fairly stationary at about 25 bushels. Farm price decreased until 1896, then increased until 1919, and since then has dropped rapidly.

settled were not suitable for barley growing. Some barley was grown, but English malt was imported to supplement the domestic production.

It was only when central and western New York were settled that a large area favorable to barley production was brought under cultivation. Barley rapidly followed the progress of settlement into the interior States.

BARLEY: PRODUCTION, EXPORTS, MOVEMENT FROM COUNTY WHERE GROWN, AND LOCAL CONSUMPTION, 1909–1921.

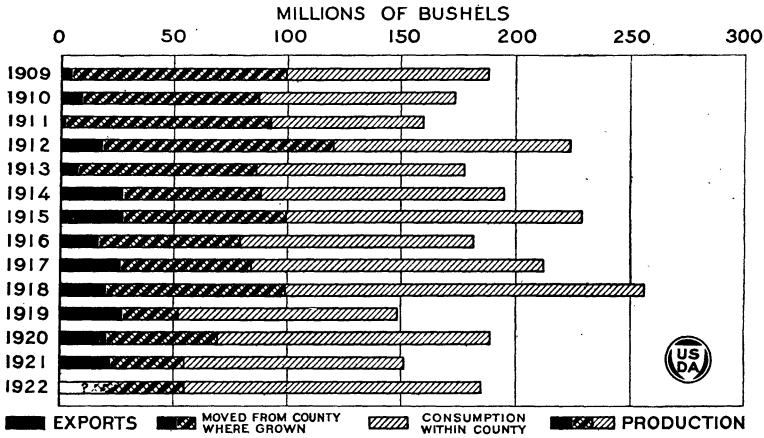


FIG. 17.—Since 1909 the proportion of the barley which moves from the county where grown has decreased steadily, in spite of increased exports, as local consumption for feeding stock has increased.

As transportation of malt was expensive, barley was grown in all sections for a time, regardless of the suitability of local conditions. As transportation facilities improved barley culture was dropped in the less favorable areas and expanded in the more favorable ones. Thus important barley-producing centers developed successively in New York, California, Wisconsin, Minnesota, the Dakotas, and Kansas, as shown in Figures 18 to 25, inclusive.

Factors Affecting Barley Production.

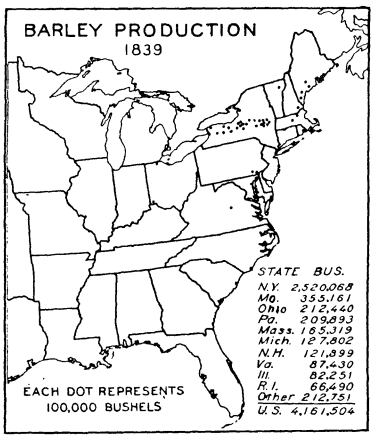
Climate and soils.—At the present time there is in progress a marked shift in the location of the barley acreage. Changes in the acreage have come about in the past and are now being brought about largely by two factors, namely,

the fitness of barley for certain geographic conditions and legislation affecting the market. The barley plant is adapted to regions of cool summers where the soil is not too sandy, but is well drained. It does not do well on poorly drained soils. It does not do well under humid conditions where high temperatures prevail. Under arid and semiarid conditions it can be grown even in the Tropics if sufficient water is available.

Acre value.—Under suitable conditions of soil and climate barley yields more in pounds of feed per acre than any other small grain. These conditions are common to the northern tier of States as far west as the Missouri River and to all of the Western States. Due to the fact that the rough awns of barley make it a disagreeable crop to handle, farmers seldom grow barley unless the returns are manifestly greater than could be secured from a cereal more easily handled or unless a better distribution of farm labor is obtained. In the central valley of California neither wheat nor oats has given nearly as high an average acre return as has barley. In certain sections of this valley barley is a dominant crop for this reason.

Early maturity.—A part of the barley acreage of the Dakotas is due to another factor. Barley is a crop which matures quickly, and therefore can be seeded later than spring wheat or spring oats and still produce a satisfactory crop. The highest yields of barley are secured from early seeding. Its quick maturity, however, allows it to be used for late seeding where few other crops could be sown to advantage. A considerable proportion of the crop of North Dakota and South Dakota has always been of this nature.

Effect of prohibition.—The most recent factor affecting the production of barley has been the prohibition of brewing. This came at a time when a very fundamental change in barley production was taking place. The high acre yield of barley in pounds of feed was being recognized in the increased acreage of the crop and in the percentage of the crop fed on the farms where grown (see Fig. 17). The percentage of the barley moved out of the county where grown was increasing steadily before the prohibition of brewing. This legislation did not cause any abrupt accelera-



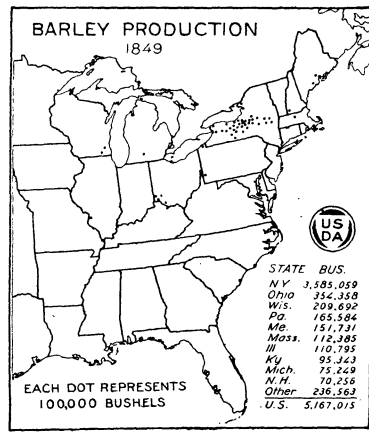


FIG. 18.—In 1839 most of the barley of the United States was produced in New York. The production was heaviest along the line of the Erie Canal. There also was a fringe of production near the coast of New England and a small acreage on the favorable soils of southeastern Pennsylvania. The production of barley in 1849 was still centered in New York State. In the Mississippi Valley a city demand for barley for brewing was reflected in the beginnings of production near Cincinnati, St. Louis, and Milwaukee.

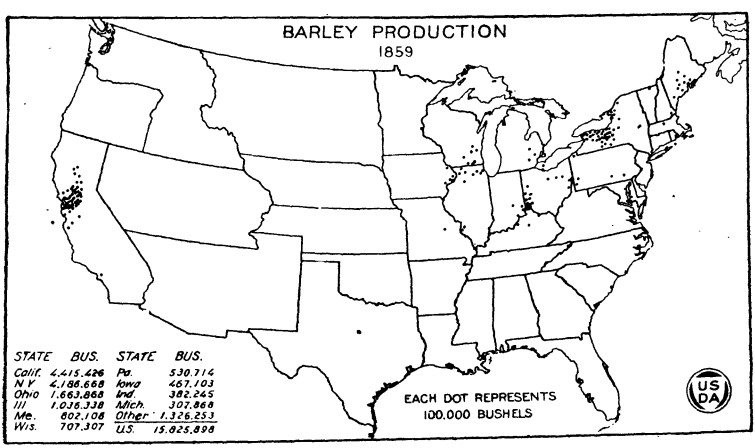


FIG. 19.—By 1859 New York was losing its dominant position in barley production. Production had increased in southwestern Ohio, about Cincinnati, and still more notably in northern Illinois and southern Wisconsin. In this section barley had spread away from the local city market and become a general farm crop. Only a slight increase took place near St. Louis. The settlement of central California, following the discovery of gold, resulted in a production in the State fully as great as that in New York.

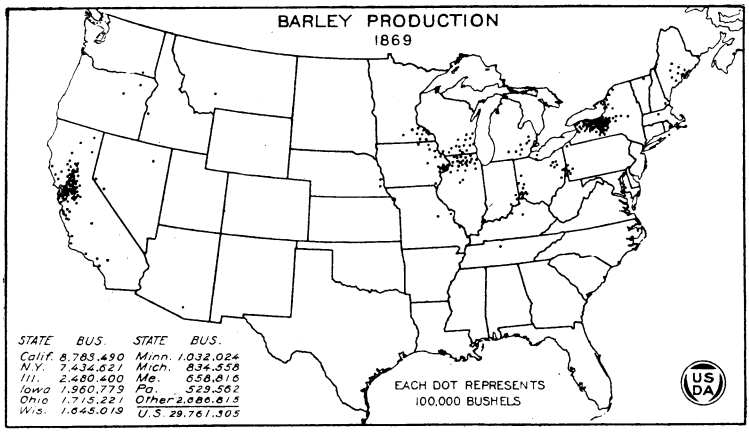


FIG. 20.—In the decade from 1860 to 1869 barley became commonly cultivated in southeastern Minnesota and its culture was begun in eastern Oregon and Washington. There was a notable increase in southern Wisconsin and northern Illinois, and some increase in the southern section of the Great Plains area and in the Mountain States. California and New York, however, remained the most important producing States.

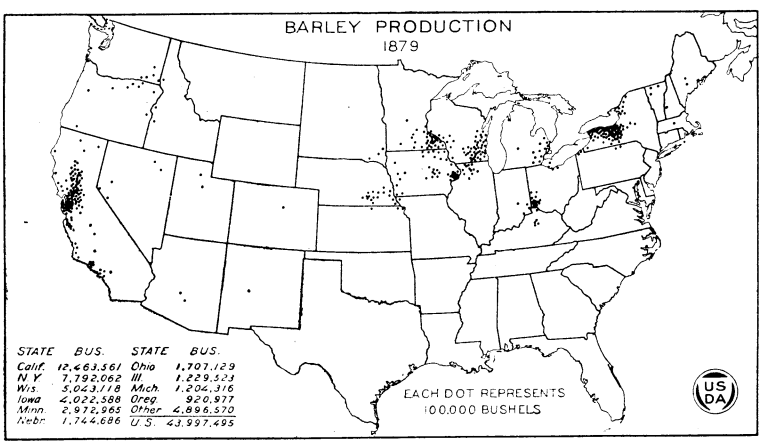


FIG. 21.—In the years from 1870 to 1879 the total production of barley in the United States increased almost 50 per cent. The culture of barley was extended westward into eastern Nebraska and southeastern Dakota. It also became more widely distributed in the Pacific Coast States, while a small production was developing in Utah, Nevada, and Arizona.

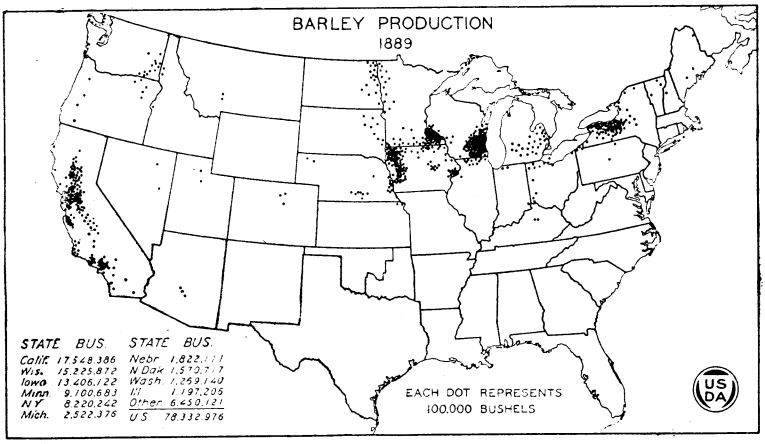


FIG. 22.—By 1889 there was a marked concentration of the areas growing barley for the malting market. On the favorable soils of western New York, southeastern Wisconsin, southeastern Minnesota, and northwestern Iowa, and in the central valley of California barley was grown as a money crop. At the same time production was increasing in the Red River Valley of Minnesota and North Dakota. The production of barley about Cincinnati decreased in the face of competition from the northern Mississippi Valley.

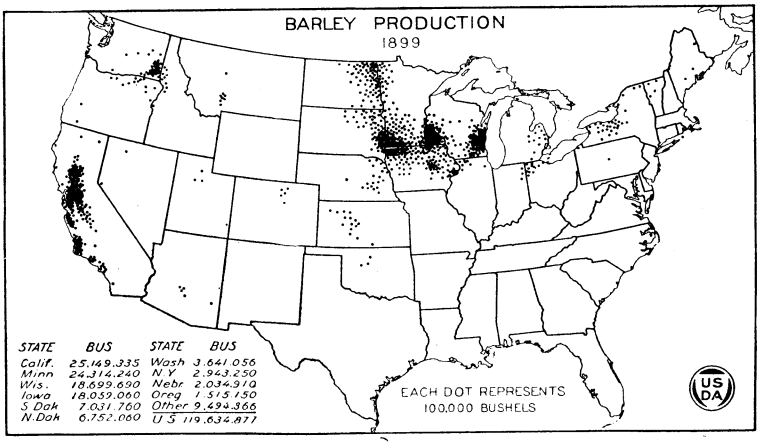


FIG. 23.—In 1890 the tariff on barley was raised to 30 cents per bushel. The malt houses of western New York had been securing part of their barley from Canada, but this tariff made the importation of barley unprofitable. The near-by supplies were insufficient and the malting industry was transferred to Wisconsin and Minnesota. In New York the area devoted to barley decreased after 1890. Production increased notably in Minnesota and California, also in eastern Washington and Oregon, in the Red River Valley, and in the central section of the Great Plains area.

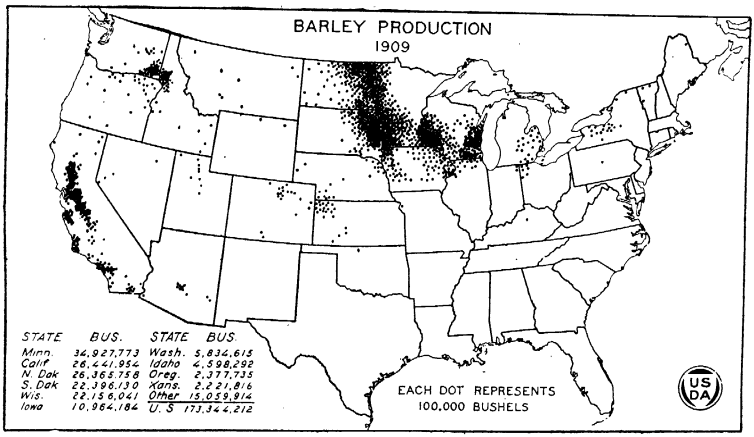


FIG. 24.—The decade ending in 1909 was marked by the rapid expansion of the acreage in the Dakotas and the definite beginning of a center of production in northwestern Kansas. Minnesota was now the leading State, producing, with the Dakotas, almost half of the national crop. California, however, was a close second to Minnesota, with an average production of 29 million bushels in the last five years of this decade.

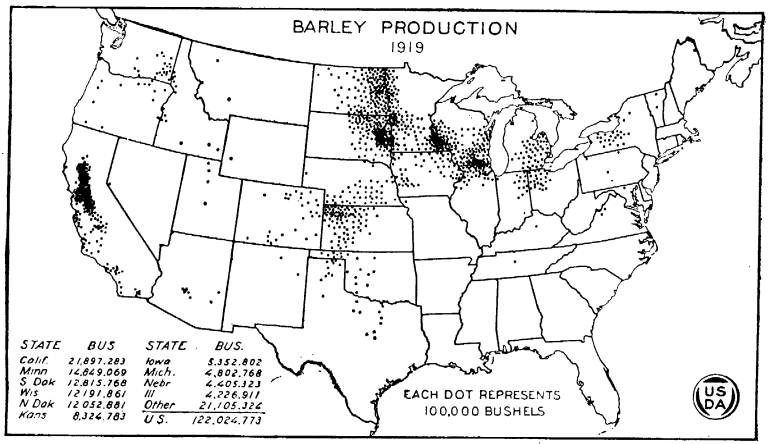


FIG. 25.—The production of barley in 1919 was abnormally distributed. The great increase in the spring-wheat acreage in the Dakotas, coupled with a low acre yield of barley, resulted in a lower production in these States in 1919 than in the years before or since. The decrease in southeastern Minnesota in 1919 was caused chiefly by the gradual drift away from barley as a money crop, a process which had been going on since 1910. The most remarkable development of production was in the central Great Plains area, especially Kansas. This probably is part of a permanent modification of the agricultural practice of the section.

tion of this movement. The effect of the regulation has been less than might have been expected.

The brewers of the United States were using slightly more than 50 million bushels of barley each year at the time when brewing was prohibited. This 50 million bushels, while constituting only about 30 per cent or less of the crop, did cause a premium to be paid for the highest grades of barley. The larger part of the crop, however, was marketed in competition with oats and corn as a feed grain. With the coming of prohibition the market for fancy barley did not disappear. There is still some demand by the malt houses for barley in the making of near beers.

Foreign demand.—The export demand also has increased. Before the war Europe imported about three times as much barley from Russia as was used in our malt houses. This Russian supply has been cut off. Our annual exports are possibly 15 million bushels greater than they will be when Russian barley again is available. A part of the present foreign demand has been for high-grade barley, and at present there is a resulting difference in price per pound of fancy and low-grade barley that does not exist in other feed grains. The final effect of prohibition is likely to be a loss of the premium for the fancy grades of barley.

TABLE 2.—*Estimated annual loss of barley from disease, 1917–1921, inclusive.*

Disease.	1917	1918	1919	1920	1921
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Loose smut	7,385,000	2,381,000	1,369,000	1,385,000	764,000
Covered smut		5,350,000	1,868,000	1,992,000	694,000
Stripe	2,212,000	8,802,000	1,898,000	786,000	1,041,000
Stem rust	1,991,000	(1)	4,368,000	3,628,000	1,704,000
Leaf rust		(1)	(2)	242,000	(2)
Other diseases	664,000	(1)	942,000	1,714,000	5,021,000
All diseases	12,252,000	.....	10,445,000	9,747,000	9,224,000

[1] No estimate made. [2] Negligible damage.

Fungous diseases.—The most important diseases of barley are covered and loose smuts, stripe disease, and scald. The smuts of barley usually occur to some extent wherever the crop is grown, and may cause losses ranging from a trace

to 50 per cent. They can be prevented by seed treatment. The stripe disease, most prevalent in the northern Mississippi Valley, occasionally causes losses as high as 40 or 50 per cent, but usually much less. Barley scald is important in California, where it may reduce yields very considerably. The most destructive barley diseases and the estimated annual losses they cause are listed in Table 2.

Insects.—Barley is subject to periodical heavy infestation by the Hessian fly when grown in the regions where this insect is most abundant; but as the present principal areas of barley production in this country lie outside of the preferred habitat of the Hessian fly, comparatively little general injury from this pest has yet occurred. During the first half of the nineteenth century, when the center of barley culture in this country was in the Northeastern States, great injury was done to this crop by the barley jointworm.

Marketing Barley.

As indicated in the discussion of the trend of production in this country, a decreasing proportion of the barley produced in the United States goes to market. For the central producing area Minneapolis and Chicago are the principal central markets.

There are no Federal grades for barley. Grades are in use at certain markets, but they were established by the States or by the exchanges. The grades at the different markets vary in their requirements and therefore are not fully comparable one with another. In Figure 26 the percentage of barley falling into the various grades is given for the Minnesota market for the two years from September 1, 1920, to August 31, 1922, and for the Chicago market for the two years from September 1, 1919, to August 31, 1921.

The barley coming to these markets is almost wholly of the Manchuria type, from the States of the upper Mississippi Valley, except in years of short crop in that area when barley is received from more Western States. These receipts therefore do not indicate the character of the western barley. The two-rowed brewing barleys are not included in the data for the graph, as the receipts of two-rowed barley are insignificant.

Most of the barley on the Chicago and Minneapolis markets (Fig. 26) falls in grades 3 and 4. On those markets grade 3 allows a bushel weight as low as 44 pounds, a weed-seed and dirt content as high as 3 or 4 per cent, and a maximum of 7 per cent of other grains, which may include 4 or 5 per cent of wild oats.

Barley Foods, Feeds, and Feeding.

Barley is used for brewing, feeding, and pearling. In composition barley resembles wheat. For human food it

BARLEY: ANNUAL VARIATION IN QUALITY.

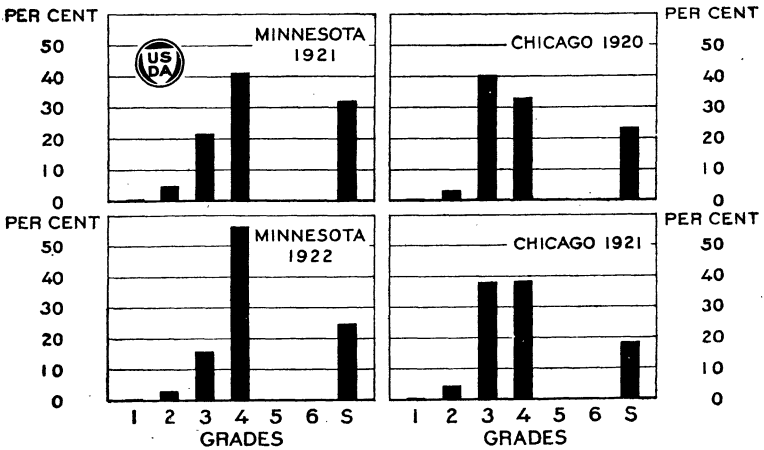


FIG. 26.—Annual quality of barley inspected by the State Grain Inspection Department of Minnesota at several points, chiefly Minneapolis and Duluth, in the two years from September 1, 1920, to August 31, 1922, inclusive, and by the Illinois State Grain Inspection Department at Chicago in the two years from September 1, 1919, to August 31, 1921. In both States most of the barley is graded Nos. 3 and 4 and sample grade.

is used chiefly in the form of pearl barley for thickening soups and for other purposes, and of ground barley for making an infant food. It has some use, also, as a breakfast food. In times of stress, when the use of wheat is restricted, barley is utilized as a wheat substitute in baking, as was the case in this country during the World War.

The by-products of brewing are malt sprouts and dried brewers' grains. The former are not very palatable and are not in great demand, but the latter are one of the best dairy

feeds. The by-products of pearling barley is "barley feed" and consists of the hull, the bran layers, and part of the starchy portion. The by-products of barley are good feeds. The hulls alone have very little feeding value and one should avoid depending too much upon feeds composed chiefly of hulls for satisfactory growth, maintenance, or fattening. Barley fed as a whole grain usually is consumed in sections where it is raised.

Barley generally is considered about 90 to 95 per cent as valuable as corn for fattening live stock (Fig. 27). Although it is a good feed for all stock, it should be crushed or rolled for sheep, hogs, and all young stock. If

BARLEY AND CORN FOR FATTENING HOGS.

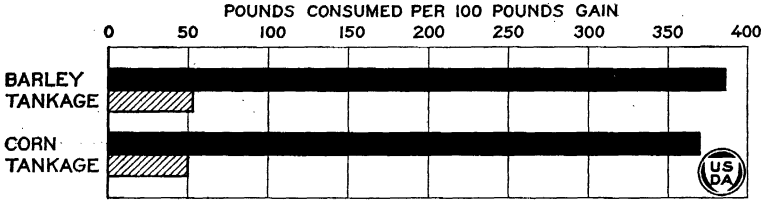


FIG. 27.—This graph is based on the results of two experiments in feeding barley at the Colorado Agricultural Experiment Station, as published in Bulletin 165. In the first experiment, two lots of 10 pigs each, averaging 66 to 70 pounds per head, were fed for 13 weeks on grain and tankage in the ratio of 10 to 1 by weight. In the second experiment, two lots of 8 pigs each, of similar weight, were fed for 15 weeks on grain and tankage in the ratio of 6 to 1. In some experiments barley has given equally as good results as corn, while in others it has been slightly inferior.

ground fine the flour produced makes mastication difficult and the animals do not like the grain as well and eat less of it than when it is rolled. It should not be the only grain in a heavy ration for young pigs, as the hulls may irritate the digestive system. It is often used in preference to corn for show cattle because it does not make such hard flesh. While it is slightly richer than corn in digestible protein, it also should be supplemented with some protein concentrate or legume roughage.

The Situation and Outlook.

The present situation and the future outlook is encouraging. The acreage in California is likley to be maintained because of the high relative yield of barley. The California

barley also is better suited to the needs of European brewers in those countries where the use of malt adjuncts in the manufacture of beer is prohibited.

Barley always will be useful as a late-sown crop in the Dakotas. Recently there has been a marked increase in the acreage sown early as a preferred crop in South Dakota. Barley has been giving a return per acre that has justified its being given the preference in soil preparation and in time of seeding. A decreasing proportion is being seeded later than its optimum season.

The type of farming in southeastern Minnesota has gradually changed from grain farming to combined stock and grain farming and the barley acreage has decreased, as has that in Wisconsin.

In northwestern Kansas there has been a marked increase in the acreage. In this section it has been found that barley yields a very high return as a spring-sown crop. It fits in well with the culture of winter wheat as the acreage can be expanded or contracted to complement the fluctuations of the wheat acreage, especially when winterkilling occurs.

In the Mississippi Valley farmers and feeders generally have not been familiar with the use of barley. Most of the better grades have been marketed and the lower grades have been utilized in mixed feeds or on the farms where produced. The advent of prohibition probably has assisted in the spread of information on the ways of using barley in feeding.

In eastern Canada a large acreage is devoted to the production of mixed grains for feed. The Canadians have found that barley and oats sown together produce decidedly more feed to the acre than either sown alone. This custom is becoming more common in New York State, and the acreage of barley in pure and mixed fields is increasing.

In general, the trend at the present time is toward an increase in the farm use of this grain for feeding stock. The very high acre return is gradually causing a higher appreciation of barley as a feed crop. It seems probable that barley itself will be grown in the future on more farms and over a wider area in the United States, but less extensively in special areas than in the past. It is likely also that the proportion of barley consumed on the farm where grown will continue to increase.

Rye.

Importance of the Crop.

Rye is a comparatively unimportant crop in the United States (Fig. 1). It formed less than 1 per cent (0.8) of the total value of the 20 principal crops in 1919, and occupied only 2 per cent of the total acreage of these crops, although about two and two-thirds times as much rye was grown in that year as in any previous census year. The production per capita of the population was less in 1919 than in 1839, and was less than one-tenth that of wheat. In certain areas, however, rye is an important crop. It has recently become quite important in the subhumid lands of the northern Great Plains area. Previously it had been grown mostly in the sandy sections of the Great Lakes States.

World Production of Rye.

The pre-war world production of rye amounted to about 1¾ billions of bushels annually, or nearly one-half the annual wheat production. Before the World War Russia produced more than one-half the world crop of rye, Germany about one-fourth, and Austria-Hungary nearly one-tenth of the world crop. These three countries combined produced 86 per cent of the total world crop of rye in the five-year period 1910–1914. About 96 per cent of the rye crop of the world was produced and consumed in Europe. During this period the United States produced about 2 per cent of the total rye crop of the world. In the last 10 years rye production in the United States has been increasing.

Trend of Acreage, Yield, Production, and Price.

The acreage of rye in the United States showed a downward trend from 1867 to 1872 (Fig. 28) and an upward trend from 1873 to 1882. It then remained practically stationary throughout the 31-year period from 1882 to 1912. From 1913 to 1919 a rapid increase in acreage took place because of enlarged European and domestic demand resulting from the World War. The large increases in 1917 and 1918 were 37 and 41 per cent, respectively, of the acreage of the preceding year.

RYE: ACREAGE, PRODUCTION, ACRE YIELD, AND FARM PRICE, UNITED STATES, 1866–1922.

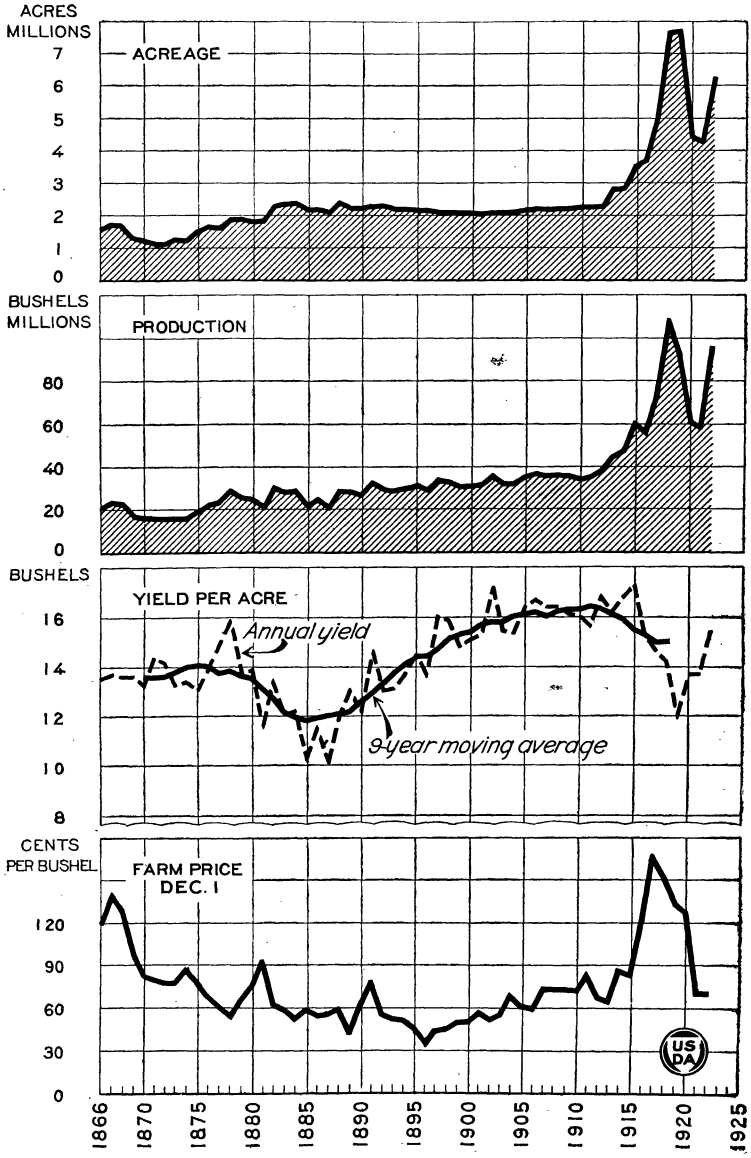


FIG. 28.—Rye acreage decreased for a few years previous to 1872, increased until 1883, then remained fairly steady until 1913, since which time large increases have occurred. Trend of production was upward from 1874 to 1918. Acre yield and farm price show definite upward trends during the 20 years prior to the World War and downward trends since its close.

The production of rye, being the result of both acreage and acre yield, has fluctuated considerably from year to year. A gradual increase was apparent, however, from 1874 to 1911 and a rapid increase from 1912 to 1918. In 1922 the production of 95,497,000 bushels was second only to the record crop of 108,289,000 bushels in 1918.

The acre yield of rye has fluctuated more or less from year to year, the lowest being 10.1 bushels in 1888 and the highest 17.3 bushels in 1915.

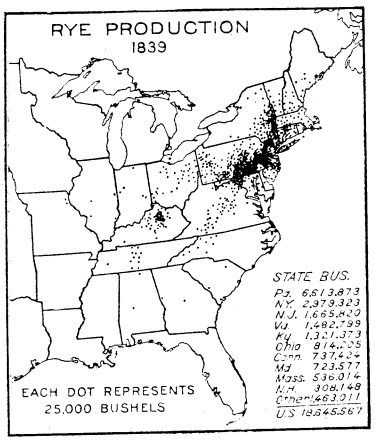
Historical Development of Rye Production.

Rye was brought from Europe to the American colonies by the early settlers. A description of the Bay settlements (Massachusetts) in 1632 or 1633 notes that rye, as well as oats and barley, was grown, and in 1636 it was reported that about 30 plows were at work and much rye was sown with the plow. Wheat appears in the records in 1640. In the records of the Plymouth Colony rye appears in 1640 for the first time, while wheat first appears in this colony in 1642.

Rye was grown by the Dutch settlers of New Netherlands (New York) as early as 1625. The Swedes began to grow rye soon after settling along the Delaware River in 1638. The records show that in the autumn of 1643 they bought 75 bushels of rye seed at New Amsterdam. Rye also appears in the early records of the settlement in Maryland. The Saltsburger colony in Georgia early began to grow rye, it is reported, and a mill was established for making flour.

Rye was apparently of greater importance to the New England colonists than to the settlers farther south. Rye flour and corn meal were their main breadstuffs. Wheat did not do well in New England and wheat flour was not available before the development of the wheat industry in western New York. The earliest agricultural census, taken in 1840, shows very little rye production south of the Potomac River, except in the mountainous sections.

The discussion of the development and shifting of rye production by decades from 1839 to 1919 is given under the maps (Figs. 29 to 35) showing production in each of these census years.



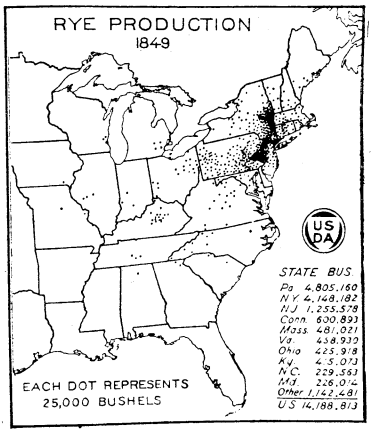
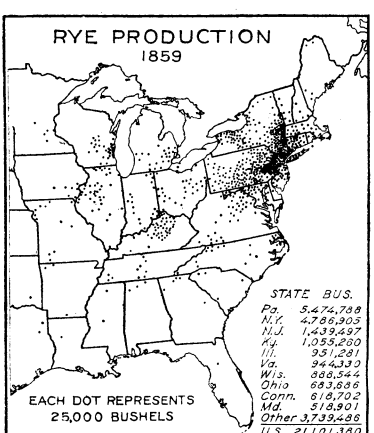


FIG. 29.—In 1839 the production of rye centered in a large district covering southeastern New York, northern New Jersey, eastern Pennsylvania, and central Maryland. Virginia and Kentucky also each produced in excess of a million bushels. A beginning had been made beyond the Mississippi River, in Missouri. The total production in the United States was 18,645,567 bushels. In 1849 the total rye production in the United States was less than in 1839. The center of production had receded from southern Pennsylvania and Maryland. Production had increased in New York but decreases had taken place in the other leading States. Rye growing had extended into Michigan, Wisconsin, and Iowa.



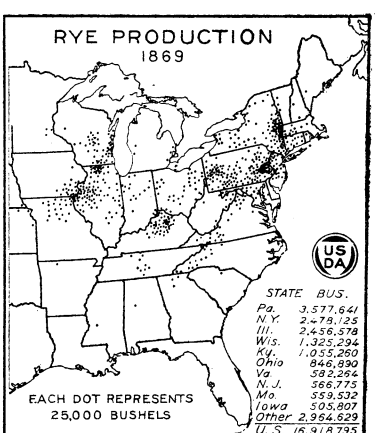


FIG. 30.—The production of rye in 1859 was about 50 per cent greater than in 1849. The center of production remained stationary. Production in Pennsylvania and New York had increased, as had that in Kentucky and several of the Corn Belt States. A considerable increase had taken place in Wisconsin, and a beginning of production had been made in Minnesota, Arkansas, Mississippi, Louisiana, and Texas. Another decrease in rye production was shown to have occurred by 1869. The total production amounted to only 16,918,795 bushels. The decrease was notable in Pennsylvania, New York, and New Jersey, but production had increased materially in Illinois and Wisconsin and to a lesser extent in Ohio, Missouri, and Iowa. Kansas and Nebraska appeared as rye-producing States.

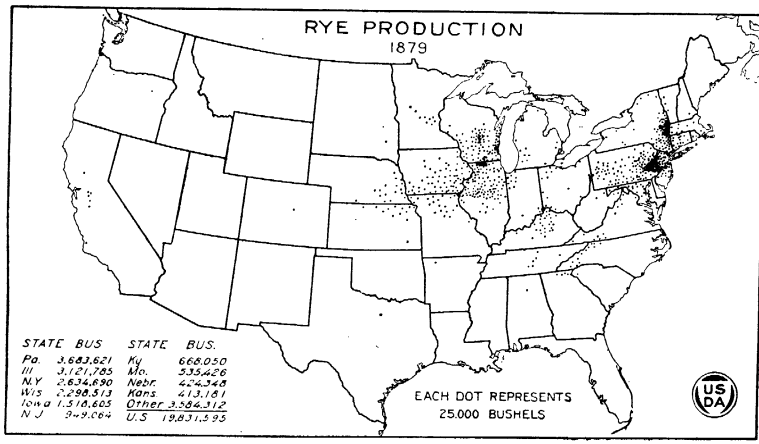


FIG. 31.—In 1879 production had increased somewhat as compared with 1869, but was not yet as large as it had been 20 years earlier. Two widely separated areas of production are apparent. The old center in the East includes parts of New York, Pennsylvania, New Jersey, and Maryland. The new one in the West is located in Wisconsin, Illinois, and Iowa and parts of States adjacent on the west. Production has begun also in several of the far western States.

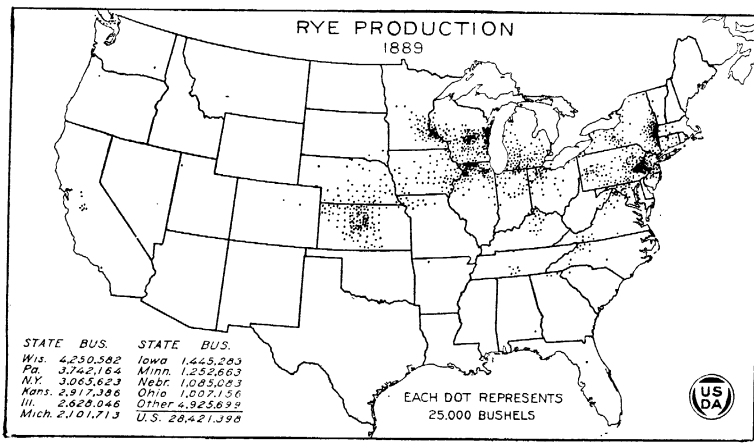


FIG. 32.—In 1889, for the first time in any census year since 1839, Pennsylvania failed to be the leading State in rye production. Wisconsin now led in production, while Pennsylvania had dropped to second place and New York to third. Two new centers of production appear, one in Michigan and adjacent portions of Ohio and Indiana, the other in Kansas and Nebraska. Rye was grown in Kansas because it was winter hardy. The newly introduced hard red winter wheats had not yet crowded out the rye crop.

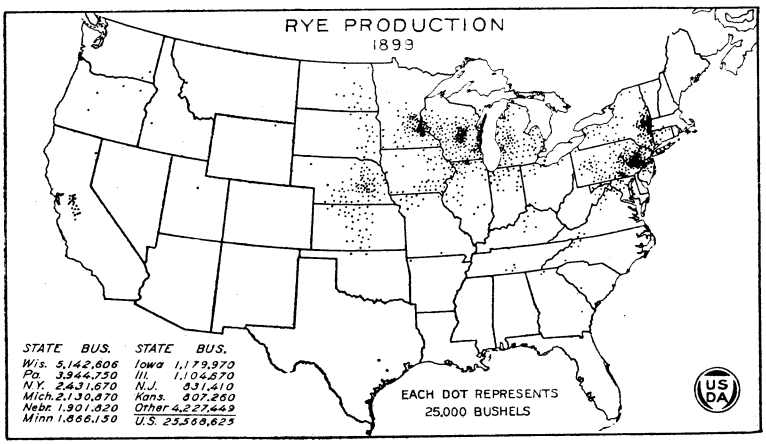


FIG. 33.—In 1899 a decrease in rye production to 25,568,625 bushels had taken place. Wisconsin had increased the lead established 10 years before and now produced more than 5,000,000 bushels. Pennsylvania, New York, and Michigan were still important producers, as were also Nebraska and Minnesota. The production in Kansas had greatly decreased, as the hard red winter wheats were crowding out rye in that State. A beginning of production had been made in North Dakota and a noticeable increase had taken place in South Dakota. In general, the area of production was moving northward.

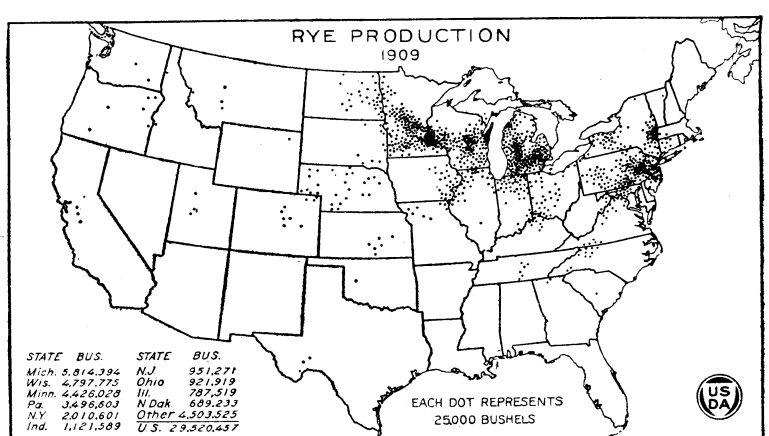


FIG. 34.—In 1909 an intense concentration of production is apparent in Michigan, Wisconsin, and Minnesota. Michigan had become the leading State in rye production. Wisconsin production had decreased slightly, but Minnesota had increased very greatly. Pennsylvania and New York were still important rye-producing States, but the center of production had moved into Michigan and the northern Mississippi Valley. Production in Kansas was very small. The total production of the United States in this year amounted to 29,520,457 bushels.

At the present time rye production is centered largely in the north-central part of the United States. Its production has markedly decreased in the Northeastern States, and it has never gained a strong foothold in the far West.

Factors Influencing Rye Production.

In any consideration of the bread grains rye must be considered along with wheat. From these two grains is made the light bread consumed by the people of the world. Substitutes can be used, up to a certain point, but the basis of

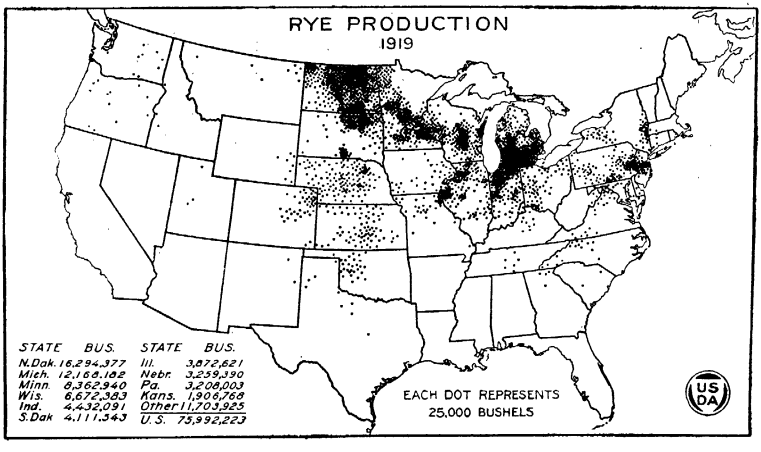


FIG. 35.—The most noticeable shift in rye production that has taken place in any decade since 1839 is revealed by the census figures for 1919. North Dakota has become the most important rye-producing State, the crop of this State alone amounting to more than 16,000,000 bushels. Michigan produced more than 12,000,000 bushels and Minnesota more than 8,000,000 bushels. Production had increased again in Kansas and Nebraska. The total production for the United States was 75,992,223 bushels. Rye now is produced most largely in the sandy and the subhumid parts of the United States.

such mixtures for the production of the light breads must be either wheat or rye flour.

The people of the United States have a decided preference for bread made from wheat flour. This, no doubt, is due in part to the greater palatability of wheat bread, at least according to our standards, and in part to the fact that wheat flour can be worked up more easily and produces more attractive bread, cake, and pastry. As the preference of the American people is not in favor of rye food prod-

ucts, the production of rye is limited, being only about one-tenth that of wheat.

Whenever there is a market demand for rye its production in the United States is largely increased. A marked increase occurred during the war, following an enlarged foreign demand and small crops of wheat and restrictions on the use of wheat in this country. This increased production has persisted to the present year largely on account of maintained foreign demand, the rye crop in 1922 being about double the 1913 crop. This increase in rye sowings is important in its significance as to the place of rye in American agriculture.

From an agricultural point of view there is need for a considerable permanent increase in the production of rye in this country. In many localities rye will give better yields and more food per acre than wheat. In other localities not now growing any bread grain rye will give good yields where wheat would not succeed. There is much sandy land in the southern part of the Cotton Belt that will produce rye successfully, but where climatic and soil conditions make wheat growing unprofitable. In other parts of the country also the rye crop will be more successful than wheat on thin, sandy, and sour soils.

Rye also is hardier than wheat. The rye belt of the United States extends across the country about 300 miles north of the winter-wheat belt (Fig. 35). In the present spring-wheat area of the northern Mississippi Valley winter wheat generally will not survive the winter unless given protection. Rye is the only winter grain hardy enough to withstand these severe conditions. A fall-sown crop is desired, as it distributes labor in both the seeding and harvesting seasons. The rye is largely "stubbled in"—that is, sown in the stubble of other small grain—in the fall and is harvested before the other grains are ready. In the winter-wheat areas generally rye can be sown later than wheat, thus enlarging farm activities.

The risk in growing rye is generally somewhat less than it is with wheat, particularly spring wheat. Rust and hot weather do not affect it so unfavorably and Hessian fly and other insect pests are not so liable to cause damage.

Besides the growing of rye for grain there is a large use of it as winter cover and green manure. Its general adaptability and hardiness make it particularly desirable for this purpose, especially when grown in combination with hardy legumes, like hairy vetch. Much land in the Eastern States is being enriched by use of this combination of cover crops.

Fungous diseases.—The most important disease of rye is ergot. It rarely causes any serious reduction in yield, but is always a menace to live stock because of the poisonous effect of the ergot sclerotia or false kernels. The disease can be controlled by sowing ergot-free seed after some other crop than rye, wheat, or barley and keeping down ergot-bearing grasses in the vicinity of the fields.

Other diseases of rye are stem smut, stem rust, leaf rust, anthracnose, and scab. Table 3 presents the estimated annual losses caused by the most important diseases of rye during five years.

TABLE 3.—*Estimated annual loss of rye from disease, 1917–1921, inclusive.*

Disease.	1917	1918	1919	1920	1921
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Smuts	471,000	176,000	(1)	92,000	60,000
Stem rust	471,000	(1)	31,000	902,000	98,000
Leaf rust		(1)	538,000	25,000	112,000
Ergot	1,115,000	78,000	(1)	214,000	203,000
Scab	(1)	(1)	39,000	(1)	(1)
Other diseases	628,000	(1)	964,000	173,000	357,000
Total	2,685,000	.....	1,572,000	1,406,000	830,000

[1] No estimate made.

Insects.—Rye is freer from general insect injury than either wheat or barley, although subject to occasional infestation by the Hessian fly and jointworm, and to the inroads of grasshoppers and plant lice.

Milling and Marketing Rye.

Most of the rye produced in the United States, except that used for seed, is sold as grain, only a small part of the crop being fed to live stock on the farms. In recent years the larger part of the crop has been exported. The produc-

tion in 1919 was 75,483,000 bushels. In the export year ending June 30, 1920, there were exported 41,530,961 bushels. In the year beginning January 1, 1919, 17,693,250 bushels were ground in mills, as reported in the census for that year. The production in 1920 and 1921 was 60,490,000 and 57,918,000 bushels, respectively. In the export years beginning July 1, 1920, and July 1, 1921, the exports were 47,337,466 and 29,903,602 bushels, respectively.

The principal interior rye markets are Duluth, Minneapolis, and Chicago; the principal export markets are New York, Baltimore, Philadelphia, and Galveston. Most of the rye milling is done in Minnesota and Wisconsin, the mills in these States grinding more than half of the rye milled in 1919.

Grades for rye have not been fixed and established by the United States Department of Agriculture, although grades have been recommended and may be put into effect at some future time. Rye has been graded, therefore, in the different markets in accordance with the grades locally in effect. The requirements of these grades have been different in different States or in different markets. It is not possible, for this reason, to compare accurately the quality of rye reaching the several markets.

The moisture content of rye is important in relation to keeping quality, as rye will become musty and go out of condition readily if the moisture content is too high. Foreign material also is important.

Rye Foods, Feeds, and Feeding.

Rye closely resembles wheat in composition and in use, as its protein is of a character that permits the use of yeast in making raised bread. Although rye is not extensively grown in the United States, 17,693,250 bushels were ground in all mills in 1919. This produced 2,575,542 barrels of flour. A bread made of rye and corn meal (Indian meal) was much used in pioneer times and still is made commercially, and also as a home product in some parts of the country. A little attention has been given to the manufacture of breakfast foods from rye.

The by-products known as rye middlings, rye bran, and rye feed are much like the wheat by-products of similar

name. Rye and its by-products generally are fed to hogs. The feeding value is approximately from 85 to 90 per cent of that of corn (Fig. 36).

Considerable difficulty is encountered in feeding rye, because it forms a pasty mass when it is moistened in the process of chewing. As hogs sometimes have difficulty in swallowing ground rye, it should be fed with other grain, such as corn or oats. While there is no particular advantage in its favor, it can be fed satisfactorily to horses, cattle, and sheep. Rye should form not more than one-third of the ration. On account of the small size of the kernel, it should be ground before feeding, especially for pigs. Like corn, it needs to be supplemented by a protein feed. Rye is not nearly as palatable as corn, barley, and oats.

The Situation and Outlook.

The increase of rye production in the United States since 1912 and the persistence of about a doubled production even since the ending of the war are due in great part to the enlarged foreign demand. European importing countries, shut off from their usual sources of supply in central and eastern Europe, have furnished a market for our increased surplus. The price in comparison with wheat usually has been more attractive to them, which has aided in maintaining the demand. With the resumption of normal agricultural practices and the stabilizing of trade in Europe it is probable that much of our foreign market for rye will disappear. This will result in lower prices in this country, thereby making the crop less attractive to the farmer.

RYE AND CORN FOR FATTENING HOGS.

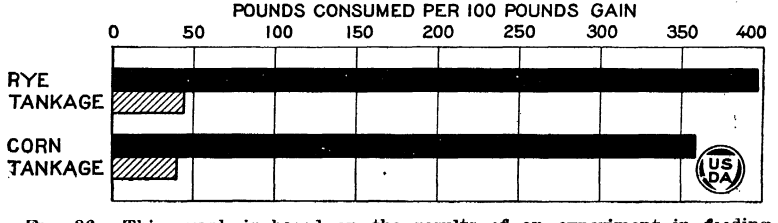


FIG. 36.—This graph is based on the results of an experiment in feeding rye at the Ohio Agricultural Experiment Station, as published in Bulletin 268. Shotes averaging about 70 pounds were fed for 112 days. While the two lots of pigs were not handled in the same way previous to the experiment, the results checked very closely with extensive experiments carried on in Denmark.

With plentiful supplies of wheat, the consumption of rye products is not likely to be largely increased in this country. Our own present domestic use of rye can support only a fraction of our present production. Rye grain is not specially desirable as a feed for live stock, although some of it is fed. It is possible, therefore, that the acreage sown to rye will decrease within the next few years. Some of it is now supported largely by the sale of straw, which is valued for special uses in packing and manufactures.

From an agricultural standpoint it is unfortunate that conditions are not more favorable to the rye crop. There is much land on which it can be grown to advantage, in fact to better advantage than wheat. A dependable market for an enlarged production would assist in establishing a system of agriculture that would utilize our natural resources to better advantage and enlarge the quantity of foodstuffs that we can produce.

Rice.

Importance of the Rice Crop.

Among the food grains of the world rice holds a very important place. It forms a large portion of the diet of the people living in the coastal sections of many countries of the Orient, especially in tropical and warm temperate climates. In the United States rice is comparatively unimportant (see Fig. 1) among the cereal crops grown and also in the national diet.

On portions of the Coastal Plain of the South Atlantic and Gulf States rice is the most important grain crop grown. It is important in these areas because it can be more profitably grown on these low lands than any other crop for which there is a market in the United States. In southwestern Louisiana and southeastern Texas rice is almost the only source of income. In some of the parishes and counties in this district over 75 per cent of the cultivated land is used for rice growing.

World Production of Rice.

Rice is cultivated in all tropical countries, but the greater part of the world crop is grown in eastern and southeastern Asia (Fig. 37), including the larger near-by islands, espe-

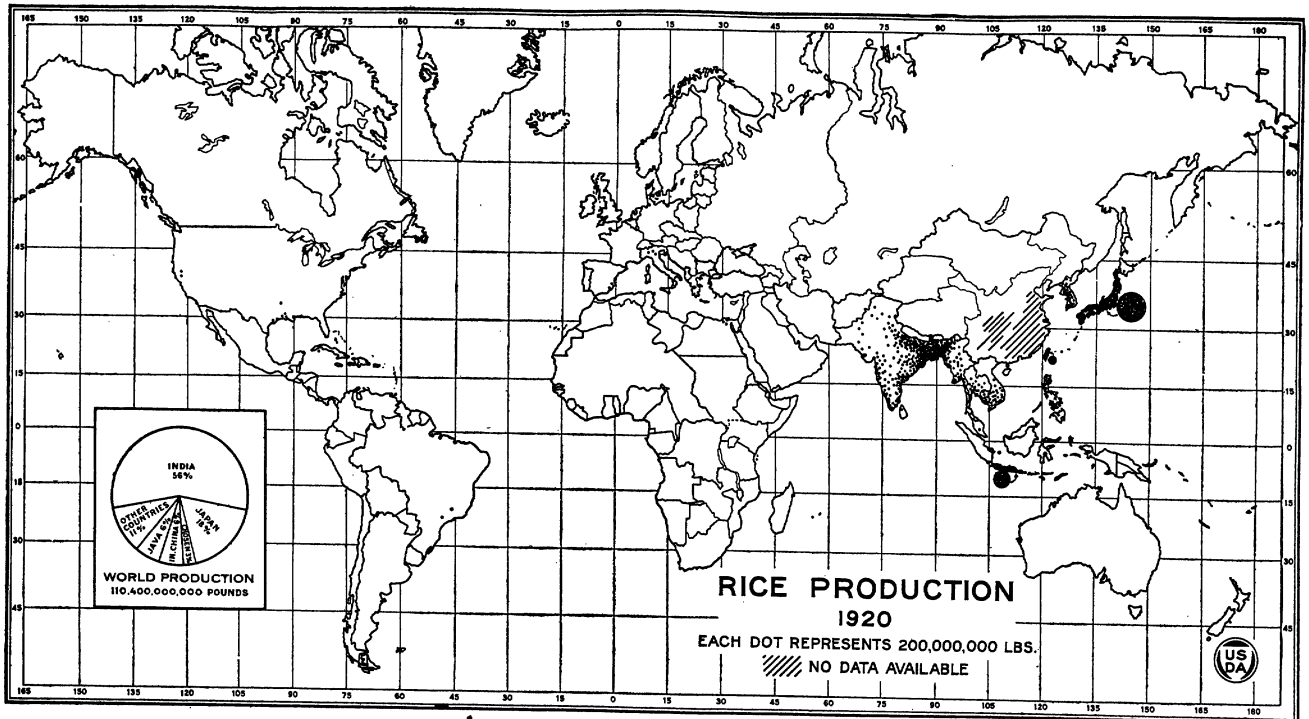


FIG. 37.—Most of the rice crop is grown in the tropical and subtropical countries of the Eastern Hemisphere. The greatest centers of production are in eastern and southeastern Asia and near-by islands, especially Japan and Java. India alone produces over half of the rice of the world, excluding China. The United States has contributed about 1 per cent of the world production since 1918.

cially Japan and Java. The principal producing countries are India, Japan, and China, but statistics for China are not obtainable. Large quantities are produced also in Java, Indo-China, Siam, and Korea (Chosen). These seven countries produced about 90 per cent of the world crop in 1920. Outside of Asia, the principal warm-temperate areas of production are in the United States, Spain, Italy, and Egypt. Of these four, the United States produces the most, having contributed about 1 per cent of the world production in the last three or four years.

The average annual production of rice in the world, excluding China, in the 22-year period from 1900 to 1921, inclusive, has been approximately 108 billion pounds, or 54 million tons, of cleaned rice. In 1901 the production was as low as 94 billion pounds and in 1909 as high as 127 billion pounds. British India produced from about three-fifths to two-thirds of the rice of the world, excluding China, in this period, the extremes since 1900 being 57 per cent in 1918 and 72 per cent in 1902.

During the period from 1900 to 1921 the annual production of British India was approximately 70 billion pounds, or 35 million tons of cleaned rice. The Japanese Empire ranks second, having produced in the last 22 years about 20 per cent of the world's production, excluding China, and has had since 1904 an average annual production of 20 billion pounds of cleaned rice. Java (including the adjacent island of Madura), which ranks third, usually produces annually from 7 to 8 billion pounds. French Indo-China and Siam, ranking fourth and fifth, respectively, in production, supply large quantities of rice for the world trade. Many of the other rice-producing countries within the Tropics depend upon outside sources for the full supply of their needs.

Trend and Historical Development of Rice Production.

The annual production of rice in the United States has increased in the last 100 years from about 60 million pounds of cleaned rice to more than 1 billion pounds.

Rice production began in the South Carolina colony as a result of an experimental sowing of rice in the Governor's garden in Charleston in 1694. During the colonial period

of our history the population was too small to consume much of the crop. There was, however, a ready market for it in England, to which country the greater part of the crop was exported. As early as 1712 over 3 million pounds of cleaned rice were shipped abroad. This export trade increased in volume until the Revolutionary War, reaching a total of 76 million pounds of cleaned rice in 1770. The foreign trade, which again increased after the Revolutionary War, began to decline in 1794 as the domestic use of the crop increased.

In 1839 about 90 per cent of the rice was grown on tidal lands of South Carolina, North Carolina, and Georgia. South Carolina produced over 70 per cent of the crop, while Louisiana contributed less than 4 per cent of the production. By 1849 the total production was greatly increased. South Carolina, North Carolina, and Georgia still led in production, though there was a marked increase in Mississippi, Alabama, and Florida. The striking feature is the great increase in production in the areas already used for rice culture. As late as 1859 South Carolina, North Carolina, and Georgia produced 90 per cent and South Carolina alone produced over 60 per cent of the crop.

The production of rice in the South Atlantic States was greatly affected by the Civil War. On account of the destruction of property and the scarcity of money and labor, only a small part of the old plantations could be cultivated. In these States the growing of rice became less profitable each year because of the lack of funds to finance the new plantation management which had become necessary by the changed labor conditions.

In part because less labor was required for rice than for sugar cane, the rice acreage along the Mississippi River in Louisiana began to increase rapidly after the Civil War. The crop did not become important in Louisiana, however, until it was definitely determined in 1887 that rice could be grown profitably on the prairies in the southwestern part of the State. These tracts of land were level and broken here and there by sluggish streams from which irrigation water could be obtained. The irrigation companies that soon were organized to sell and distribute this water gave such an impetus to the growing of rice in this region that

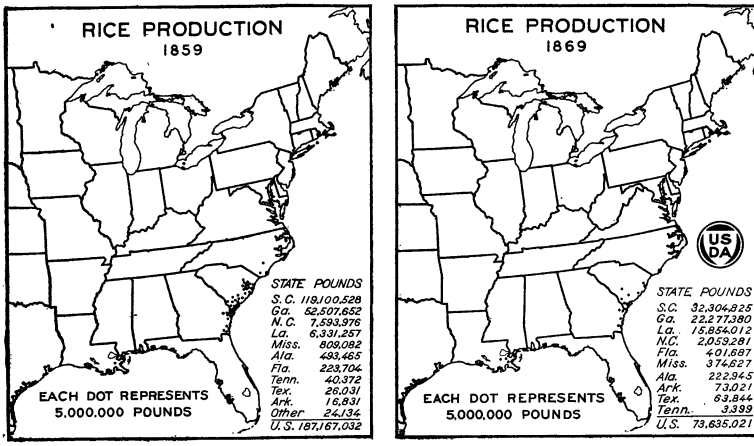


FIG. 38.—The principal producing areas in 1859 were in the tidal sections of South Carolina, Georgia, and North Carolina. The maximum production of Georgia was reached about this time. Outside these three States production had decreased everywhere except in Louisiana. The production of rice in the decade from 1860 to 1869 was greatly affected by the Civil War. On account of the destruction of property and the scarcity of money and labor, only a small part of the old plantations could be cultivated. In 1869 rice production was less than in 1839.

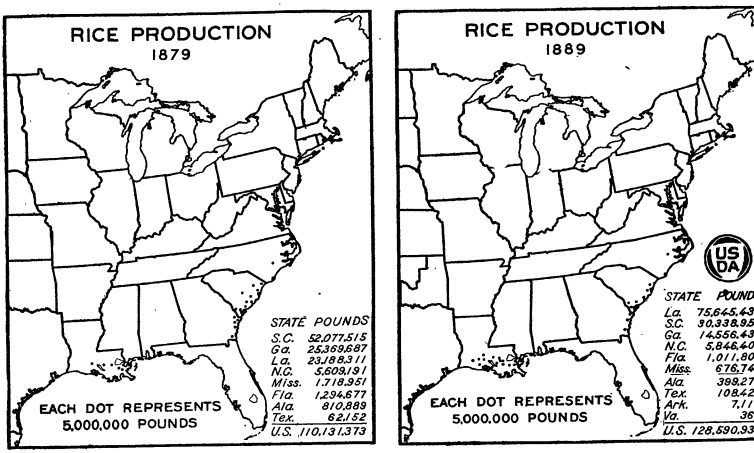


FIG. 39.—While production in 1879 was 50 per cent greater than in 1869, the rice crop was becoming less profitable because of the lack of funds to finance the new plantation management, which had become necessary by the changed labor conditions resulting from the Civil War. Production was just beginning on the prairies of Louisiana. The map for 1889 shows the first great shift in rice production. The extension of a railroad into southwestern Louisiana opened to settlement a vast area of level prairie land, which was abundantly supplied with fresh water and well suited to rice culture. Louisiana had become the leading rice-growing State, producing about 60 per cent of the total crop, while production in South Carolina was beginning to decline.

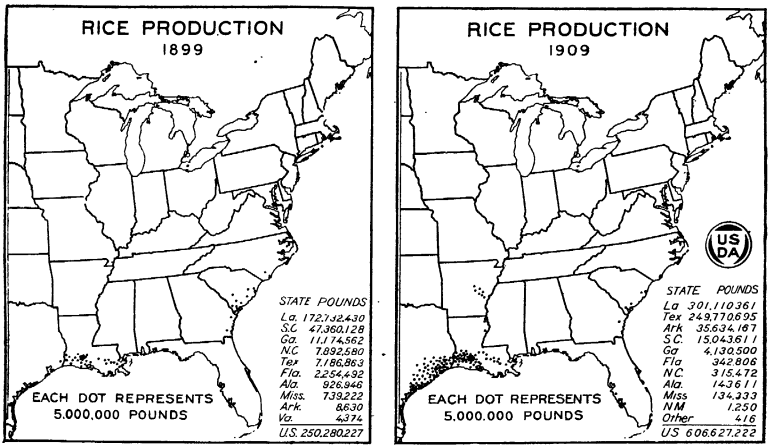


FIG. 40.—The coastal prairie of southwestern Louisiana and southeastern Texas became the center of rice production in the decade from 1890 to 1899. In 1899 about 70 per cent of the rice was produced in Louisiana. Production in South Carolina had increased again. By 1909 production had increased greatly in the prairie rice districts of Louisiana and Texas. In that year these two States produced about 90 per cent of the rice grown in the United States. Arkansas had become a rice-producing State, while production in South Carolina had notably declined.

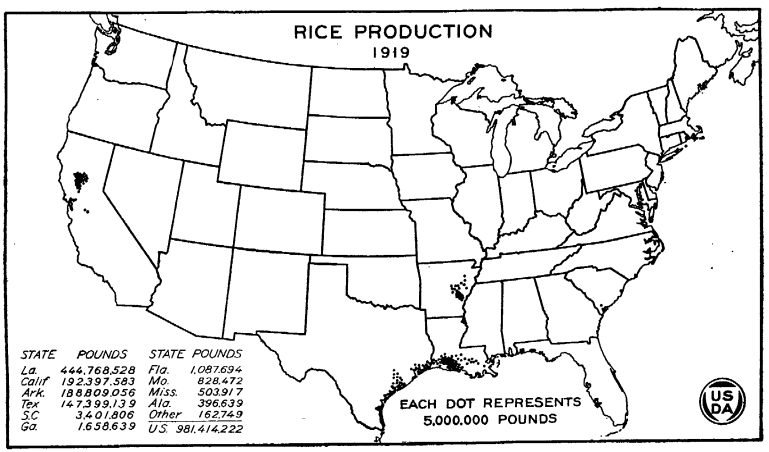


FIG. 41.—The center of rice production in 1919 remains in Louisiana and Texas, but Arkansas has greatly increased its acreage and production. Rice growing became an important industry in the Sacramento Valley of California during the decade from 1910 to 1919. Commercial production began in 1912, and in 1919 California ranked second in production. The production in South Carolina has almost vanished.

in 1889 Louisiana became the leading rice-producing State, which rank it still holds. The successful outcome of this agricultural venture led to the development of similar lands for rice culture in southeastern Texas and eastern Arkansas.

The first commercial crop of rice was grown in California in 1912, principally in the vicinity of Biggs, in Butte County. The greater part of the present acreage is on low land that lies within the counties of Colusa, Glenn, and Butte, and is irrigated mainly from the Sacramento and Feather Rivers. In 1922 California ranked fourth in rice acreage and second in production.

Maps showing the shifts in production by decades from 1859 to 1919 are presented as Figures 38 to 41, inclusive, with the necessary discussion.

Natural Factors Influencing Production.

The principal physical factors affecting rice production are irrigation water, precipitation, temperature, and soil, and of these irrigation water is the most important.

Irrigation water.—The rice crop is dependent upon an abundant supply of fresh water, for irrigation means the submergence of the land upon which the crop is grown. A depth of approximately 6 inches of water must be maintained throughout a period of at least 75 days. Water, therefore, is required in large quantities and must be available at all times during the growing season to insure maximum production.

Precipitation and temperature.—The expansion of the rice area is limited by rainfall and temperature. The crop requires a relatively high humidity and a mean temperature above 70° F. during a growing season of 4 to 6 months. A precipitation between 50 and 60 inches well distributed throughout the year within the rice area and upon the watershed of its streams is an important factor in rice production, as the amount of the available irrigation water is dependent upon it. In Louisiana the rainfall during the growing season furnishes about 20 acre-inches and the remaining 28 inches of the 4 acre-feet of irrigation water usually considered necessary are obtained by pumping.

Soil.—Rice is most productive on soils that are medium to rather heavy in texture. These types of soils, however, to be useful for rice production must lie in level tracts and be underlain by a subsoil that is impervious to water. These conditions are necessary to hold the irrigation water within the levees at the required depth.

Diseases of rice.—Two of the most important diseases of rice in the Southern States are "straighthead" and "rotten-neck." Straighthead is a nonparasitic disease caused by the lack of sufficient aeration of the root systems of rice plants growing in soils filled with certain types of organic matter. These plants fail to develop the normal root system. The disease can be controlled by a simple change in the methods of irrigation.

Rotten-neck is a fungous disease which is more prevalent and probably more destructive than straighthead. No satisfactory methods of control are known yet. Seedling blight and stem rot are sclerotial diseases of rice of considerable importance.

Insects.—The principal insect enemies of the growing rice crop are the rice water-weevil (*Lissorhoptrus simplex* Say), the immature stages of which feed on the roots; the stink bug (*Oebalus pugnax* Fab.), which sucks the juice from the growing kernels; the rice stalk-borer (*Chilo plejadellus* Zincken), the larva of which tunnels and kills the stem; and the southern grass worm (*Laphygma frugiperda* S. & A.), which eats the leaves.

Milling and Marketing of Rice.

Rice, like the other small grains, is sown with a grain drill, cut with a self-binder, and thrashed with a grain separator. It is thrashed from the shocks and put in burlap sacks at the separator. The sacks used in the prairie rice districts of the South hold approximately 200 pounds of paddy or rough rice, while those used in California hold about 100 pounds.

Thrashed rice still is inclosed in the hull or chaff. It is known as paddy or rough rice, and in this condition is sold to the rice mills, either through a cooperative selling association or to buyers representing the mills.

Most of the mills are located in the centers of rice production, but some of them are outside of the rice area. In the mills rice is prepared for the market by removing the hulls and the bran and by polishing the kernels, which sometimes also are coated with glucose and talc. The unbroken kernels of milled or cleaned rice are known as head rice. This always commands the highest price. The December mean wholesale price of cleaned rice of the Honduras variety at New Orleans and the December 1 average farm price of paddy or rough rice of all varieties in the United States for the years 1904 to 1922, inclusive, are shown in Figure 42.

WHOLESALE PRICE OF CLEANED RICE AND FARM PRICE OF PADDY.

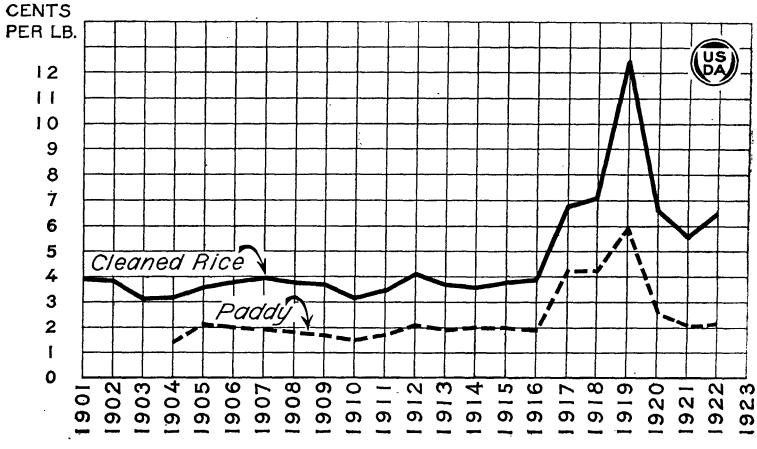


FIG. 42.—The trend of the December mean wholesale price of Fancy grade cleaned Honduras rice from 1901 to 1922 is compared with the average December 1 farm price of paddy of all varieties grown in the United States from 1904 to 1922. In general, the spread in price is fairly uniform except in 1920. Honduras always sells above other varieties of rice, and hence the spread shown is greater than that between paddy and cleaned rice of other varieties.

The marketing of milled or cleaned rice is greatly facilitated at present by the grades proposed in 1920 but not yet established under the United States grain standards act. These grades are known as extra fancy, fancy, choice, medium, and sample grade, and are applied to each of three types of rice grown in the United States, namely, long, short, and round kernels. They are based mainly on color and on percentage of whole kernels (head rice), foreign ma-

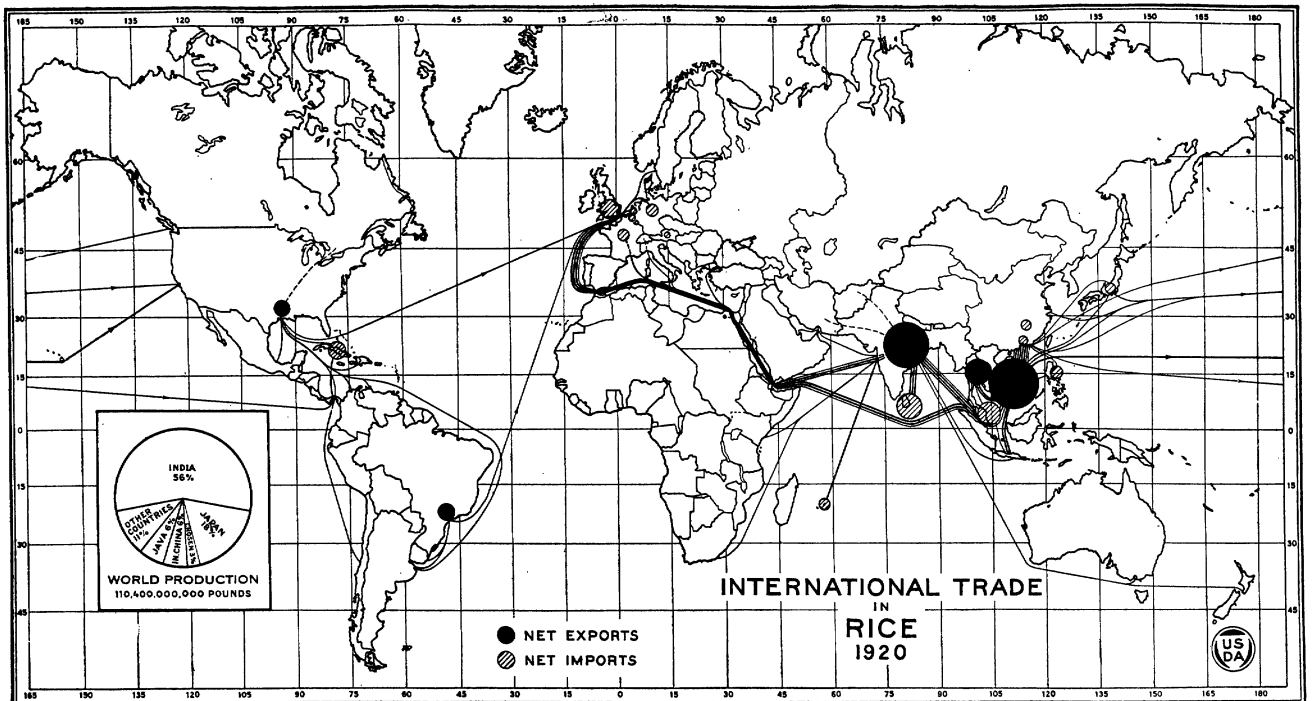


FIG. 43.—The international trade in rice is mainly among the large rice-producing and rice-consuming countries of the Orient. These countries also export large quantities of rice to Europe and the Western Hemisphere. Among the nonproducing countries Great Britain is the largest purchaser. The United States sells rice to Europe, the West Indies, the Central and South American countries, and, since 1921, to Japan.

terial, and moisture. The milled, cleaned, or table rice gets into the general trade through brokers and jobbers.

International Trade in Rice.

The greater part of the world's exports of rice are supplied by French Indo-China, British India, and Siam (Fig. 43). During the seven-year period 1914 to 1920 British India contributed an average annual net export of 3.5 billion pounds of cleaned rice, French Indo-China 2.75 billion pounds, and Siam 1.9 billion pounds.

Burma, the chief rice-producing Province of India, and Siam supply Europe and the Western Hemisphere with rice of special qualities. Much of the highly milled and polished rice that is produced in the European mills is obtained from these countries. Siam and Indo-China furnish very largely the cheap rice that is needed to feed the native population of the greater part of the Orient, except India.

The principal nonproducing country which imports rice is Great Britain. A group of countries which in pre-war years had lower import requirements includes France, Holland, Germany, Russia, and Cuba. Among the principal rice-producing countries, exclusive of China, the Dutch East Indies ranks first in the imports of rice. Japan, ranking second in production, also imports large quantities of rice to feed a population having the largest per capita consumption of rice in the world.

As early as 1712 the South Carolina colony exported 3 million pounds of cleaned rice. This trade increased in varying quantities (Fig. 44) until 1859, when 81 million pounds were exported. No large permanent increase occurred until 1885. In 1884 the exports were only 168,827 pounds. The average exports for the five-year periods from 1886 to 1920 increased from 482,432 pounds for the period 1886–1890 to 454,000,000 pounds for the period 1916–1920, reaching the maximum annual export of 738,000,000 pounds in 1921. The average annual exports for the 10 years preceding the World War were 129 million pounds of cleaned rice, of which over 80 per cent went to Porto Rico. Of the total export of 738 million pounds in 1921, Porto Rico, Hawaii,

and Alaska received only about 28 per cent, the greater part going to Europe. Japan purchased as much as 56 million pounds.

Rice was imported into the United States for the first time in 1861, when 52 million pounds were brought in. Imports increased thereafter in greatly varying quantities

AVERAGE RICE PRODUCTION, CONSUMPTION, EXPORTS AND IMPORTS, UNITED STATES, BY 5-YEAR PERIODS, 1821–1921.

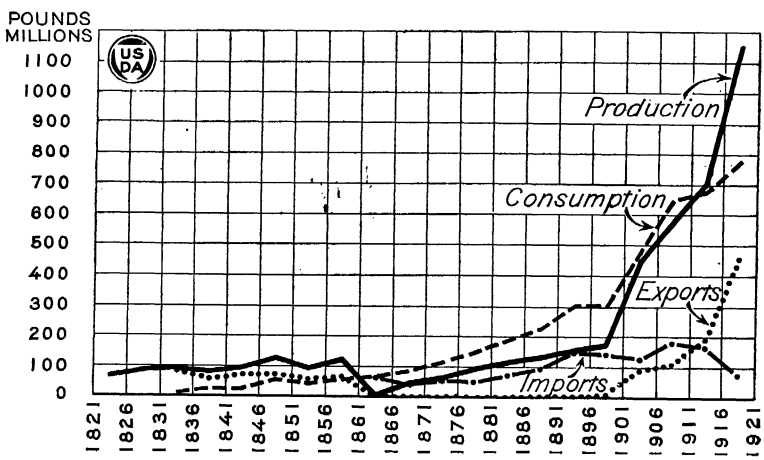


FIG. 44.—The average production of cleaned rice for five-year periods has increased steadily since 1821, except during the Civil War. Consumption exceeded production from 1861 to 1914, except in 1904 and 1911. During and since the World War production of rice has greatly increased, averaging now over one billion pounds annually. Exports also have greatly increased, reaching the maximum of 738 million pounds in 1921.

until the maximum import of 236 million pounds occurred in 1913. After that year there was a constant decline to 1921, when the imports amounted to less than 13 million pounds. In the early years imports were largely for domestic consumption. In recent years they have included the highly milled rice from Europe and also brown rice from the Orient to be milled here and reexported.

Rice Foods, Feeds, and Feeding.

Rice, like wheat, is used almost entirely for human food. It has a higher carbohydrate content and less fat than wheat. Its most common use is as a starchy food to accompany meats and similar dishes. It is used also for puddings, for

thickening soups, and in many other ways, commercially and in the home. Puffed rice and boiled rice are common breakfast foods. The kernel also can be popped. Whole or brown rice contains a higher percentage of vitamin and mineral matter than ordinary highly polished rice.

The by-products are important feeding stuffs in Louisiana, Texas, Arkansas, and California, where most of the rice crop is raised. These by-products are rice hulls, rice bran, and rice polish. The hulls have practically no feeding value, but the other two by-products are very nutritious. Owing, however, to the high fat content they easily become rancid and so do not keep or ship well. The bran to be of good quality should contain only a very small percentage of hulls.

RICE BY-PRODUCTS AND CORN FOR FATTENING HOGS.

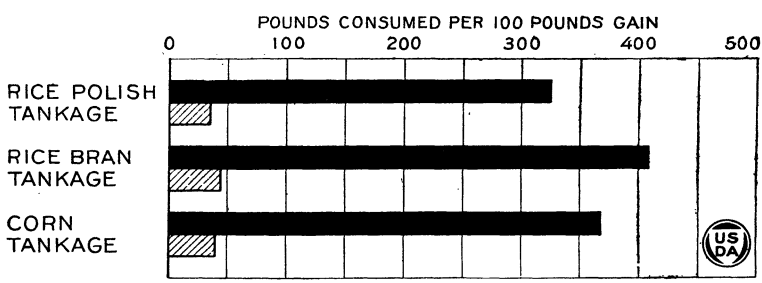


FIG. 45.—This graph is based on the results of three experiments in feeding rice by-products at the Arkansas Agricultural Experiment Station, as published in Bulletin 128 of that station. In the first experiment three lots, each containing 6 shotes, averaging 136 pounds each, were fed for 75 days. In the second experiment three lots of 6 shotes, averaging 85 pounds each, were fed for 82 days. In the third trial three lots of 5 shotes, averaging 75 pounds each, were fed for 84 days. In all three experiments the pigs required fewer pounds of rice polish than of corn to make 100 pounds of gain. In another experiment, without any protein supplement, fewer pounds of rice bran than of corn were required to produce 100 pounds of gain.

Rice seldom is used for live stock in the form in which it is harvested, unless there is a surplus or damaged crop. The rough rice or paddy is a fairly good feed for fattening cattle. However, on account of its hard fibrous hull, rolling or crushing greatly improves its value for live-stock feed.

Rice polish and rice bran are very good feeds for fattening hogs when used with a protein supplement (Fig. 45). Rice polish is probably the most satisfactory rice by-product for feeding hogs. Both rice polish and bran are suitable cattle

feeds, but are not used to any extent in feeding horses and sheep. They are used chiefly in the districts where rice is produced.

Grain Sorghums.

The grain sorghums comprise several groups, each having a different name and each containing several varieties. The different groups are closely related botanically, and are similar in general appearance and in culture and use. The principal groups are kafir, milo, and durra, the latter including feterita.

Importance of the Crop.

In comparison with most of the principal cereal crops and some other widely grown crops of the United States (Fig. 1) the grain sorghums are not very important. These crops are of tremendous importance, however, in the southern section of the Great Plains area, comprising portions of Kansas, Oklahoma, Texas, and New Mexico (Figs. 46–47). In fact it scarcely would have been possible to develop farming enterprises in much of that territory without them. In this section they take the place occupied by corn in the more humid sections of the country. They are the tilled grain crop in the rotation, and they provide the feed grain and roughage for farm and range live stock and silage for the dairy and the beef industries. Because of insufficient rainfall and drying winds it is not possible to grow corn in this territory to supply these needs.

World Production of Grain Sorghums.

There are three great centers of sorghum production in the Old World, namely, Africa, India, and Manchuria-China, with a smaller center in western Asia, including Turkestan, Mesopotamia, Syria, and parts of Asia Minor.

In much of Africa varieties of grain sorghums are the staple cereal crops of large numbers of the native population and have been so from time immemorial. The number and diversity of varieties is known to be enormous. The kafir varieties came from Natal, while our feterita came from the Egyptian Sudan. Our white durra and brown

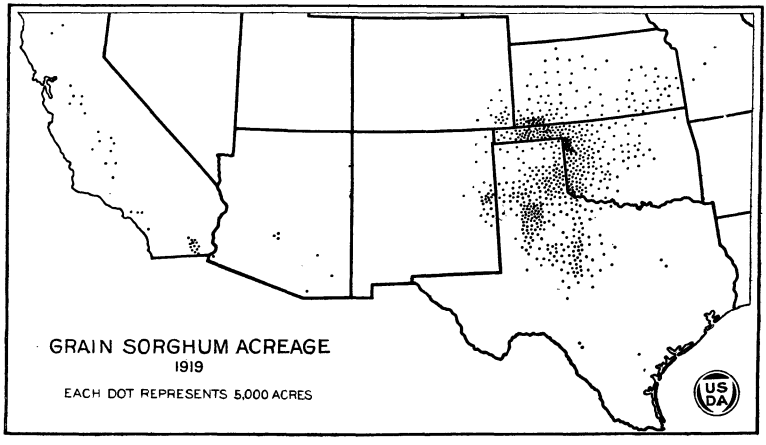


FIG. 46.—Grain sorghums are grown only in the Southwestern States, principally in Kansas, Oklahoma, and Texas. Compare with Figure 47, which shows corn acreage in the same States in 1919. The grain sorghums are grown mostly where climatic conditions are too hot and dry for corn.

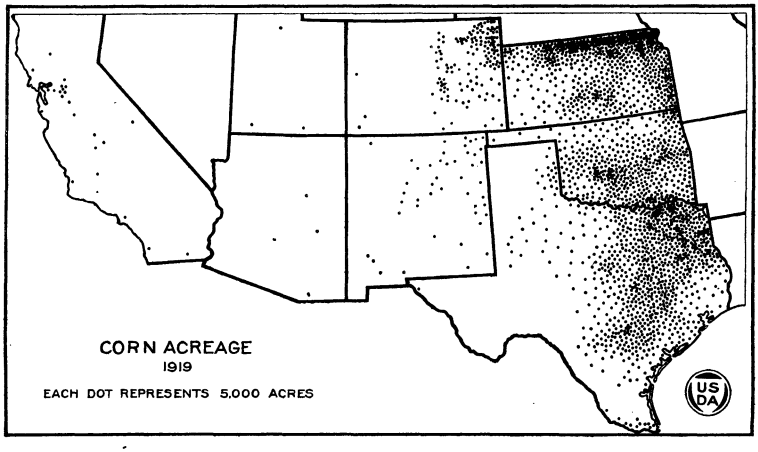


FIG. 47.—Corn acreage in the Southwestern States is confined mostly to the subhumid portions of Kansas, Oklahoma, and Texas. The growing season in northwestern Kansas and northeastern Colorado is too short and cool for the grain sorghums, but corn succeeds fairly well.

durra are found in Morocco, Algeria, and Tunis, while varieties which probably are the original forms of our yellow milo and white milo are found in Egypt.

In India the grain sorghums are of tremendous importance in the drier portions of the interior not suitable for wheat growing. The principal centers of production are in the Bombay and Madras Presidencies and in Hyderabad. The area grown annually is more than 25,000,000 acres. The grain serves for human food and animal feed, and the stalk is utilized for fodder. The crop is known as jowar or juar.

In Manchuria and China is grown an entirely different group of sorghums known as kaoliang. In these countries they are important articles of human diet, as well as feeds for live stock and poultry. With the characteristic thrift of the Chinese and related peoples, every portion of the plant is used in some way.

Occasionally shiploads of kaoliang grain are received at Pacific coast ports of this country, where they enter trade as feed for poultry and stock. Still more rarely occasional shiploads of kaoliang, or of jowar from India, arrive at our Atlantic ports, where they find a similar use. Probably most of these cargoes are brought in largely as ballast rather than as regular freight.

Historical Development of Production in the United States.

Different varieties of grain sorghums were introduced at intervals from early colonial times, but none persisted in cultivation. Of the varieties now grown in this country, the earliest arrivals were the white durra and brown durra, which were introduced from Mediterranean Africa to California in 1874 and still are grown there sparingly under the name of "Egyptian corn." About 1879 the white variety appeared in Kansas under the name "Jerusalem corn," but whether from California or direct from Syria is not known. At about the same time there was grown sparingly in Kansas a similar variety known as "rice corn," which probably was the present white milo.

In 1876 the Centennial Exposition was held in Philadelphia. The exhibit of the Orange River Colony of South Africa contained the seeds of two varieties of kafirs,

a group of grain sorghums grown by the Kafir tribes in Natal. A thimbleful of this seed reached the State commissioner of agriculture in Georgia in 1877 and by him was sent to Dr. J. H. Watkins, of Palmetto, Ga. He grew and selected the plants until 1885, when he distributed some seed. In 1886 larger quantities were distributed by him and through the Georgia State Commissioner of Agriculture and the United States Commissioner of Agriculture. The crop became established in Kansas in about 1888.

About 1885 the sorghum now known as yellow milo was brought to notice in South Carolina or Georgia and in 1887 it was widely advertised. It soon became established in the drier parts of Texas.

No complete annual statistics on grain sorghums in the United States are available until 1915, though census data were obtained in 1909. Kansas reported 47,000 acres of kafir in 1893, and three-fourths of a million acres of all grain sorghums 10 years later in 1902. No further increase took place until 1911, when over 1 million acres were grown in Kansas. Oklahoma reached the million-acre basis not long afterwards.

The trend of acreage, acre yield, production, and farm price for bushel for the eight years from 1915 to 1922, inclusive, is shown in Table 4 with the data for 1909 for comparison. The grain-sorghum crop is holding its own with an average of about 5 million acres annually.

During the last three years the three important producing States in order of acreage are: Texas, with nearly 2 million acres; Oklahoma, with 1⅓ million acres; and Kansas, with 1 million acres. The fourth State, Colorado, grows about 250,000 acres annually, and the other States, in descending order, are New Mexico and California with an average of about 140,000 acres, and Arizona, Nebraska, Missouri, and Iowa with from 30,000 down to less than 10,000 acres annually.

The distribution of acreage of grain sorghums in eight of these States in 1919 is shown in Figure 46. The distribution of corn acreage in the same States, except Missouri, is shown in Figure 47.

TABLE 4.—*Annual and average acreage, acre yield, production, bushel value, and total value of the sorghum grain grown in Arizona, California, Colorado, Iowa, Kansas, Missouri, Nebraska, New Mexico, Oklahoma, and Texas in 1909 and in the eight years from 1915 to 1922, inclusive.*

Year.	Acreage.	Acre yield.	Production.	Value.	
				Per bushel.	Total.
		Bushels.	*Bushels.*	*Cents.*	
1909	1,631,000	10.7	17,526,000	60.2	$10,766,000
1915	4,153,000	27.6	114,460,000	44.7	51,157,000
1916	3,944,000	13.7	53,858,000	105.9	57,027,000
1917	5,153,000	11.9	61,409,000	161.9	99,433,000
1918	6,036,000	12.1	73,241,000	150.0	109,881,000
1919	5,060,000	25.8	130,734,000	127.4	166,510,000
1920	5,120,000	26.8	137,408,000	92.9	127,629,000
1921	4,635,000	24.6	113,990,000	39.1	44,575,000
1922	5,051,000	17.9	90,381,000	87.6	79,389,000
8-year average, 1915–1922	4,894,000	20.1	96,935,000	101.2	91,950,000
6-year average, 1915–1920	4,911,000	19.7	95,185,000	113.8	101,940,000
2-year average, 1921–1922	4,843,000	21.3	102,186,000	63.4	61,982,000

Factors Affecting Production.

The chief factors affecting the production of the grain sorghums are climatic, namely, moisture and temperature. These crops can be grown successfully under a lower effective rainfall than is required by corn, but require higher temperatures for both germination and satisfactory growth. These facts serve to show why the grain sorghums are dominant crops in the area they occupy (Fig. 46).

To the east of this area humidity increases and corn holds its own against the grain sorghums, even if the yield of corn is somewhat below that which the grain sorghums will produce under those conditions. This is true partly because corn is a more efficient feeding grain and partly because it is more easily harvested and more safely stored and transported. Corn is easily husked either from the row or shock.

Corn can be stored in bins immediately on gathering without particular danger of injury except from rats and mice. Heads of the grain sorghums, on the other hand, must be

dried or cured in the open before they can be binned in quantity, and even then the bins should be well ventilated. Shelled corn also can be stored safely unless the moisture content is too high, whereas shelled sorghum grain, unless clean from dirt and cracked kernels, must be carefully watched to prevent heating.

To the north and west of the present producing area are large areas of dry land where deficient moisture prevents profitable production of corn, but where increasing elevation and increasing latitude, or both, shorten the growing season so that grain sorghums will not mature satisfactorily. They are much more sensitive than corn to low temperatures in soil and air during germination and early growth.

Fungous diseases.—The only important diseases of grain sorghums are the smuts, of which there are three different kinds. The most widely distributed and most destructive is the covered kernel smut. The loose kernel smut is sporadic in occurrence and causes little damage. These two smuts can be controlled through seed treatment and the use of resistant varieties. Head smut is less widely distributed but may cause heavy local damage. This smut can not be controlled by seed treatment. The varieties of milo do not become smutted under field conditions.

Insects.—The principal insect enemy of the grain sorghums in the Southwest undoubtedly is the sorghum midge. This pest affects the production of the grain only, but doubtless is the limiting factor in the production of sorghum seed in parts of Texas and other important sorghum States. Two species of stalk borers are of very considerable importance to the production of the sorghums throughout the Gulf and Southwestern States. One of these causes injury up to altitudes in excess of 4,000 feet.

Marketing Grain Sorghums.

The grain sorghums are grown primarily for feeding grains and fodders for farm use. Estimates show that only about 25 per cent of the crop moves off the farms where grown. Not all of this reaches the terminal markets, as much of that sold off the farm is consumed locally. The main terminal markets for the grain sorghums are Kansas

City to the north, St. Louis and Memphis to the east, Fort Worth and Galveston to the south, and Los Angeles to the west of the main producing area. The Kansas City market is the largest handler of the grain sorghums.

The chief commercial uses of sorghum grain are similar to those of corn, and it must compete with that grain. This means that sorghum grain moving north and east into corn-producing territory must be either cheaper or better than corn for the purpose desired. If cheaper, it must be sufficiently cheaper to pay for the longer haul and to overcome the handicap of lower feeding value, which is about 80 to 90 per cent of that of corn. Occasionally this condition occurs. Under these conditions also some sorghum grain may be used in the manufacture of industrial alcohol. For poultry feeds the grain of various sorghums is more suitable than corn in size. A considerable portion of the commercial movement both east and west is for this purpose. In the far West, however, little corn is produced, and some of the western commercial movement of grain sorghums doubtless is for use in stock feeding.

Classes.—Under the United States grain standards act classes and grades have been established for grain sorghums. The nine commercial classes are as follows: (1) Kafir, (2) milo, (3) durra, (4) feterita, (5) darso, (6) freed sorgo, (7) brown kaoliang, (8) schrock kafir, and (9) shallu. Any class containing more than 10 per cent of another is designated "mixed grain sorghum." Only the first four of the nine classes are important, as production of the other five is very limited. Kafir and milo comprise more than 90 per cent of the total sorghum grain graded at the principal markets. Three classes, kafir, milo, and durra, are divided into two subclasses on the basis of color of kernels. These grades are not enforced under the grain standards act, but they have been adopted by all important grain-sorghum markets and used during the last crop year.

Quality.—Because of the very dry conditions under which this grain is produced, the seeds crack easily in thrashing. Unless this cracked material is screened or fanned out, there is danger that the grain will heat when binned on the farm or in elevators and mills. The small size of the

kernels allows them to pack tightly together and when they are mixed with the still finer cracked material they form an almost air-tight mass which heats readily. More than ordinary care must be taken, therefore, to ventilate storage bins or to move the grain at intervals.

Grade.—Grade depends upon quality at time of inspection. Each class or subclass is divided into four grades, Nos. 1, 2, 3, and 4, with a "sample grade" for grain failing to meet the specifications of any of the numbered grades. Sufficient data are not available to show the percentage of sorghum grain in interstate movement which falls into each of these grades.

Grain Sorghums for Food and Feeding.

The grain sorghums are a comparatively new crop in the United States. They resemble corn in composition and have similar uses in cookery. They also have a characteristic flavor. Griddle cakes and hot breads resembling corn bread are well known in home cooking, and a breakfast food is manufactured. The kernels of some of them can be popped, the product resembling pop corn in miniature.

Grain sorghums are used mostly as a feed for farm animals on the farms where grown. They also are regarded as an essential ingredient of scratch feeds for poultry. A survey made some years ago showed that about one-fourth of

KAFIR, MILO, AND CORN FOR FATTENING HOGS.

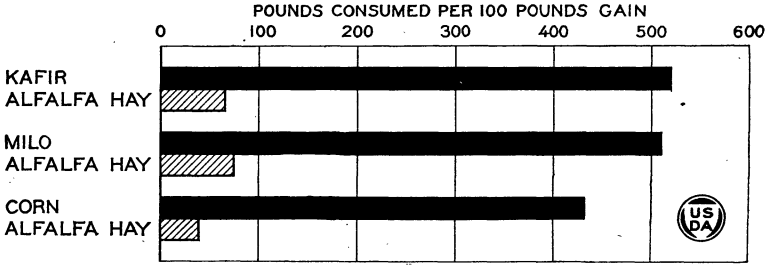


FIG. 48.—This graph represents the results of experiments in feeding kafir, milo, and corn conducted by the Kansas Agricultural Experimental Station, as published in Bulletin 198. Ten shotes in each lot, averaging 124 pounds each, were fed for 80 days. It required about 20 per cent more kafir or milo than corn to produce 100 pounds of gain. Both the corn and the grain sorghums were ground. Other experiments at the same station showed that a feed rich in protein should be fed with the grain sorghums.

the manufactured poultry foods consisted of sorghum grains. The attention of manufacturers of alcohol and starch also is being turned to these grains. Feterita and milo, with large seeds averaging 65 per cent of starch, seem to be especially suitable as raw material for the manufacture of high-grade starch by the commercial process.

The grain sorghums are becoming very important for livestock feeding in the Southwest, where the climate is too dry for corn. They have a feeding value about 80 to 90 per cent of that of corn (Fig. 48). They are suitable for feeding all kinds of live stock. For sheep they should be ground, but otherwise they should be fed about the same as corn. They may not produce quite as high a finish as corn. They need to be supplemented by a protein concentrate or legume roughage just as corn does. They are not shipped extensively, except as poultry feed. Thus far no considerable quantity of by-products results from the commercial use of grain sorghums.

Seed Flax.

Importance of the Crop.

Among the grain crops of the United States seed flax ranks seventh in acreage and eighth in value, being exceeded by corn, wheat, oats, barley, rye, and grain sorghums in acreage and by these crops and rice in value. (Fig. 1.) The area harvested in 1919 was 1,260,000 acres, while that of 1922 was estimated at 1,308,000 acres, with a production of 12,238,000 bushels.

The seed-flax crop of the United States is grown in the same region as the hard red spring wheats. The four States of North Dakota, Minnesota, South Dakota, and Montana produce 95 per cent of the total crop. In these States flax is important as a cash crop, and also as one that can be sown late in the spring on newly broken sod or on land previously too wet to work.

World Production and Trade.

At the beginning of this century Argentina and Canada were just becoming important flax producers. The United States was then approaching its maximum production, which

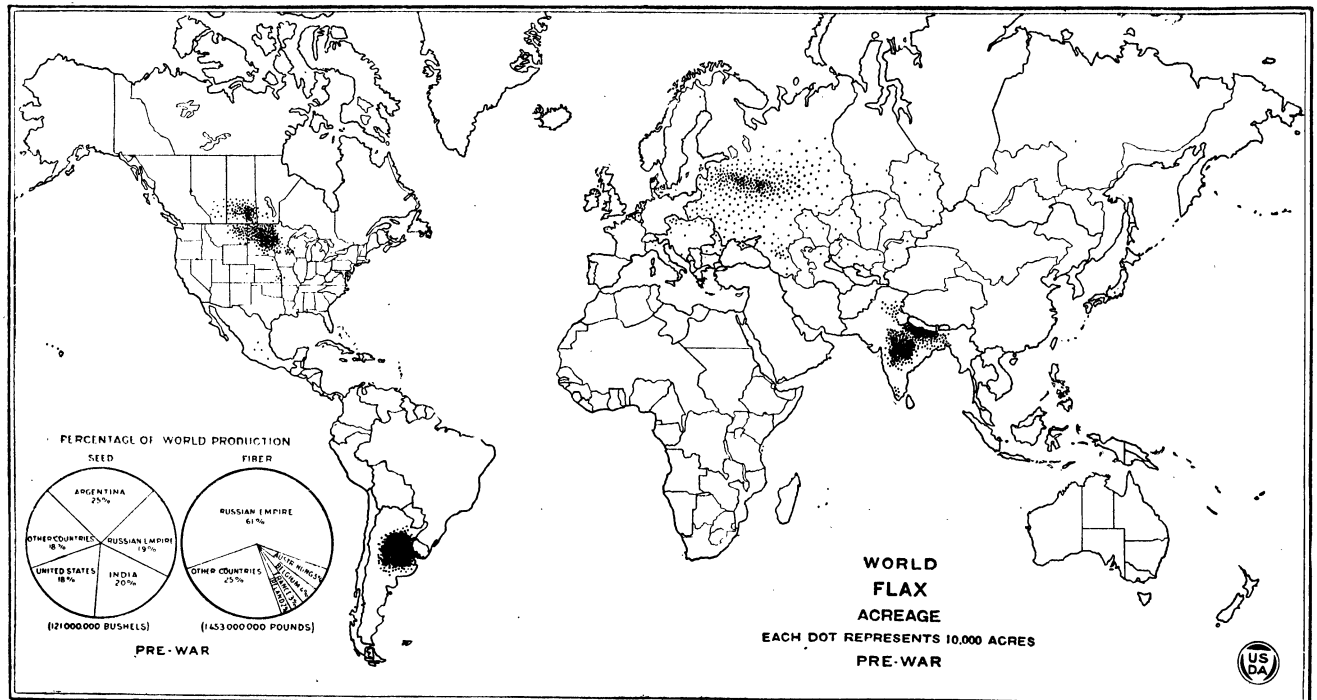


FIG. 49.—Pre-war flax acreage of the world and chief producing countries. Four centers of flax culture are to be noted—central North America, Argentina, Russia, and India. In pre-war production of seed flax the five leading countries in order were Argentina, India, the Russian Empire, the United States, and Canada. The maximum world production of flaxseed was reached in 1912 and 1913, according to available statistics, when over 130 million bushels were produced each year.

occurred in 1902, since which time a steady decline in production has taken place. In Argentina and Canada, our principal competitors, production continued to increase rapidly until 1912 or 1913. Since those years production in Canada has diminished while that in Argentina has remained about stationary. In recent years production of flaxseed in the United States has diminished to about 10,000,000 bushels annually, while consumption continues at 25,000,000 bushels or more. The difference is made up by imports of flaxseed chiefly from Argentina and Canada.

Previous to the World War the principal countries producing seed flax were Argentina, India, Russia, the United States, and Canada, in the order named. The average world production for the five-year period, from 1909 to 1913, inclusive, was estimated at about 110,000,000 bushels annually. In the last three years of this period production had increased until the average production was 121,000,000 bushels, as shown in Figure 49. The bulk of the crop of Argentina, India, and Canada was shipped to Europe or to the United States, where the linseed oil was manufactured and consumed. The Russian crop was used wholly in Europe. Since the war Russia has not produced flax for export. Argentina is by far the largest producer, and, as her domestic requirements are small, she also is the largest exporter.

Western Europe and the United States, with intensive paint, varnish, and linoleum industries, are the chief importers of flaxseed. There is also a large demand from the dairy industries in these countries for linseed cake and meal as a feeding concentrate.

Trend of Acreage, Production, and Price in the United States.

Previous to the Civil War the production of flaxseed was scarcely more than a half million bushels annually. With the settlement of the western prairies acreage and production increased rapidly. Both reached their maximum in 1902 (Fig. 50) when over 29 million bushels were raised on 3,740,000 acres. Since 1902 acreage and production have gradually declined, as has also acre yield since 1905.

Exports and imports.—In Figure 51 are shown production and consumption and net exports and imports of the

FLAX: ACREAGE, PRODUCTION, ACRE YIELD, AND FARM PRICE, UNITED STATES, 1889, 1899, AND 1902–1922.

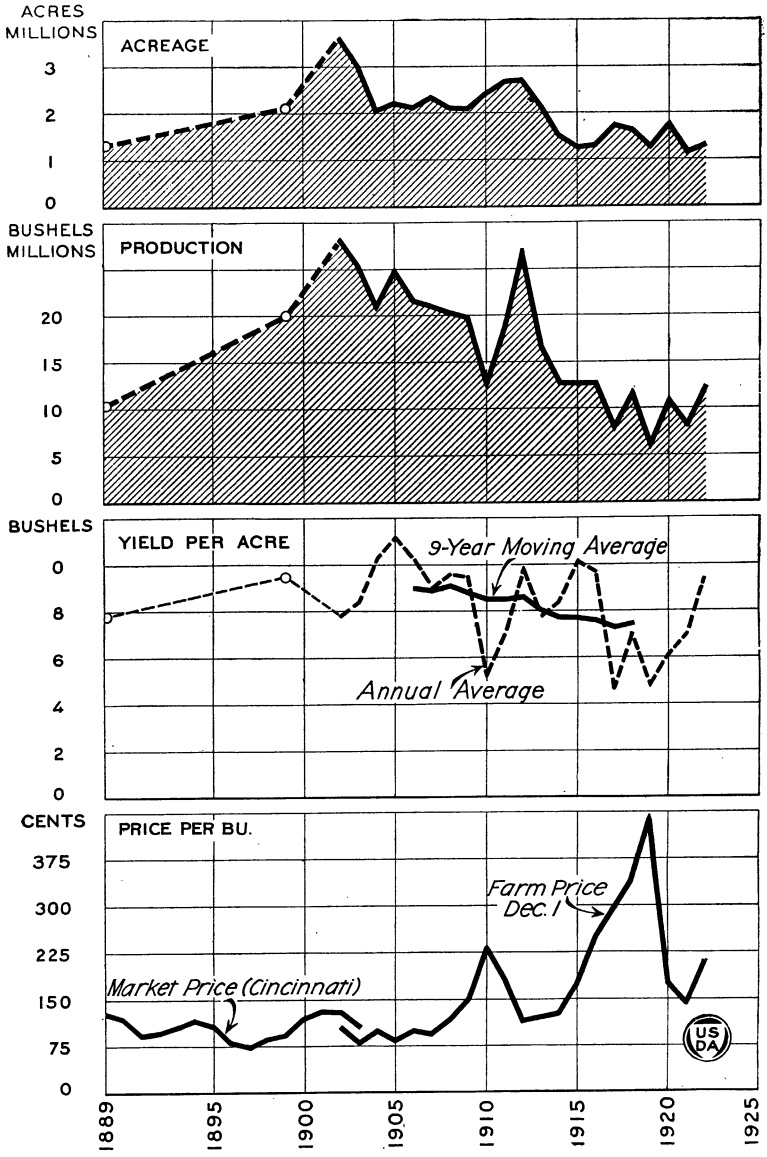


FIG. 50.—Annual acreage, production, and yield per acre in 1889 and 1899 are shown. The general trends of annual acreage and production, and annual and 9-year moving average acre yield have been downward since 1902. The trend of annual average farm price per bushel on December 1 since 1907 has been upward and reached a very high figure in 1919.

FLAXSEED PRODUCTION, NET IMPORTS, NET EXPORTS, AND TOTAL CONSUMPTION IN THE UNITED STATES, 1899–1921.

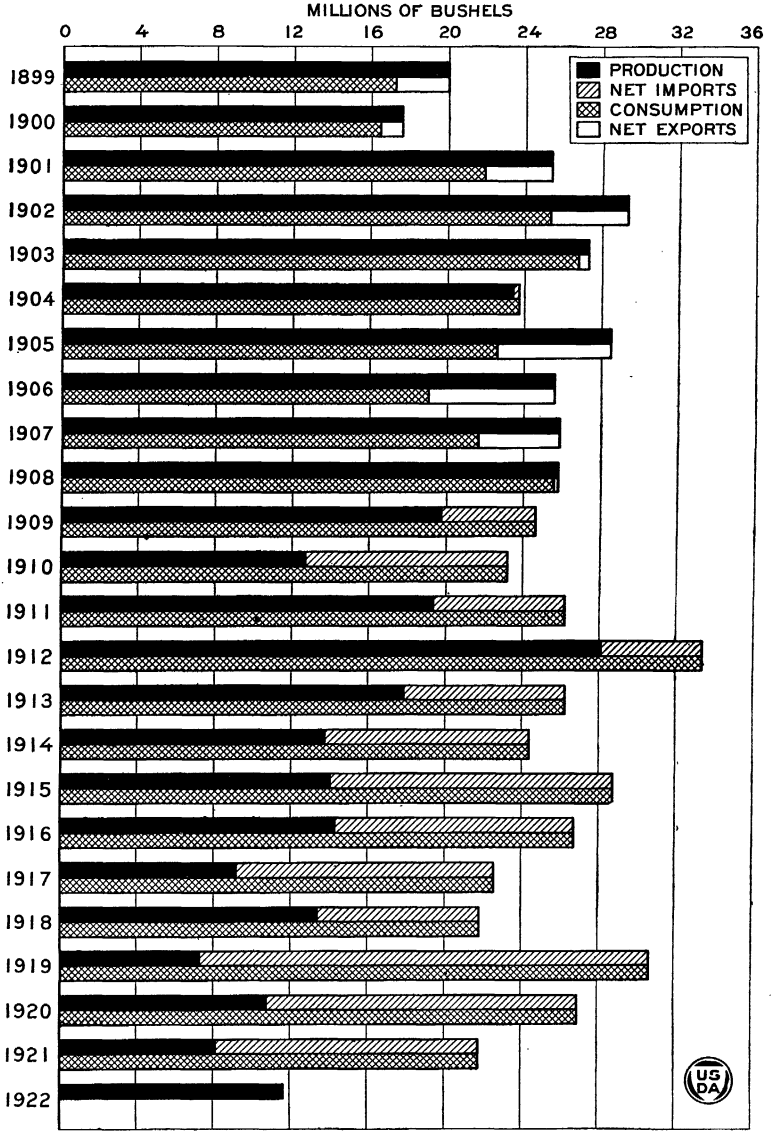


FIG. 51.—The production of flaxseed in the United States exceeded consumption from 1899 to 1908, except in 1904, and the surplus was exported to Europe. Since 1909 production has decreased notably, while consumption (including seed and carryover) has remained about stationary, and the difference is made up by imports which in recent years have come chiefly from Argentina and Canada. The large production of 1912 was due to an increased acreage, with a high average yield, 9.8 bushels. The imports of 1912 came almost entirely from Canada, where a crop of over 26 million bushels was produced that year.

United States from 1899 to 1921, inclusive, with production for 1922. Until 1908 we produced, on the average, more than we consumed and therefore were able to export a surplus in nearly every year. Beginning with 1909, however, our production began to decline, while our requirements continued to increase with population. Net imports consequently have increased. The reduction in consumption in 1917 and 1918 was due to war restrictions, and that in 1920 and 1921 to business depression. It is fairly certain that the figures for 1922, when available, will show an increase of consumption.

As the United States changed in position from an exporter to an importer of flaxseed the farm price of flax increased materially (see Fig. 50). In 1907, when a surplus of over 4 million bushels was exported, the farm price of flaxseed on December 1 averaged 96 cents per bushel. In 1908, when production and consumption were practically equal, the farm price of flaxseed was $1.18 per bushel. In 1909, when 4,957,000 bushels were imported, the farm price rose to $1.53 per bushel. The December 1 farm value of the 25,851,000 bushels of the 1907 crop was $24,713,000, while the farm value of the 19,513,000 bushels of the smaller crop in 1909 was $29,795,000.

Historical Development of Flax Production.

Flax, cultivated for its fiber, was one of the first plants introduced from the Old World. Records are found of its cultivation soon after the landing of the Pilgrims in Massachusetts in 1620, and it continued to be grown to some extent as a fiber crop for home use as late as 1840. It was about the beginning of the nineteenth century when the manufacture of linseed oil was begun in this country.

Seed flax has held the unique position of a "pioneer crop" in the agriculture of the United States, as it has been grown largely as the first crop on breaking or newly turned virgin sod. The area of flax production, therefore, has moved westward with the settlement of new lands until now it has reached about the western limit of its migration. Seed flax is raised as a cash crop, practically none of the crop

except the straw being consumed directly on the farms where grown.

The census of 1850 showed Ohio and Kentucky to be the chief flaxseed-producing States in 1849. By 1859 flax was well established in Indiana, and in 1869 in Illinois and Wisconsin. Ten years later, in 1879 (Fig. 52), Iowa was producing a considerable quantity of flaxseed, and by 1889 (Fig. 53) Minnesota, Iowa, and South Dakota were the principal producing States. By 1899 (Fig. 54) North Dakota had taken the lead in the production of flaxseed, and, with Minnesota and South Dakota, it still continues to produce the bulk of our crop (Figs. 55 and 56).

Formerly flax was considered to be hard on the soil because it did not produce well if grown continuously on the same field. About 1900 a flax disease called flax wilt was discovered. It was found also that it became more and more destructive if flax was grown for several years on the same piece of land. This probably accounts for the idea that flax was hard on the land and for its steady westward migration to new soils during the last 75 years.

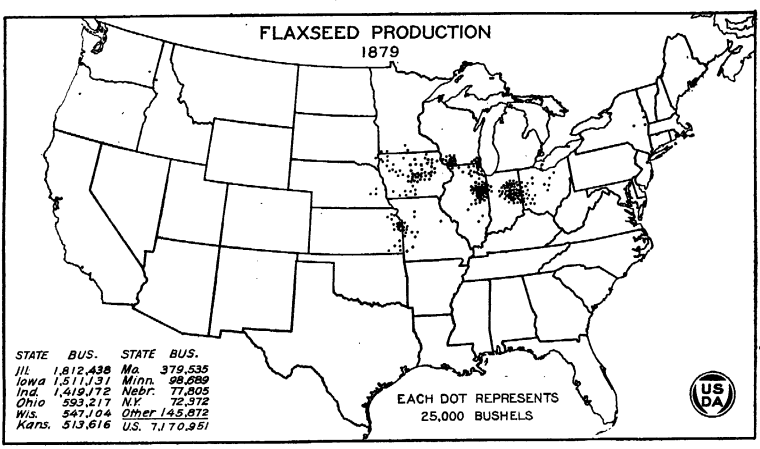


FIG. 52.—In 1879 the centers of flaxseed production were located in the Mid-Western States. Four centers are seen, namely, in Indiana, Illinois, Iowa, and Missouri-Kansas. The latter was a new development, producing 893 thousand bushels in that year. It increased during the next 20 years and became known commercially as the "southwestern crop." Flax was just appearing in Minnesota and the Dakotas, which 20 years later were to become the centers of production.

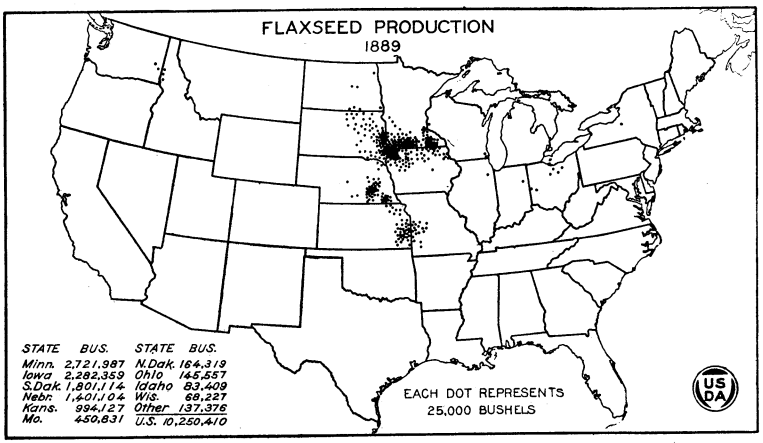


FIG. 53.—By 1889 a remarkable shift has taken place. Production has almost disappeared from Indiana and Illinois and other States east of the Mississippi River. The production in Iowa has moved northwestward and become part of a new and very important center covering the adjacent portions of Minnesota, Iowa, and South Dakota. A new center has appeared in southeastern Nebraska, while the Missouri-Kansas production has increased.

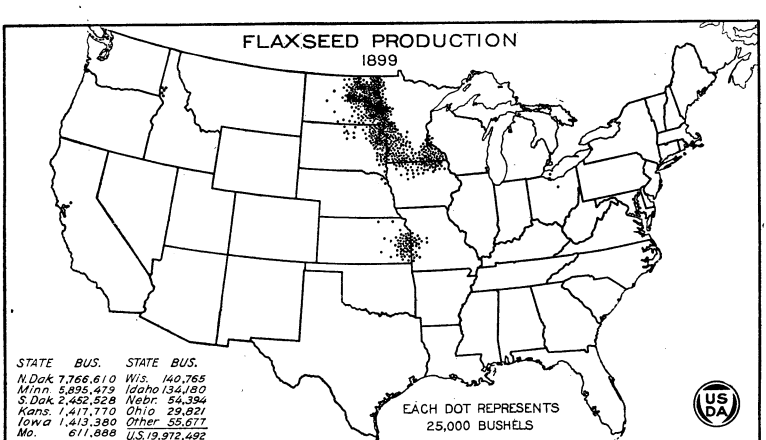


FIG. 54.—By 1899 the center of production has shifted again to the northwestward. North Dakota has become the leading producer, its producing area being continuous with that of Minnesota, South Dakota, and northern Iowa. Production in Nebraska has disappeared, while that of the Missouri-Kansas area has increased, especially in Kansas. East of the Mississippi production has almost disappeared.

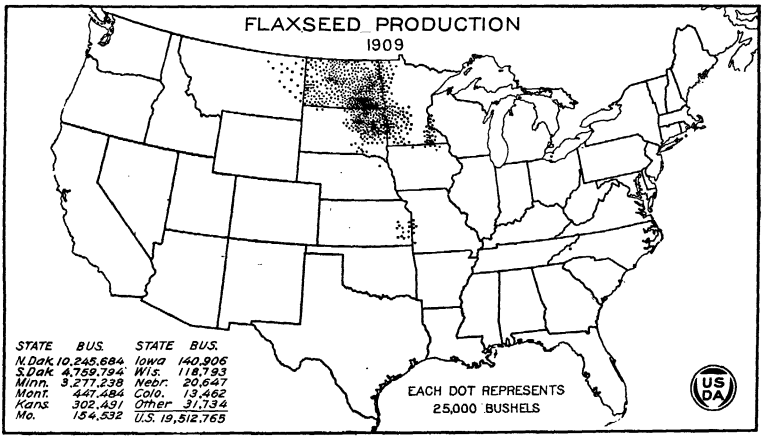


FIG. 55.—Only one important producing center remains in 1909, and it has moved steadily northwestward during the decade just passed. North Dakota remains the leading producing State, but production now covers the entire State, instead of being concentrated in the eastern portion, and the area now extends into northeastern Montana. South Dakota and Minnesota produce relatively less, while production in Iowa has nearly disappeared. The Missouri-Kansas center has been greatly reduced. North Dakota produces more than half of the total quantity.

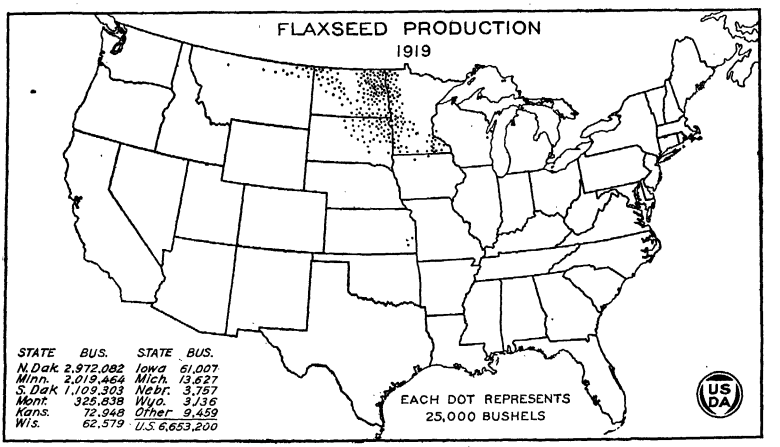


FIG. 56.—The crop in 1919 has about the same distribution as in 1909 but, owing to very unfavorable climatic conditions, production was only one-third that of 1909, and also was the smallest of recent years. The western movement has reached the foothills of the Rocky Mountains, and probably has reached the western limit to its migration. Any future increase in production probably must occur in the States where the crop is now grown, or through a development of the flax industry in States farther east, where it once was grown so abundantly.

Natural Factors Influencing Production.

Of the natural factors influencing seed-flax production from year to year, climate, especially rainfall, competition from weeds, and fungous diseases, especially flax wilt. are the most important.

Soil and climate.—As flax roots ordinarily do not feed deep in the soil, flax does best on loam or clay soils which are fertile and retentive of moisture. Abundant moisture during the growing period, with drier conditions during the ripening and harvest period, is very favorable for flax.

Flax is particularly well adapted to seeding on freshly turned or backset sod where, comparatively, it does better than most other farm crops. In a rotation, therefore, it is likely to do well following a sod-forming crop such as clover and timothy, or on corn ground following such a crop. Plowed pasture lands are excellent for flax. Flax often is sown late on land that is too wet to seed early in the season, and it is well adapted for this purpose, as it matures in a comparatively short season. As flax does not produce a dense shade it can be sown as a nurse crop with alfalfa, clover, or grass.

Weeds.—Flax does not compete well with weeds, and therefore it is generally grown on new land or after a grass crop, or following a cultivated crop where weeds have been eliminated.

Diseases.—The principal diseases of seed flax are wilt, heat canker, and rust. Wilt is a fungous disease which causes marked losses only where flax is grown continuously on the same land or on old, wilt-infested land, where it may cause a total loss of the crop. Fortunately, a number of fairly satisfactory wilt-resistant flax varieties are available.

Heat canker is caused by excessively high temperatures at the soil surface when the plants are very young. It occasionally causes marked losses, especially in western North Dakota and eastern Montana. The stems are girdled and the affected plants break over. Some of these die, but others continue to grow poorly. The most feasible control measure appears to be early seeding. This enables the plants to pass the susceptible stage before the hot weather of late June and early July.

Flax rust is important chiefly in limited sections of the Red River Valley of North Dakota and Minnesota. It lives over winter only on the old flax stubble and straw. Proper crop rotation is the only available control measure at present.

Insects.—Grasshoppers frequently do great injury to flax in the northern Great Plains area. These insects eat off the slender branches of the ripe panicles, which allows the seed bolls to drop to the ground. Grasshoppers are controlled by poisoning with bait prepared with wheat bran and scattered through the fields.

Markets and Marketing.

Flaxseed grown in the United States is marketed at local elevators in the same way as wheat or other small grains. In many localities of small production, however, a comparatively small volume of seed is marketed; and because the price often fluctuates widely, flaxseed usually is bought on a wider margin than is wheat, and the grower often does not receive the full value of his crop. This condition could be improved if several growers of flaxseed in such localities would combine their deliveries and thus market a carload or more at one time.

Classes.—At the present time there are three recognized commercial classes of flaxseed: (1) Northwestern-grown seed, (2) southwestern-grown seed, and (3) foreign seed. Northwestern-grown seed is that portion of the domestic crop grown almost entirely in five States, namely, North Dakota, South Dakota, Minnesota, Montana, and a small portion of northern Iowa. It comprises nearly 95 per cent of our domestic production. This class includes also the seed imported from Canada. This is produced just across the line from North Dakota and Montana and is comparable in quality to our production. The southwestern seed constitutes only about 5 per cent of our crop and is grown in Missouri, Kansas, Nebraska, and eastern Wyoming. It is inferior to the northwestern-grown seed.

Foreign seed is that imported from South America, Manchuria, and India. The greater proportion of the seed imported into the United States comes from Argentina, a

smaller quantity from Canada, already discussed under the northwestern-grown class, and sometimes a still smaller quantity from Manchuria and Siberia. Only occasionally does any seed arrive from India.

Markets.—The principal markets for domestic flaxseed are, in order of their importance, Minneapolis, Duluth, Milwaukee, and Chicago for northwestern-grown seed, and Fredonia, Kans., and Des Moines, Iowa, for the southwestern-grown seed. Much of the imported seed comes through the port of New York. It is not all crushed there, however, a considerable portion being shipped to Buffalo for crushing.

Crushing centers.—The linseed-crushing industry is widely distributed throughout the United States, though there are two principal centers of manufacture. The larger part of our domestic seed is consumed in linseed mills in Minneapolis, St. Paul, Chicago, Superior, and Milwaukee, though some seed is shipped to Toledo and Buffalo by way of the Great Lakes. About half of our total linseed-oil manu-

ANNUAL VARIATION IN QUALITY OF FLAXSEED, MINNESOTA MARKETS, IN CROP-MOVEMENT YEARS ENDING AUGUST 31, 1919 TO 1922, INCLUSIVE.

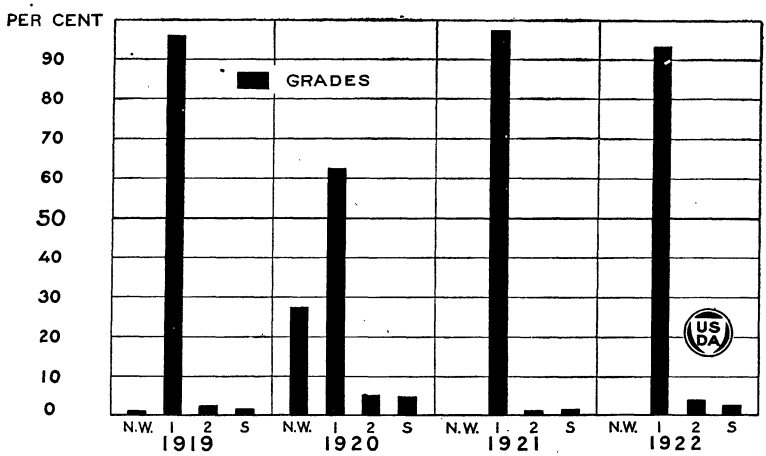


FIG. 57.—Percentage of annual flax marketings in Minnesota by grades. Nearly all the flax marketed in Minnesota, including that sold on the two principal markets of Minneapolis and Duluth, which receive the bulk of the crops from North Dakota, South Dakota, and Montana, is No. 1. The crop of 1919 (marketed in 1920) showed wider variation in quality than usual, about 28 per cent being graded as Northwestern, the highest grade.

facture is located in New York City and Buffalo. These mills depend quite largely on imported seed for their raw material. The western mills have the advantage of being close to our domestic supply of flaxseed, while the eastern mills have the advantage of cheap ocean freight rates on flaxseed from Argentina and also on linseed cake, which is exported in large quantities to Europe.

Grades.—At the present time six States and four boards of trade or chambers of commerce have special sets of grading rules for grading flaxseed. The grades vary in number from three to four. Apparently only one or two grades are of importance (Fig. 57). About 75 per cent of our domestic crop is marketed at Minneapolis and the remainder at Duluth, Milwaukee, and Chicago. Due to this fact, the rules of the Minnesota State Inspection Department are the ones most largely in use. Chicago and New York use the Minnesota State Inspection Department classifications. All foreign seed imported into this country is graded by the Linseed Association of New York, an organization of buyers and sellers, who sample and grade all imported oil-bearing seeds.

Quality as shown by grade.—The quality and consequent grade of flaxseed are dependent on the weather conditions that prevail during the growing season and harvest and the condition under which flax is stored from the time of harvest until it is marketed. The total receipts of each grade at all inspection points within the State of Minnesota for the four crop-movement years—September 1, 1918, to August 31, 1922, inclusive—are shown in Figure 57. These receipts cover the crops of 1918 to 1921, inclusive. The figures show that nearly all the flaxseed goes into grade No. 1.

Uses of Flaxseed.

The principal products of flaxseed are linseed oil, for paints and manufacturing purposes, and linseed meal, used for feeding stock.

In the manufacture of linseed oil the seed is ground, heated, and pressed to extract the oil. The residue remaining after pressing is known as linseed cake, or, when ground, as linseed meal. The oil is used chiefly in paints and varnishes and in the manufacture of linoleum, oilcloth, printer's ink, patent leather, and a few other products. The seed

contains from 30 to 40 per cent of its weight in oil and yields about 2½ gallons (7½ pounds per gallon) of oil to the bushel (56 pounds) of flaxseed.

The whole seed is very rarely fed to live stock. As flax has a much lower proportion of hulls than cottonseed, it produces a much more uniform product than cottonseed meal, especially in protein content. While it usually contains less digestible protein than cottonseed meal, the fact that it has laxative properties compensates for the greater percentage of digestible protein in cottonseed meal. The latter, in fact, is costive. Linseed meal has no toxic properties such as cottonseed meal has. In feeding it care should be taken to avoid excessive laxativeness. It is especially valuable as a source of protein for all young growing stock and to breeding animals previous to parturition. As a supplement to corn it compares favorably with tankage and milk for fattening hogs.

Flaxseed is used little, if at all, as human food, except that it forms a part of certain food products, homemade or commercial, intended for the relief of constipation. In Europe linseed oil is used for food purposes to a very considerable extent in certain localities, as in the River Spree district of Germany, for instance.

Buckwheat.

Buckwheat does not belong to the grass family and therefore is not truly a cereal. It is grown, however, for the making of flour for human consumption, and hence is a cereal substitute.

Importance of the Crop.

Buckwheat is an important crop in certain limited sections of the United States. More than 60 per cent of the crop is produced in the two States, Pennsylvania and New York, while nearly 20 per cent is produced in West Virginia, Virginia, Michigan, and Wisconsin combined. In portions of these States, especially in those localities leading in production, a considerable portion of the cultivated land is devoted to the crop.

Buckwheat, however, is a comparatively unimportant crop in the United States. For every bushel of buckwheat

produced in 1922 there were produced 192 bushels of corn, 57 bushels of wheat, 81 bushels of oats, 12 bushels of barley, 6 bushels of rye, and nearly 3 bushels of rice. Furthermore, buckwheat is never likely to attain greater relative importance as a crop in this country. But it has a place of importance in the agriculture of the areas where it is now grown, and there is a definite and steady demand for the grain and its products.

World Production of Buckwheat.

Postwar statistics on buckwheat production in all the producing countries of the world are not available. In the period from 1909 to 1913, however, the United States, with an annual average of 17,528,000 bushels, was surpassed only by Russia (pre-war European and Asiatic) with over 55,000,000 bushels, and by France with over 21,000,000 bushels. Canada produced about one-half and Japan about one-third as much as the United States.

Trend of Production in the United States.

Buckwheat acreages in the United States from 1866 to 1869 apparently were very high. A sharp drop in acreage occurred in 1870, and this reduction persisted through 1874. From 1876 to the present time the acreage in the United States has been nearly stationary, as is shown in Figure 58. The smallest acreage in this period was in 1900, when only 638,000 acres were sown to this crop. The largest acreage in this period was in 1919, when 1,084,000 acres were sown.

Production of buckwheat, depending as it does on both acreage and acre yield, has varied more from year to year than has acreage. Acre yields, somewhat larger than usual in several of the years since 1909, and larger acreages in a few of those years, have resulted in increased production since that date.

The acre yield of buckwheat has fluctuated considerably from year to year. The lowest recorded acre yield was 8.9 bushels, in 1883. The highest was in 1912, when it reached 22.9 bushels.

Farm prices per bushel of buckwheat on December 1 of each year fluctuated between 40 and 80 cents in most of the period from 1866 to 1915. The minimum was 39.2 cents in

BUCKWHEAT: ACREAGE, PRODUCTION, ACRE YIELD, AND FARM PRICE, UNITED STATES, 1866-1922.

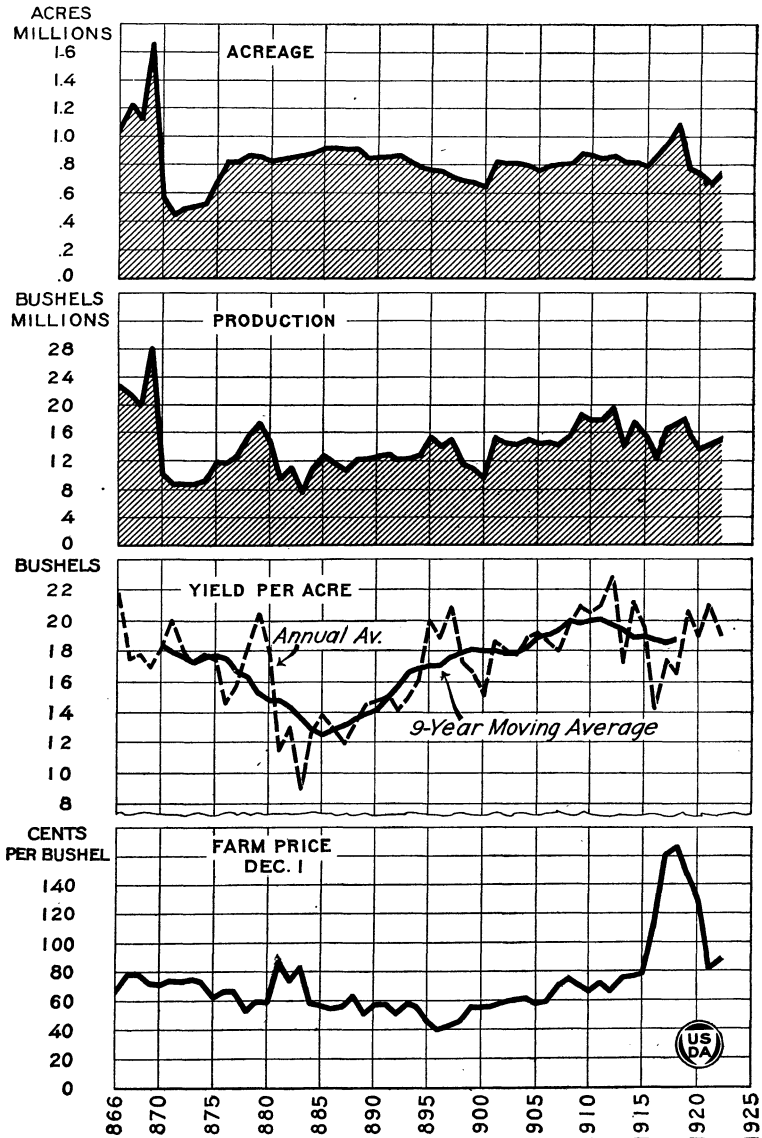


FIG. 58.—Since about 1876, fluctuations in buckwheat acreage have been slight. Production has fluctuated somewhat more widely, owing to seasonal conditions, but the general trend has been upward since 1883. Average acre yield increased rather steadily from 1885 until 1912. Price trend was downward until 1896, and then upward steadily to 1915, then rapidly upward to 1918, after which it fell rapidly.

1896, and the maximum was 86.5 cents in 1881. In 1916 the bushel price rose to about $1.13 and in the next year to $1.60. The highest price recorded during this war period was $1.67, in 1918, after which time the prices rapidly fell to the comparatively low price of 81.2 cents on December 1, 1921. In 1922 the price on this date was 88.5 cents.

Historical Development of Production in the United States.

Buckwheat was brought from Europe to the United States by the early settlers. The Dutch colonists who had settled along the Hudson River, according to early records of the colony, sent samples of buckwheat back to Holland, along with grain of other crops, after the harvest of 1625. Buckwheat does not appear to have been an important crop in the early colonial days. Corn, wheat, and rye were largely depended upon for food, while buckwheat is not often mentioned. The production of this crop, however, increased with the growth of the country, for 7,291,743 bushels of buckwheat are reported in the first agricultural census in 1840. The historical development of buckwheat production, as shown by census reports each 20 years following 1839, is given in discussions in connection with the production maps (Figs. 59–61).

Buckwheat growing always has been confined to the northeastern quarter of the United States, and the center of production always has been in New York, Pennsylvania, and northern New Jersey, with some overlapping into eastern Ohio. The economic significance of the crop is that it can be grown on soil not satisfactory for wheat and that buckwheat carries the production of a bread grain a little farther into otherwise unproductive areas. It also is a crop that has been used on newly cleared land and land just being brought under cultivation, and is widely used as a honey plant.

Factors Influencing Buckwheat Production.

Buckwheat in general is the best grain crop for poor, thin land. Its natural and favorite environment is "back in the hills." On land where wheat or even rye can not be grown with profit buckwheat often is able to produce a profitable yield. The climatic conditions, however, must be favorable.

On acid soils, which are quite common in the Northeastern States, buckwheat does well. It does not require large supplies of lime in the soil, although lime is taken up largely by the plant.

Buckwheat is a suitable crop for growing on new land. Land just cleared of timber or drained marshland containing much decaying vegetable matter will produce good yields of this grain.

Buckwheat serves to make even very hard land mellow and friable. Consequently it is a good crop to use in preparation for such crops as potatoes.

Low-grade fertilizers may be used to advantage in the growing of buckwheat, as it can make use of relatively insoluble materials to better advantage than the other cereals.

As it has a short growing period, buckwheat can be grown on land where fall-sown crops have winterkilled or spring-sown crops, such as corn, have failed to make a stand. It

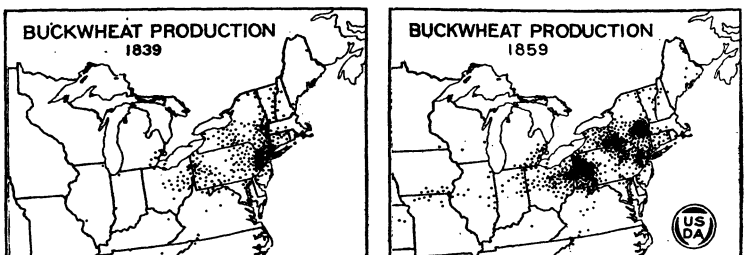
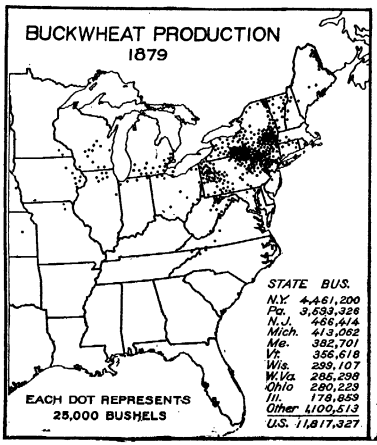


FIG. 59.—In 1839 the production of buckwheat centered in southeastern New York, eastern Pennsylvania, and northwestern New Jersey. About 60 per cent of the total crop of the United States was produced by New York and Pennsylvania, and this is not far from the proportion that they produce at the present time. New Jersey was third in production, followed by Ohio and Connecticut. Twenty years later, in 1859, three distinct areas of large production had developed, one in east-central New York, one in south-central New York and north-central Pennsylvania, and the third in western Pennsylvania and eastern Ohio. The former most important center in New York, Pennsylvania, and New Jersey had decreased greatly in importance. The production of buckwheat had extended westward in Ohio and developed somewhat in Michigan, Indiana, Illinois, Iowa, and Missouri.



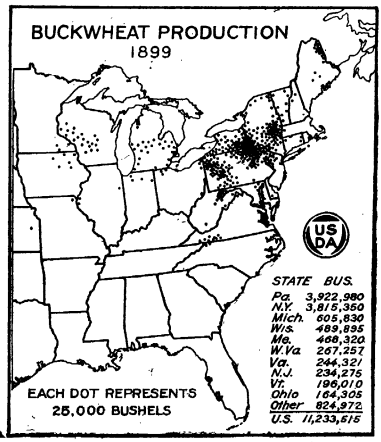


FIG. 60.—The most important change shown in 1879 was the decrease that had taken place in the western Pennsylvania and eastern Ohio area. Ohio had dropped from about 2⅓ million bushels to about 280 thousand bushels in production, or from third to ninth in State rank. The acreage in New Jersey was reduced to about one-half. The two centers in New York and Pennsylvania retained their importance. The States in the Corn Belt had reduced production, but there was some increase in Wisconsin. At the end of another 20 years, in 1899, not much change had taken place. The total production of buckwheat was somewhat less than in 1879. The area in east-central New York had decreased in production. The area in south-central New York and north-central Pennsylvania was the most important.

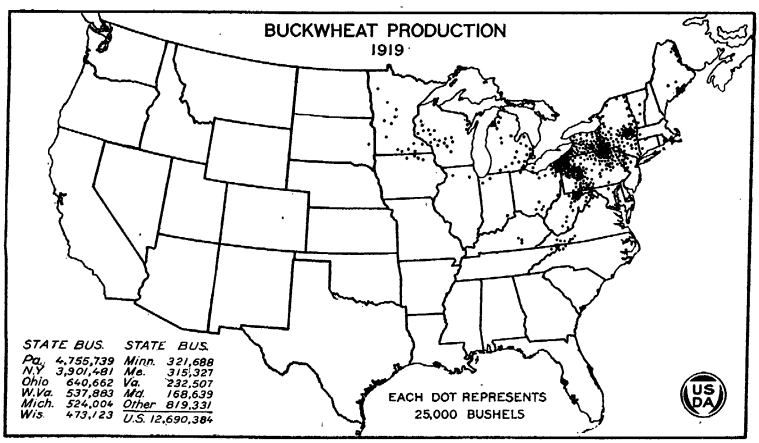


FIG. 61.—The buckwheat map for 1919 shows an increased production in northwestern Pennsylvania and southwestern New York and in northeastern Ohio. New Jersey has still further reduced production, while some increases have taken place in the mountainous sections of West Virginia and Maryland. The total production in this year was less than it had been 50 years before, due principally to decreased acreage.

also can be used where the land can not be worked until late, or where other crops have been drowned out by late spring floods.

Buckwheat can be used to enlarge farm activities. After other crops that must be sown early are all sown there often is time to prepare land and sow buckwheat. On account of the short growing season it may be sown later than any other grain crop. Where it is so used it often may be advisable to sow it even on rich land which otherwise could be used more profitably for other crops.

Climatic requirements.—Buckwheat in general is less critical as to soil conditions and more critical as to climatic conditions than the other grain crops. From north to south it becomes more and more a crop only for the higher elevations, for it requires cool and moist weather, especially at blooming time. It is very sensitive to cold, being quickly killed by freezing temperatures, but fills best when the weather is cool. On account of its short growing season and the small amount of heat required for the total development of the crop, it is grown far north and at high altitudes. Unfavorable weather conditions at blooming time may reduce the yield or even destroy the crop altogether.

Fungous diseases and insects.—Buckwheat has no fungous or insect enemies of importance.

Trade Movement of Buckwheat.

Very little of the buckwheat produced is consumed unmilled on the farms where grown. However, buckwheat does not enter largely into interstate or foreign commerce, as most of the crop is milled in or near the locality where it is grown. Our exports and imports are not large and usually about balance each other, although they vary considerably from year to year. Our exports usually have been less than a half million bushels annually in recent years.

Buckwheat Foods and Feeding.

Buckwheat is grown for use as a food. It has a distinctive flavor, and in composition resembles corn more than it does wheat. The present use of buckwheat flour is chiefly for making pancakes, but in earlier times it was commonly used

for buckwheat shortcake or shortbread, a dish still known in some parts of the country. Groats or grits are made from buckwheat, though known only in a limited way in the United States. Buckwheat farina also is manufactured. Buckwheat is well known in northern Europe and Asia as a food grain.

The by-products of buckwheat milling are hulls, so-called bran, and middlings. The hulls are hard and woody and have little food value. The middlings are nearly free from hulls and make a very acceptable feed. The so-called "buckwheat bran" is really a mixture of middlings and hulls. Buckwheat is used as an ingredient of poultry scratch feeds.

Buckwheat fills a very insignificant place in the feeding of farm live stock. It is not very desirable as a whole grain on account of the small size of the kernel, the thickness of the hulls, and their indigestibility. It lacks the palatability of corn and barley. Only the lower grades are used for live stock on farms in the Northeast where it is grown, as the best grades are sent to the mills. The by-products from the mills are fed principally to hogs and cattle. The value of the by-products depends largely upon the percentage of hulls. Middlings low in hull content are a valuable feed for dairy cattle, being high in protein, carbohydrates, and fat. Buckwheat should be ground or crushed for all classes of live stock.

Costs of Production.

Oats, Barley, and Rye.

It has been said that the difference in cost of producing the various small grains on the ordinary farm is too small to have any influence on the farmer's choice of which grain to include in his rotation. Although this is not necessarily true, it undoubtedly is a fact that the farmer's decision is affected more by the variations in income and other differences between these crops than he is by the relative cost. Oats, barley, and rye all require the same machinery, and usually may be produced and harvested by the same methods. Under these conditions the costs are bound to be much the

same, of course, excepting for difference in seed cost and in those factors that are affected by variations in yield (Fig. 62). These grains, however, do differ greatly in the quality of soil and care they need in order to produce profitable yields, and it is by taking advantage of these characteristics that the farmer may bring about significant cost variations.

REGIONAL VARIATION IN COST OF PRODUCTION.

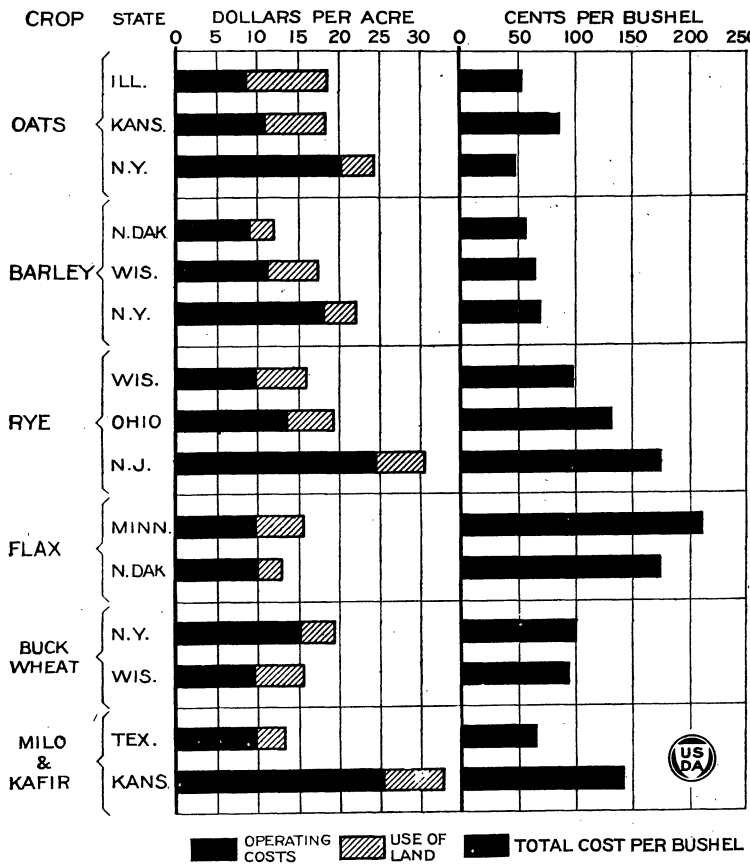


FIG. 62.—When comparing the cost of different crops, it is very important to state the basis on which the comparison is made. The above chart, for instance, shows that the cost of oats is the highest for New York on the acre basis but that Kansas is the high State when compared on the bushel basis. Furthermore, the acre cost of flax is lower than that of the other crops here shown while the bushel cost is highest.

The oat crop is able to adapt itself to a wide range of conditions. In some sections oats generally are grown on plowed land, but in others, like the Corn Belt, it is the common practice to disk them in on corn stubble, thus saving time and reducing the operating cost. Records show, for instance, that in Illinois only about 11 per cent of the crop was grown on plowed land, while in North Dakota the figure is 92 per cent.

Barley requires a better prepared seed bed than the other grains in order to produce a profitable yield. In most sections this means that the ground has to be plowed, with perhaps considerable disking and harrowing in addition, all of which increases the cost of production. Average figures for cost of producing barley should be carefully interpreted, however, because of the fact that it so often is used as a nurse crop. Under such conditions barley fields may be charged with certain operations like rolling and packing which would not be performed were barley sown alone. Furthermore, records for about 75 farms in Wisconsin on which 43 per cent of the barley area was seeded to grass showed that one-fourth of a bushel less seed was sown per acre when used as a nurse crop, which would tend to lower the cost of production.

Rye, like other grains, does best on rich soil, but because of its ability to produce more profitable yields than the other grains on the poorer soil it usually is relegated to sandy, low-priced land. It is a fall-sown grain and often is sown on corn and potato land, with very little seed-bed preparation other than disking or harrowing. Other things being equal, these facts would tend to reduce production costs and give rye a place in the cropping system on many farms.

Comparing all of the three crops from the standpoint of field preparation, we find that in Minnesota, where all these crops are extensively grown, 87 per cent of the barley, 75 per cent of the oat, and 50 per cent of the rye crop was produced on land that had been plowed. The same records show also that while 4.7 hours of labor were required by barley previous to harvest, rye received only 2.8 hours, which may mean a considerable saving when time is limited and wages are high. Although there are other factors that may

enter in to increase the cost of one of these crops over the others, it generally will be found that the total cost per acre for these three grains is lowest for rye and highest for barley in any given region.

Rice.

In 1920 an investigation was made of the cost of producing rice in the three States of Texas, Louisiana, and Arkansas. The average results from 92 of the farms visited are given in Table 5. For the purpose of this analysis the costs have been separated into labor, power, materials, threshing, water, miscellaneous, and the cost of land.

Labor.—Labor is the most expensive single factor in rice production, representing about 40 per cent of the operating costs and about 33 per cent of the total cost. The cost of labor naturally varies considerably from farm to farm, but the averages for the three districts agree very closely. The hours of labor per acre were about 41, 35, and 43 for Arkansas, Louisiana, and Texas, respectively.

Power.—The tractor is more universally used in rice production than for any other crop, and for all districts it made up about one-third of the total power charges. The other two-thirds of the power cost was horse and mule labor, which averages about 41 hours per acre for each of the three sections. The combined cost of horses and tractors was about one-fifth of the total cost of production.

TABLE 5.—*Cost per acre of different items entering into rice production and total cost per acre in Arkansas, Louisiana, and Texas for the 1920 crop.*

State.	Number of farms.	Labor.	Power.		Materials.	Thrashing.	Water.		Miscellaneous.	Use of land.	Total.
			Horse.	Tractor.			Cost of water bought.	Farm pumped water.			
Arkansas	36	$21.61	$13.55	$8.33	$11.52	$2.63	.....	$18.18	$12.44	$12.01	$100.27
Louisiana	29	19.82	12.15	7.13	12.66	1.36	$0.36	15.09	10.41	9.85	88.83
Texas	27	19.09	10.20	7.07	11.58	2.86	4.97	7.79	8.50	5.97	78.03
Total or average	92	20.34	12.16	7.60	11.88	2.31	1.55	14.24	10.68	9.62	90.38

Materials.—This group includes the cost of fertilizers, seed, twine, and sacks. Of these, seed is the most important, amounting to about $8 per acre or 9 per cent of the total cost. None of the other items is of outstanding importance, excepting perhaps sacks, which averaged about $2.20 an acre in all sections.

Water costs.—Rice requires a large supply of water during certain periods and, consequently, water becomes a very important item in the cost of producing this crop. In Arkansas, where all of the farmers here included pumped all of the water, the average cost is $18.18, while in Texas, where many bought either a part or all of the water used in irrigation, the average charge per acre amounts to $12.76.

Miscellaneous.—In farm production there usually are a great many minor expenses that must be charged to the various productive enterprises. Some of these are true overhead charges, while others are direct charges but too small to be shown separately in general tables. Under "Miscellaneous" in Table 5 are included items like machinery, taxes, insurance, telephone, charge for buildings, etc. The largest item in this group is the cost of machinery, amounting to about $4 per acre, while the second most important item is the cost of buildings, which is about $3 per acre.

Grain Sorghums.

Unlike the small grains, grain sorghum is planted in widely spaced rows and cultivated. From the standpoint of labor, therefore, it is one of the intensive crops, comparing favorably with corn. The costs per acre and per ton for two districts, one in Texas and one in Kansas, are shown in Figure 62. In the two districts studied the practices are very different, with the result that there are large variations in costs. The two principal factors causing these differences are manure and labor. In Texas no manure was used, while in Kansas it was applied at the rate of about 5 tons per acre and was valued at $1.50 per ton, which accounts for $7.50 of the difference.

The labor records give 16.4 man-hours and 38.3 horse-hours for Texas and 25.2 man-hours and 42.2 horse-hours per acre for Kansas. This is due mostly to the fact that

in Texas the crop was harvested by cutting the heads from the standing stalks and generally was sold in the head. In Kansas, where the stalks are largely used for feed, the crop was cut with a corn binder and shocked. Later it was headed and thrashed, with only a small percentage fed as fodder. The result is that the harvest required only 6.7 man-hours in Texas compared with 12.9 in Kansas. The other costs, such as seed, twine, machinery, etc., also are small items in themselves but make up a total cost of about $3.50 for Texas and $6 for Kansas.

Seed Flax.

Flax costs per acre are quite comparable to those of other grain crops (Fig. 62). A very large percentage of this crop, however, is grown on sod or on newly broken virgin land requiring a great deal of disking and harrowing for seed-bed preparation, which adds greatly to the cost. Comparable records for Minnesota show that flax received on an average 6.1 hours of man labor prior to harvest, while only 4.2 hours were spent on oats. Similar figures for North Dakota are 3.3 for flax and 2.9 for oats. Flax, as a rule, is cut with a binder without being tied into bundles. This saves the cost of twine, but the chief reason for the practice is that flax dries out too slowly when bound in sheaves and thus delays thrashing. Flax generally is thrashed out of the gavel.

In general, it may be said that flax is grown only in the highly specialized grain sections and hence is produced with the most modern grain machinery. This tends to reduce the cost of labor and power to the minimum. In North Dakota the cost of man and horse labor amounted to $4.76 and in Minnesota to $5.56 per acre. Charges other than for labor are about as follows: Seed, $1 to $1.50; machinery, $0.50 to $1; and overhead, $0.50 to $1; while thrashing, of course, varies directly with the yield, and land use with the value of the land on which it is grown and the interest and tax rates of the community. For North Dakota the cost of threshing flax in 1921 was $3.78, while the average charge for land was $3.88.

Buckwheat.

Buckwheat often is spoken of as an "emergency" crop, because it so frequently is sown on land intended for other crops but which could not be sown, due to late spring, wet weather, or other causes. Because of this fact it very often is charged with the labor spent on the fields in preparing them for other crops. In general, however, this may be entirely legitimate, for buckwheat requires a well-prepared seed bed and consequently is benefited by whatever work is done prior to sowing.

In Pennsylvania and New York (Fig. 61), where most of the crop is grown, about 12 man-hours are 28 horse-hours are put on buckwheat before harvest, which is a very much higher charge than is common for other grains. The material charges consist of seed, usually sown at the rate of 1 bushel per acre, and twine, of which about 2 pounds are required by the average crop when cut with a binder. On many of the hilly farms in the East buckwheat is cut with a cradle, however, and bound by hand, and hence no twine is used. The other costs, consisting of mahinery, thrashing, overhead, etc., generally run from $2 to $2.50 per acre.

Estimating Costs.

Costs expressed in dollars and cents fluctuate from year to year with changes in the price of those items entering into production. Such figures, therefore, become quickly obsolete and of little value for many of the purposes for which the data were originally collected. This, together with the fact that farmers as well as students often are interested in forecasting costs for the year, makes it necessary to compute costs. Such computations may be worked out in several different ways, but Table 6 illustrates one method that is used commonly because it overcomes the difficulty of determining separately the cost of overhead, machinery, etc.

For this method three types of information are necessary: First, figures for the quantity of labor, power, and materials used; second, the price or cost rate at which these items should be charged; and, third, the relation of the combined total of labor and material to the total operating cost. Whenever the farmer is computing his own crop costs he

should use the hours of labor and quantities of material for his own farm whenever available; while in working up average costs, it is necessary, of course, to apply the proper rates to average standard requirements as determined by cost-accounting research.

TABLE 6.—*Example for computing the cost of producing grains, based on the estimated cost of producing oats in Wisconsin in 1922.*

Item of cost.	Average costs for 1922.				Your farm 1922.			Your farm 1923.		
	Unit.	Amount used.	Rates used.	Cost per acre.	Amount.	Price.	Cost.	Amount.	Price.	Cost.
Man labor:			*Cents*							
Before harvest	Hr.	6	25.0	$1.50						
In harvest and after	Hr.	9	[1]25.0	2.25						
Horse labor	Hr.	24	15.0	3.60						
Seed	Bu.	2.2	60.0	1.32						
Twine	Lb.	2.5	14.0	.35						
Coal for thrashing	Lb.	48	0.5	.24						
Total labor and material cost (70 per cent of total)				9.26						
Total operating cost (100 per cent)				13.23						
Interest on land (5 per cent on $90 per acre)				4.50						
Total cost				17.73						
Value of straw (0.8 ton, at $5)				4.00						
Net cost per acre				13.73						
Cost per bushel (yield 40 bushels				.34						

[1] Different rates may be used for harvest labor, if so desired.

Crop Position and Cropping System.

The position of 11 crops in American agriculture is shown in Figure 63. These crops are the four great staples, corn, wheat, hay, and cotton; and the seven crops under discussion in this article, namely, oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat. The place of these crops in the rotation or cropping systems of the country is discussed briefly at the end of the article. The percentage

of cropped land in any given State or county which is devoted to any one crop at any one time depends on all the factors affecting all the crops grown there. The acreage of grain crops depends upon that of other crops. All the principal crops of the country are included in the chart (Fig. 63). This chart shows the percentage of the reported crop acreage occupied by each of these crops at each of the last five census periods, namely, 1879, 1889, 1899, 1909, and 1919. These five censuses cover a 40-year period.

To save space the States are grouped in this chart in so far as possible in such a manner as to bring together those having marked similarity in their agriculture. The most striking feature of the chart is the steadiness with which most of the crops have held their place in the farming of the various agricultural areas.

Position of Eleven Crops in American Agriculture.

Corn.—The only material change in the position of the corn crop is seen in the States of the Great Plains area. The decrease in percentage corn acreage in these States, except for 1919, is not due to decrease in actual acreage of corn but rather to a disproportionate increase in wheat acreage. This has resulted from the settlement of the drier western portions of these States, where wheat is well adapted but corn is replaced by grain sorghums. In 1919 there was an absolute decrease in corn acreage in this region, corresponding to the enormous increase in wheat area. But this latter phenomenon was temporary, and in 1920 both crops returned to approximately a normal acreage. In other parts of the country corn has held its relative position almost unchanged for nearly half a century.

Wheat.—The chart shows that wheat is the most variable in percentage acreage of any of the major crops. The price of wheat is dependent on world conditions. The crop is largely grown with limited rainfall, which causes great variation in production. The possibilities of production also are greater than the present world need. Overproduction and underproduction of wheat, therefore, are not infrequent, with resulting marked price variations, which in turn leads to variability of wheat acreage.

PERCENTAGE OF TOTAL CROP AREA OCCUPIED BY EACH CROP.

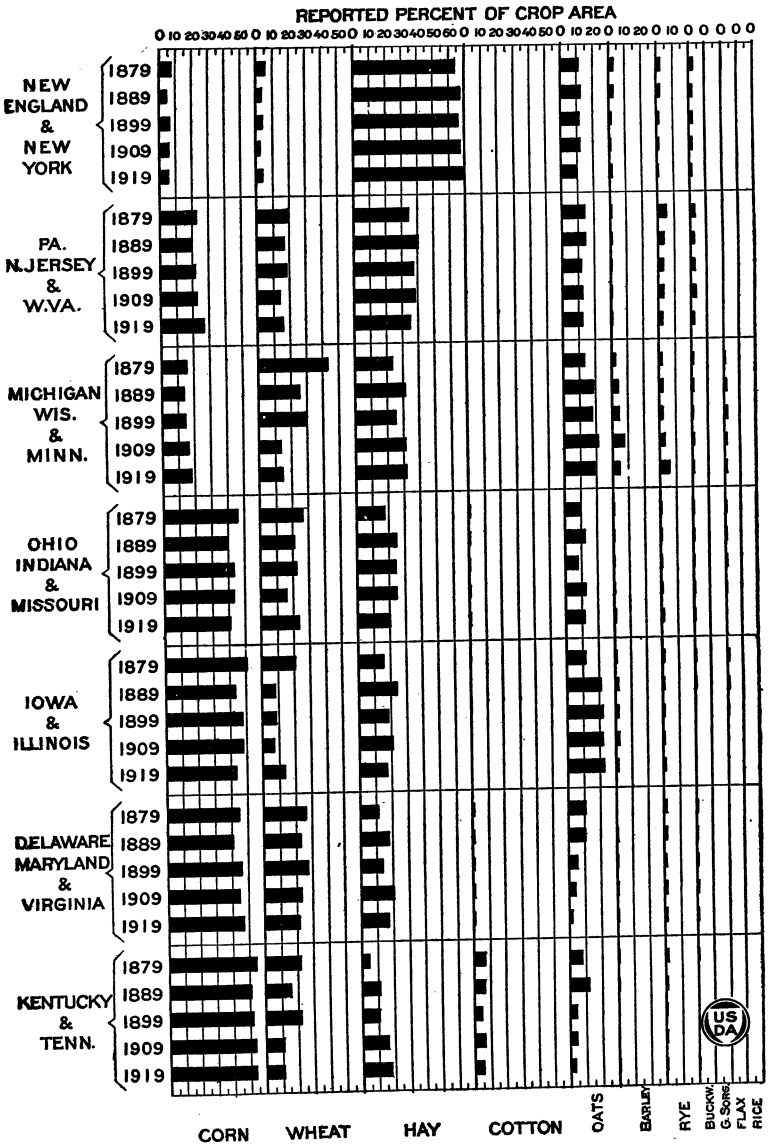


FIG. 63A.—Percentage of total crop area occupied by each of 11 crops, corn, wheat, hay, cotton, oats, barley, rye, buckwheat, grain sorghums, flax, and rice, in the years 1879, 1889, 1899, 1909, and 1919, in each of several groups of States having similar agricultural practices, and together comprising the entire United States. An increasing or decreasing percentage of acreage of any crop means a change in its relative importance but does not necessarily mean increasing or decreasing actual acreage.

PERCENTAGE OF TOTAL CROP AREA OCCUPIED BY EACH CROP.

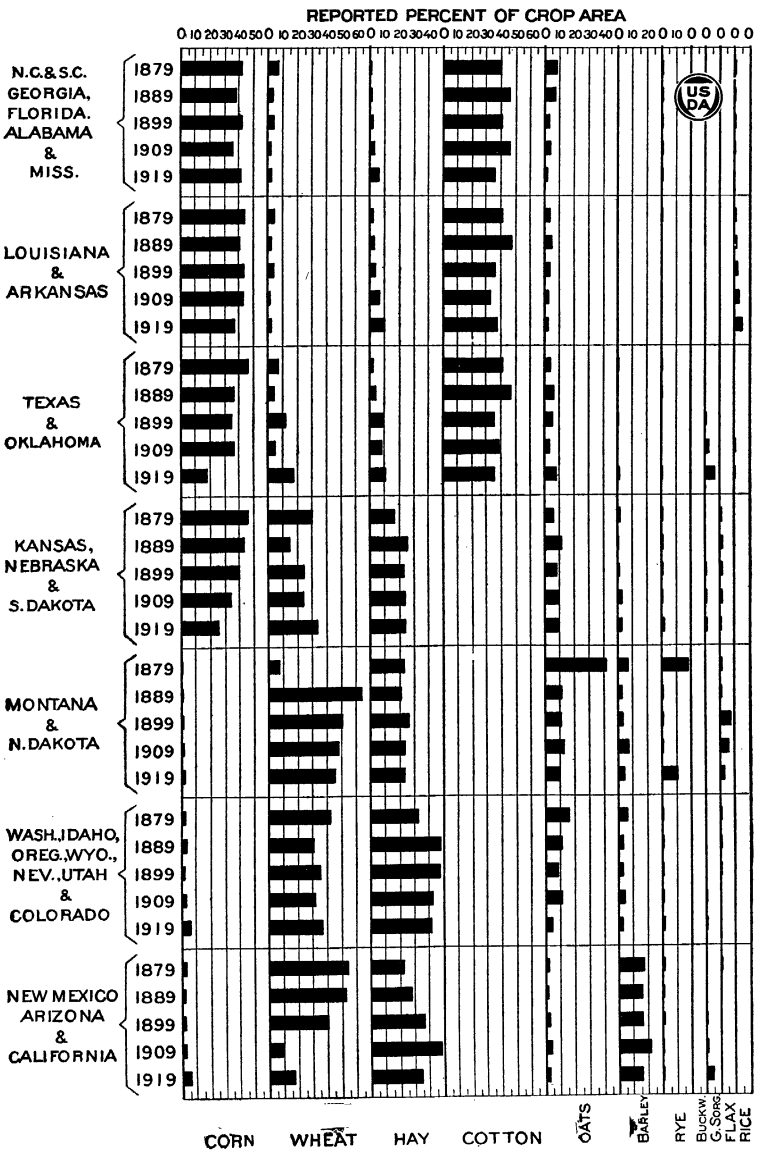


FIG. 63B.—Of particular interest in the above graph is the stability of the system of farming in New England and New York, in the Corn Belt, and in many other parts of the country, as indicated by the relative acreage of the several crops. In other areas changes have taken place; for instance, the decline in the relative importance of wheat in the Lake States and in California, and the small but steady increase in hay acreage throughout the South.

Hay.—The hay crop (Fig. 63) shows consistent increase in relative acreage in two general regions. One is the South, where the acreage of this crop is small, and where production is not sufficient to meet local requirements. The other is in the far Southwest, where hay, wheat, and barley are leading crops. The increase in the latter region has been at the expense of wheat acreage. Elsewhere the percentage area of hay has changed little in 40 years.

Cotton.—The percentage area of cotton is increasing in the far Southwest. It is decreasing along the southern edge of the central and eastern portions of the Cotton Belt, but this decrease is masked in Figure 63 by a corresponding increase in the northern portion of this region.

Oats.—The oat crop (see Figs. 3–11) is by far the most important of the small-grain crops after wheat. Figure 63 shows a consistent decrease in percentage acreage of this crop in the cotton States east of Texas and in the belt of States lying just to the north of them, as also in the western Mountain States. They are increasing in relative importance in the southern part of the Great Plains area and westward to California. Figure 64 tells the story of the

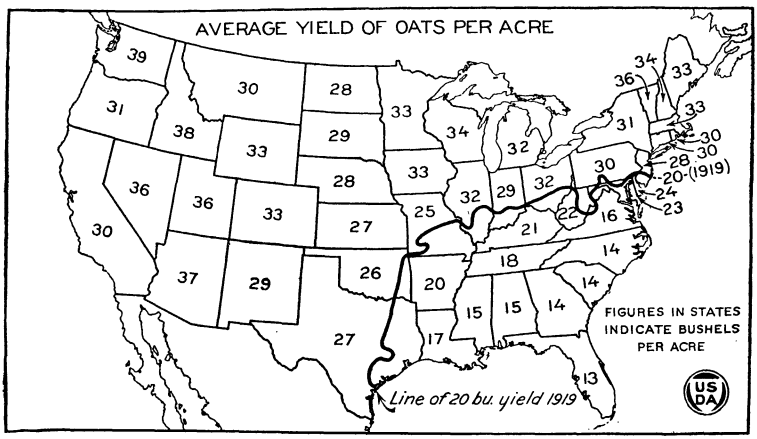


FIG. 64.—Average acre yield of oats, by States, during 50 years in most States, and 20 to 40 in some western States. The heavy line separating the southern area having an average acre yield in 1919 of less than 20 bushels from the northern and western area having an average acre yield of 20 bushels or over in the same year. The yield in several States near this line was less in 1919, however, than the 50-year average yield.

average acre-yield of oats by States for 50 years in most of the country but for only 20 to 40 years in the newer Western States. The line of 10 per cent oat acreage follows very closely the line of 20-bushel yield per acre in 1919. The small acreage of oats south of this 20-bushel line doubtless is to be attributed to the low acre-yield of this cereal in that region. North of this line oats occupy an important place in the agriculture of the region east of the Great Plains. In most of the mountain country oats are relatively unimportant. They are grown there mainly for use on the home farm, transportation to distant markets being too expensive for a cheap and bulky crop like oats. This is in spite of the fact that most of these Mountain States produce better yields and far better quality of oats than any other section of the United States.

Barley.—Figure 63 shows that barley (see Figs. 17–25) really is a major crop in the far Southwestern States. In California it is grown on a large scale for market. It is grown extensively in the Mountain States for feed. The product is too cheap to stand the high cost of transportation to distant markets. It also is important in the northern Great Plains area, mainly as a feed crop and to supply local markets. The only other section of the country where barley occupies any considerable portion of the crop land is in the northern dairy States of Michigan, Wisconsin, and Minnesota. It formerly was of some importance in New York and New England, but now has almost disappeared from the New England States, while the acreage in New York is much less than formerly.

Barley is an important substitute for corn in the feeding system along the northern edge of the Corn Belt and to the westward. It would doubtless be a more important crop if suitable varieties were available without the objectionable barbed awns which characterize most of the better varieties. Such varieties are being developed.

Our habit of measuring grain in bushels also has been disadvantageous to barley. A bushel of barley weighs 50 per cent more than a bushel of oats. If the yields of these two crops were commonly stated in pounds it would be more generally recognized that barley produces materially more

per acre than oats in most of the territory to which it is adapted.

In only a few localities does barley occupy as much as 10 per cent of the crop land. One of these is in the district surrounding the Twin Cities of Minnesota and western Wisconsin. In central California barley occupies 25 to 40 per cent of the crop area in several counties. In general, the barley region is seen to lie to the northward and westward of the important corn-growing region, although it overlaps the corn area considerably along its northern border.

Rye.—This crop formerly was of considerable importance in the northern half of the Atlantic coast region, but its percentage area is decreasing there (Fig. 63), and the crop has almost disappeared from New England and New York. In the north-central dairy States of Michigan, Wisconsin, and Minnesota rye has increased in importance consistently during the last two decades. The most remarkable change in the status of the rye crop in recent years is seen in the enormous increase in acreage in the spring-wheat area, principally in North Dakota. It is the only cereal sufficiently hardy to withstand the severe winters of that region. This fact is of importance in connection with seasonal distribution of labor. By putting part of his land in rye the farmer is able to get along with less hired labor. (See Figs 28–35.)

Rye has three characteristics which largely determine its distribution. It is the hardiest of the cereals, and hence extends farther north and west than winter wheat. It is adapted to sandy land. Finally, it is indifferent to wide variations in rainfall. This makes it a desirable crop for cold regions of deficient rainfall or with much sandy land. Its low price prevents it from being grown extensively for market where long-distance land transportation is necessary.

In general, the rye territory lies to the northward and westward of the winter-wheat area, but there is considerable overlapping of the two. Where they do overlap, wheat ordinarily is by far the more important. Rye occupies as much as 10 per cent of the crop acreage in only a few localities, the most important of these being central North Dakota and west-central Michigan.

Rice.—This formerly was an important crop on certain types of land along the south Atlantic coast, where the in-

dustry is a very old one (see Figs. 37–41). The War between the States almost destroyed rice culture in that section, but it revived again after the war to a considerable extent. However, with the development of rice culture on the level prairies of Louisiana, Texas, and Arkansas, which began in a large way in the early eighties, rice culture dwindled away in the Atlantic coast region and now occupies only a small acreage there. In the last 30 years, as Figure 73 shows, there has been a very large increase in rice acreage in Louisiana and Arkansas. More recently rice culture has appeared in California, where it has assumed considerable magnitude.

It still occupies a narrow strip along the South Atlantic coast and an extensive area along the Gulf coast in Louisiana and Texas, a strip along the Mississippi River in Louisiana, and a large district in eastern Arkansas. The California development is mainly in the Sacramento Valley.

Net exports and net imports show that we imported considerably more rice than we exported before the European war. During the war the price rose to enormous heights, and there resulted a very marked increase in production. Since 1914 we have exported much more rice than we have imported. Prices again are low, and it would be reasonable to expect a decrease in rice acreage in the near future. (See Fig. 44.)

The grain sorghums.—Kafir, milo, and related crops in the last quarter century have assumed an important place in the farming of the southern part of the Great Plains area and in the Southwest (see Fig. 46). They can be grown with relatively light rainfall as compared with corn, and this accounts for their prominence in the regions mentioned. In an important area in northwestern Texas crops of this group occupy more than 30 per cent of the crop area.

Buckwheat.—This crop is important only in the northern half of the Atlantic coast region (see Figs 58–61). It has held its place here very steadily for many years. It ripens in the shortest season of any of the grain crops and grows readily on poor land. It thus is especially adapted to higher altitudes in sections where the soil is none too good. Its greatest development is on the high lands of Pennsylvania and New York.

Flax.—This crop has had a varied history in this country (see Figs. 50–56). In the days of the old self-sufficing agriculture, preceding the advent of railroads, it was an important crop in Atlantic coast districts. As farming went westward flax followed and gradually disappeared from the East. It has now traversed the entire region from the Atlantic coast to the hard red spring wheat area (Fig. 63), which is the only section in which the crop is now important, and in that section it has decreased in acreage. According to the census of 1919, the crop was practically confined to Minnesota, central and northeastern South Dakota, North Dakota, and northeastern Montana.

Up to about 1908 we grew a surplus of flaxseed, in most years exporting considerable quantities. The price was low, and the acreage of flax decreased greatly between 1902 and 1909. The small crops of 1909 and 1910 resulted in the importation of flaxseed and a marked rise in price. In 1910 the users of linseed oil started propaganda for increased flax acreage in the Northwest. This resulted in considerable increase in area in 1911 and again in 1912. It happened also that there was a marked increase in acre yield in both these years, with the result that the crop of 1912 was more than twice as large as that of 1910. This caused prices to tumble, and they were at very low levels from 1912 to 1914, inclusive. Immediately there was a great decline in flax acreage. The acreage of 1921 was smaller than any reported acreage for 20 years. Since 1909 we have been importing large quantities of Argentine flaxseed. If flax acreage could be stabilized at a point that would still permit importations sufficient to govern prices, flax could be made an important means of diversifying agriculture in the spring-wheat States.

APPENDIX.

Prepared under the direction of the Statistical Committee: Nat C. Murray, Lewis B. Flohr, and O. A. Juve.

STATISTICS OF GRAIN CROPS, 1922.

CORN.

TABLE 1.—*Corn: Area and production in undermentioned countries.*

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922 [1]	Average, 1909–1913.	1920	1921	1922 [1]
NORTHERN HEMISPHERE.								
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada [2]	309	292	297	299	17,297	14,335	14,904	14,909
United States [2]	104,229	101,699	103,850	103,234	2,712,364	3,208,584	3,080,372	2,896,108
Mexico	11,554	.....	.....	.....	164,657	.....	[3] 71,005	[3] 61,060
Guatemala	.....	553	310	468	.....	4,062	4,344	.....
Total North American countries marked [2]	104,538	101,991	104,147	.....	2,729,661	3,222,919	3,095,276	.....
EUROPE.								
France [2]	[4] 1,155	829	814	750	[4] 22,229	15,267	10,393	.....
Spain [2]	1,134	1,168	1,178	.....	26,548	27,692	24,897	.....
Portugal	.....	734	.....	.....	15,000	11,721	.....	.....
Italy [2]	3,931	3,710	3,717	3,707	100,349	89,298	92,325	70,863
Switzerland [2]	3	6	5	4	113	280	217	185
Austria [2]	[4] 761	102	112	.....	[4] 14,536	2,122	2,456	.....
Czechoslovakia [2]	.....	376	385	395	.....	9,648	9,432	8,996
Hungary [2]	[4] 6,038	2,017	2,167	1,716	[4] 168,081	50,156	30,800	31,494
Yugoslavia [2]	.....	4,486	4,646	4,787	.....	101,136	73,788	57,400
Serbia, Croatia-Slavonia, and Bosnia-Herzegovina [2]	[4] 3,059	.....	.....	.....	[4] 62,112	.....	.....	.....
Greece [2]	[5] 273	519	494	.....	[5] 5,952	9,133	7,874	.....
Bulgaria [2]	[4] 1,544	1,407	1,418	1,552	[4] 28,219	20,851	24,172	19,802
Rumania [2]	[4] 5,143	7,595	8,510	8,411	[4] 100,620	174,553	103,228	93,810
Poland	.....	108	132	.....	.....	1,082	2,266	.....
Russia, including Ukraine and Northern Caucasia	[4] 3,923	.....	.....	.....	[4] 70,222	.....	.....	.....
Total European countries marked [2]	23,041	22,215	23,446	.....	528,759	500,136	379,582	282,550
AFRICA.								
Morocco, Western	.....	309	375	.....	.....	3,436	3,726	.....
Algeria [2]	34	22	24	19	461	254	354	276
Tunis [2]	43	25	50	.....	228	110	315	.....
Egypt [2]	1,857	1,938	2,086	.....	64,220	71,939	67,165	.....
Total African countries marked [2]	1,934	1,985	2,160	.....	64,909	72,303	67,834	.....
ASIA.								
British India [2]	6,340	6,620	6,164	.....	87,240	98,840	78,840	.....
Japanese Empire:								
Japan	130	150	.....	.....	3,637	3,947	.....	.....
Chosen	156	.....	.....	.....	2,236	.....	.....	.....
Philippines [2]	992	1,327	1,344	.....	7,446	15,690	16,734	14,645
Total Asiatic countries marked [2]	7,332	7,947	7,508	.....	94,686	114,530	95,574	.....
Total Northern Hemisphere countries marked [2]	136,845	134,138	137,261	.....	3,418,015	3,909,888	3,638,266	.....

[1] *Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.*
[2] Indicates countries reporting for all periods except 1922 either as listed or as part of some other country.
[3] Commercial source, quoting official statistics.
[4] Old boundaries.
[5] 1 year only.

CORN—Continued.

TABLE 1.—*Corn: Area and production in undermentioned countries*—Continued.

Country.	Area.				Production.			
	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22 [1]	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22 [1]
SOUTHERN HEMISPHERE.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Chile [2]	56	62	63	60	1,390	1,446	1,685	2,030
Uruguay [2]	551	495	494	.....	6,027	2,784	4,722	.....
Argentina [2]	8,128	8,184	8,090	7,344	174,502	258,686	230,423	156,056
Union of South Africa [2]	[3] 2,171	4,003	3,493	.....	[3] 32,588	44,808	[4] 47,669	[4] 34,136
Southern Rhodesia	.....	173	186	190	[5] 1,404	4,002	4,360	2,455
Java and Madura	.....	4,784	4,884	3,693	.....	61,251	.....	.....
Australia [2]	352	265	284	.....	10,264	6,764	7,259	.....
New Zealand [2]	10	9	12	10	493	406	501	483
Total Southern Hemisphere countries marked [2]	11,268	13,018	12,436	.....	225,264	314,894	292,259	.....
World total, all countries marked [2]	148,113	147,156	149,697	.....	3,643,279	4,224,782	3,930,525	.....
Total, all countries reporting	163,876	153,967	155,584	.....	3,900,435	4,314,283	4,016,226	.....

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
[2] Indicates countries reporting for all periods except 1922 either as listed or as part of some other country.
[3] 3-year average.
[4] Commercial source, quoting official statistics.
[5] 1 year only.

TABLE 2.—*Corn: World production so far as reported, 1895–1921.*

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
	Bushels.		*Bushels.*		*Bushels.*		*Bushels.*
1895	2,834,750,000	1902	3,187,311,000	1909	3,563,226,000	1916	3,309,818,000
1896	2,964,435,000	1903	3,066,506,000	1910	4,031,630,000	1917	3,540,863,000
1897	2,587,206,000	1904	3,109,252,000	1911	3,481,007,000	1918	3,129,473,000
1898	2,682,619,000	1905	3,461,181,000	1912	4,371,888,000	1919	3,649,815,000
1899	2,724,100,000	1906	3,963,645,000	1913	3,587,429,000	1920	4,314,283,000
1900	2,792,561,000	1907	3,420,321,000	1914	3,777,913,000	1921	4,016,226,000
1901	2,366,883,000	1908	3,606,931,000	1915	4,231,780,000		

TABLE 3.—*Corn: Average yield per acre in undermentioned countries, 1890–1922.*

Year.	United States.	Russia (European). [1]	Italy.	Austria.	Hungary (proper).	France.	Argentina.
Average:	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1890–1899	24.5	13.6	15.3	19.5	23.0	19.1	.....
1900–1909	25.8	13.9	21.4	18.9	22.2	18.9	26.6
1910–1919	26.2	[2] 16.7	24.7	21.0	[3] 28.0	17.8	19.2
1919	28.9	.....	23.1	20.3	.....	15.9	24.5
1920	31.5	.....	24.1	20.8	24.9	18.4	31.6
1921	29.7	.....	24.8	21.9	14.2	12.8	28.5
1922	28.1	.....	19.1	.....	18.4	.....	21.2

[1] Excludes Poland. [2] 7-year average. [3] 6-year average.

CORN—Continued.

TABLE 4.—*Corn: Acreage, production, value, exports, etc., in the United States, 1849–1922.*

NOTE.—Figures in *italics* are census returns; figures in roman are estimates of the Department of Agriculture. Estimates of acres are obtained by applying estimated percentages of increase or decrease to the published acreage of the preceding year, except that a revised base is used for applying percentage estimates whenever new census data are available. Acreages have been revised for years 1890–1908, so as to be consistent with the following as well as the preceding census acreage, and total production and farm values are adjusted accordingly.

Year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1,	Chicago cash price per bushel, contract.[1]				Domestic exports, including corn meal, fiscal year beginning July 1.	Imports during fiscal year beginning July 1.	Per cent of crop exported.
						December.		Following May				
						Low.	High.	Low.	High.			
	1,000 acres.	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*	*Bushels.*	*P. ct.*
1849	.....	.....	*592,071*	.....	.....	....	....	....	....	7,632,860	.....	1.3
1859	.....	.....	*838,793*	.....	.....	....	....	....	....	4,248,991	49,190	.5
1866–1875	37,216	26.1	969,948	46.9	454,535	46	55	50	59	24,242,396	66,076	2.5
1876–1885	61,671	25.4	1,564,992	39.5	617,780	42	48	44	49	69,091,110	33,334	4.4
1886–1895	74,274	23.8	1,769,616	36.7	648,785	38	43	40	51	59,293,085	11,445	3.4
1896	86,560	28.9	2,503,484	21.3	532,884	22½	23¾	23	25½	178,817,417	6,284	7.1
1897	88,127	24.3	2,144,553	26.0	558,309	25	27½	32⅜	37	212,055,543	3,417	9.9
1898	88,304	25.6	2,261,119	28.4	642,747	33⅛	38	32½	34⅜	177,255,046	4,171	7.8
1899	*94,914*	25.9	2,454,628	29.9	734,916	30	31½	36	40½	213,123,412	2,480	8.7
1900	95,042	26.4	2,505,148	35.1	878,243	35¼	40½	42⅝	58½	181,405,473	5,169	7.2
1901	94,636	17.0	1,613,528	60.1	969,285	62½	67½	59⅛	64¾	28,028,688	18,278	1.7
1902	95,517	27.4	2,619,499	40.1	1,049,791	43¾	57¼	44	46	76,639,261	40,919	2.9
1903	90,661	25.9	2,346,897	42.1	987,882	41	43¾	47¼	50	58,222,061	16,633	2.5
1904	93,340	27.1	2,528,662	43.7	1,105,690	43½	49	48	64½	90,293,483	15,443	3.6
1905	93,573	29.4	2,748,949	40.8	1,120,513	42	50¼	47½	50	119,893,833	10,127	4.4
1906	93,643	30.9	2,897,662	39.3	1,138,053	40	46	49½	56	86,368,228	10,818	3.0
1907	94,971	26.5	2,512,065	50.9	1,277,607	57½	61½	67¾	82	55,063,860	20,312	2.2
1908	95,603	26.6	2,544,957	60.0	1,527,679	56¾	62¼	72¼	76	37,665,040	258,065	1.5
1909	*98,383*	26.1	2,572,336	58.6	1,507,185	62½	66	56	63	38,128,498	.....	1.5
1910[2]	104,035	27.7	2,886,260	48.0	1,384,817	45½	50	52¼	55¼	65,614,522	.....	2.3
1911	105,825	23.9	2,531,488	61.8	1,565,258	68	70	76¼	82½	41,797,291	53,425	1.7
1912	107,083	29.2	3,124,746	48.7	1,520,454	47½	54	55¼	60	50,780,143	903,062	1.6
1913	105,820	23.1	2,446,988	69.1	1,692,092	64	73¾	67	72½	10,725,819	12,367,369	.4
1914	103,435	25.8	2,672,804	64.4	1,722,070	62¼	68¼	50½	56	50,668,303	9,897,939	1.9
1915	106,197	28.2	2,994,793	57.5	1,722,680	69½	75	69	78½	39,896,928	5,208,497	1.3
1916	105,296	24.4	2,566,927	88.9	2,280,729	88	96	152	174	66,753,294	2,267,299	2.6
1917	116,730	26.3	3,065,233	127.9	3,920,228	160	190	150	170	49,073,263	3,196,420	1.6
1918	104,467	24.0	2,502,665	136.5	3,416,240	135	155	160½	185	23,018,822	3,311,211	.9
1919	97,170	28.9	2,811,302	134.5	3,780,597	142	160	189	217	16,728,746	10,229,249	.6
1920[2]	101,699	31.5	3,208,584	67.0	2,150,332	70¼	86	59	66	70,905,781	5,743,384	2.2
1921	103,740	29.6	3,068,569	42.3	1,297,213	46¾	51½	59½	65	179,514,442	124,591	5.9
1922[3]	102,428	28.2	2,890,712	65.7	1,900,287	65⅞	68¼	....	....	.....	.....	.....

[1] No. 2 to 1908. [2] Acreage adjusted to census basis. [3] Preliminary estimate.

CORN—Continued.

TABLE 5.—*Corn: Acreage, production, and total farm value, by States, 1920–1922.*

State.	Thousands of acres.			Production (thousands of bushels).			Total value, basis Dec. 1 price (thousands of dollars).		
	1920	1921	1922 [1]	1920	1921	1922 [1]	1920	1921	1922 [1]
Maine	29	30	32	1,305	1,500	1,312	1,670	1,155	1,312
New Hampshire	24	24	24	1,080	1,272	1,032	1,566	954	774
Vermont	81	81	82	3,807	4,455	3,444	4,797	3,386	3,134
Massachusetts	64	65	65	2,560	3,120	2,600	3,200	2,402	2,444
Rhode Island	14	14	14	560	644	560	1,008	708	672
Connecticut	74	74	77	2,960	3,848	3,465	4,144	3,463	3,326
New York	767	798	798	30,680	36,708	28,329	35,589	24,594	23,513
New Jersey	236	241	236	10,384	11,327	9,912	8,826	6,003	6,938
Pennsylvania	1,556	1,589	1,573	70,020	76,272	69,212	70,020	41,950	49,833
Delaware	173	185	185	6,488	6,845	5,439	4,866	3,080	3,807
Maryland	650	645	635	25,025	25,155	25,400	20,270	12,326	17,272
Virginia	1,884	1,904	1,904	56,520	47,600	53,312	56,520	32,844	42,116
West Virginia	600	592	604	20,400	20,128	20,536	23,664	15,096	17,250
North Carolina	2,428	2,552	2,526	54,630	49,254	50,520	61,732	38,418	44,963
South Carolina	1,830	2,022	2,062	34,770	32,352	29,899	40,333	23,940	26,012
Georgia	4,393	4,665	4,385	65,895	69,975	52,620	69,190	37,087	45,253
Florida	750	788	750	10,125	11,032	10,500	10,125	5,847	7,350
Ohio	3,965	3,785	3,823	172,081	155,185	149,097	117,015	63,626	98,404
Indiana	4,834	4,718	4,765	195,777	169,848	176,305	115,508	62,844	98,731
Illinois	9,079	8,999	8,819	314,133	305,966	313,074	185,338	116,267	187,844
Michigan	1,706	1,703	1,720	66,534	66,417	60,716	54,558	31,880	40,680
Wisconsin	2,067	2,110	2,209	89,294	97,482	98,300	68,756	44,842	61,929
Minnesota	3,288	3,820	3,979	123,300	156,620	131,307	62,883	48,552	73,532
Iowa	10,300	10,250	10,123	473,800	430,500	455,535	222,686	129,150	255,100
Missouri	6,646	6,096	6,150	212,672	182,880	175,275	136,110	73,152	119,187
North Dakota	569	620	680	13,656	17,360	18,700	9,832	5,902	9,350
South Dakota	3,650	3,926	3,861	109,500	125,632	110,038	45,990	32,664	55,019
Nebraska	7,560	7,419	7,296	255,528	207,732	182,400	104,766	56,088	105,792
Kansas	5,007	4,358	5,098	132,686	96,748	98,391	58,382	29,992	60,019
Kentucky	3,334	3,209	3,145	101,687	82,150	88,060	83,383	45,182	60,761
Tennessee	3,511	3,516	3,280	98,308	90,713	75,440	85,528	47,171	59,598
Alabama	3,593	4,042	3,638	56,410	58,609	50,932	55,282	36,338	45,839
Mississippi	2,770	3,172	2,918	44,320	57,096	51,065	45,206	31,974	43,405
Louisiana	1,569	1,796	1,706	30,125	35,022	29,002	25,606	22,764	24,072
Texas	5,487	6,227	5,729	142,662	156,920	114,580	119,836	84,737	95,101
Oklahoma	2,820	3,077	3,200	78,960	76,925	57,600	42,638	24,616	40,320
Arkansas	2,330	2,640	2,350	54,522	58,080	45,825	52,886	33,106	38,951
Montana	184	190	219	2,226	3,800	5,475	1,781	2,546	2,902
Wyoming	50	56	65	1,200	1,232	1,560	672	616	936
Colorado	1,182	1,102	1,145	24,231	15,979	18,320	16,962	4,953	12,091
New Mexico	276	290	182	5,989	6,380	2,475	6,588	5,742	2,030
Arizona	29	35	39	638	1,015	1,170	1,085	1,015	1,346
Utah	24	21	32	526	517	781	789	393	664
Nevada	1	1	1	32	29	21	51	35	22
Idaho	45	47	52	1,620	1,645	1,976	1,620	822	1,561
Washington	62	64	67	2,232	2,560	2,747	2,790	2,202	2,884
Oregon	69	66	69	2,139	1,980	2,277	2,781	1,663	2,072
California	139	116	116	4,587	4,060	4,176	5,504	3,126	4,176
United States	101,699	103,740	102,428	3,208,584	3,068,569	2,890,712	2,150,332	1,297,213	1,900,287

[1] Preliminary estimate.

CORN—Continued.

TABLE 6.—*Corn: Production and distribution in the United States, 1897–1922.*

Year.	Old stock on farms Nov. 1.	Corn.				Total supplies.	Stock on farms Mar. 1 following.	Shipped out of county where grown.
		Quantity.	Quality.	Proportion merchantable.				
	1,000 bushels.	*1,000 bushels.*	*Per cent.*	*Per cent.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1897–1901	166,809	2,195,795	83.3	85.6	2,005,697	2,362,604	823,739	424,894
1902–1906	91,662	2,628,334	88.1	82.2	2,170,417	2,719,996	1,045,965	596,400
1907	129,786	2,512,065	82.8	77.2	1,939,877	2,641,851	931,503	470,046
1908	69,251	2,544,957	86.9	88.2	2,244,571	2,614,208	999,235	565,510
1909	77,403	2,572,336	84.2	82.7	2,126,965	2,649,739	980,848	620,057
1910	113,919	2,886,260	87.2	86.4	2,492,763	3,000,179	1,165,378	661,777
1911	123,824	2,531,488	80.6	80.1	2,027,922	2,655,312	884,059	517,766
1912	64,764	3,124,746	85.5	85.0	2,654,907	3,189,510	1,290,642	680,831
1913	137,972	2,446,988	82.2	80.1	1,961,058	2,584,960	866,352	422,059
1914	80,046	2,672,804	85.1	84.5	2,259,755	2,752,850	910,894	498,285
1915	96,009	2,994,793	77.2	71.1	2,127,965	3,090,802	1,116,559	560,824
1916	87,908	2,566,927	83.8	83.9	2,154,487	2,654,835	782,303	450,589
1917	34,448	3,065,233	75.2	60.0	1,837,728	3,099,681	1,253,290	678,027
1918	114,678	2,502,665	85.6	82.4	2,062,041	2,617,343	855,269	362,589
1919	69,835	2,811,302	89.1	87.1	2,448,204	2,881,137	1,045,575	470,328
1920	139,083	3,208,584	89.6	86.9	2,789,720	3,347,667	1,564,832	705,481
1921	285,769	3,068,569	84.0	87.5	2,684,634	3,353,338	1,305,559	587,893
1922 [1]	177,287	2,890,712	85.0	88.3	2,553,290	3,067,999	1,087,412	515,236

[1] Preliminary estimate.

TABLE 7.—*Corn: Condition of crop, United States, on first of months named, 1902–1922.*

Year.	July.	Aug.	Sept.	Oct.	Year.	July.	Aug.	Sept.	Oct.	Year.	July.	Aug.	Sept.	Oct.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1902	87.5	86.5	84.3	79.6	1909	89.3	84.4	74.6	73.8	1916	82.0	75.3	71.3	71.5
1903	79.4	78.7	80.1	80.8	1910	85.4	79.3	78.2	80.3	1917	81.1	78.8	76.7	75.9
1904	86.4	87.3	84.6	83.9	1911	80.1	69.6	70.3	70.4	1918	87.1	78.5	67.4	68.6
1905	87.3	89.0	89.5	89.2	1912	81.5	80.0	82.1	82.2	1919	86.7	81.7	80.0	81.3
1906	87.5	88.0	90.2	90.1	1913	86.9	75.8	65.1	65.3	1920	84.6	86.7	86.4	89.1
1907	80.2	82.8	80.2	78.0	1914	85.8	74.8	71.7	72.9	1921	91.1	84.3	85.1	84.8
1908	82.8	82.5	79.4	77.8	1915	81.2	79.5	78.8	79.7	1922	85.1	85.6	78.6	78.4

TABLE 8.—*Corn: Forecast of production, monthly, with preliminary and final estimates, of crops of the United States.*

Year.	July.	August.	September.	October.	November production estimate.	Final estimate.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1912	2,811,000	2,811,000	2,995,000	3,016,000	3,169,137	3,124,746
1913	2,971,000	2,672,000	2,351,000	2,374,100	2,463,017	2,446,988
1914	2,916,572	2,634,214	2,598,417	2,676,270	2,705,692	2,672,804
1915	2,814,180	2,917,954	2,984,995	3,026,159	3,090,509	2,994,793
1916	2,865,932	2,777,030	2,709,532	2,717,932	2,643,508	2,566,927
1917	3,123,772	3,190,792	3,247,512	3,210,795	3,191,083	3,065,233
1918	3,159,836	2,989,351	2,671,840	2,717,775	2,749,198	2,502,665
1919	2,815,430	2,788,378	2,857,692	2,900,511	2,910,250	2,811,302
1920	2,778,903	3,003,322	3,131,349	3,216,192	3,199,126	3,208,584
1921	3,123,139	3,032,170	3,185,876	3,163,063	3,151,698	3,068,569
Average	2,937,976	2,881,621	2,873,321	2,901,880	2,927,322	2,846,261
1922	2,860,245	3,016,950	2,874,759	2,853,399	2,896,108	[1] 2,890,712

[1] Preliminary estimate.

CORN—Continued.

TABLE 9.—*Corn: Yield per acre, price per bushel December 1, and value per acre, by States.*

State.	Yield per acre (bushels).						Farm price per bushel (cents).										Value per acre (dollars).[1]	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
Maine	47.2	45.0	55.0	45.0	50.0	41.0	127	87	88	85	119	228	167	195	128	77	100	72.57	41.00
N. Hampshire	46.5	45.0	46.5	45.0	53.0	43.0	119	81	82	76	115	217	150	170	145	75	75	67.67	32.25
Vermont	45.7	38.0	46.5	47.0	55.0	42.0	121	81	81	84	110	213	170	175	126	76	91	68.57	38.22
Massachusetts	46.5	52.0	52.3	40.0	48.0	40.0	122	85	85	80	120	215	170	172	125	77	94	72.41	37.60
Rhode Island	43.0	44.0	45.0	40.0	46.0	40.0	145	99	98	100	138	236	180	186	180	110	120	76.92	48.00
Connecticut	47.4	50.0	50.0	40.0	52.0	45.0	127	85	89	85	120	215	171	180	140	90	96	77.16	43.20
New York	40.1	36.0	43.0	40.0	46.0	35.5	116	81	83	78	110	198	175	166	116	67	83	54.60	29.46
New Jersey	42.8	41.0	40.0	44.0	47.0	42.0	101	75	76	75	100	170	150	153	85	53	70	51.28	29.40
Pennsylvania	44.8	40.0	47.0	45.0	48.0	44.0	99	72	73	70	97	153	155	147	100	55	72	52.43	31.68
Delaware	33.0	31.0	30.0	37.5	37.0	29.4	88	59	62	62	89	140	136	145	75	45	70	35.61	20.58
Maryland	38.7	35.0	41.0	38.5	39.0	40.0	90	65	68	61	89	140	135	140	81	49	68	41.91	27.20
Virginia	27.8	28.0	28.0	30.0	25.0	28.0	105	76	81	71	93	153	160	169	100	69	79	36.14	22.12
West Virginia	33.4	31.0	34.0	34.0	34.0	34.0	113	80	83	74	101	170	180	164	116	75	84	45.50	28.56
North Carolina	20.4	21.0	19.0	22.5	19.3	20.0	117	88	86	77	110	170	177	185	113	78	89	29.36	17.80
South Carolina	16.5	17.0	16.0	19.0	16.0	14.5	125	97	92	87	113	192	195	197	116	74	87	27.01	12.62
Georgia	14.3	15.0	14.5	15.0	15.0	12.0	108	91	85	78	100	160	165	160	105	53	86	19.45	10.32
Florida	14.5	16.0	15.0	13.5	14.0	14.0	97	82	80	73	90	140	138	140	100	53	70	17.00	9.80
Ohio	40.5	36.0	43.0	43.4	41.0	39.0	83	63	61	56	90	136	130	121	68	41	66	39.37	25.74
Indiana	36.7	33.0	37.0	40.5	36.0	37.0	77	60	58	51	84	125	119	125	59	37	56	33.55	20.72
Illinois	35.1	35.5	36.0	34.6	34.0	35.5	78	63	61	54	84	110	120	130	59	38	60	32.91	21.30
Michigan	36.1	30.0	37.0	39.0	39.0	35.3	94	67	67	68	95	182	130	138	82	48	67	35.98	23.65
Wisconsin	43.8	40.2	45.0	43.2	46.2	44.5	89	60	65	68	92	163	130	125	77	46	63	39.78	28.04
Minnesota	38.3	40.0	40.0	37.5	41.0	33.0	73	53	52	62	80	110	111	120	51	31	56	31.45	18.48
Iowa	42.1	36.0	41.6	46.0	42.0	45.0	73	60	55	51	80	108	122	120	47	30	56	33.60	25.20
Missouri	27.5	20.0	27.0	32.0	30.0	28.5	86	74	68	57	90	114	143	138	64	40	68	27.65	19.38
North Dakota	26.3	19.0	33.0	24.0	28.0	27.5	84	52	58	67	84	151	130	140	72	34	50	22.26	13.75
South Dakota	30.6	34.0	28.5	30.0	32.0	28.5	70	56	50	49	77	120	110	119	42	26	50	25.17	14.25
Nebraska	26.1	17.7	26.2	33.8	28.0	25.0	74	65	53	47	78	120	128	122	41	27	58	21.69	14.50
Kansas	18.1	7.1	15.2	26.5	22.2	19.3	83	78	63	51	90	125	149	140	44	31	61	13.33	11.77
Kentucky	26.8	26.0	24.0	30.5	25.6	28.0	91	76	64	56	87	121	146	155	82	55	69	30.47	19.32
Tennessee	24.4	24.0	21.4	28.0	25.8	23.0	94	77	68	58	94	120	145	157	87	52	79	28.20	18.17
Alabama	14.7	14.6	14.5	15.7	14.5	14.0	102	89	80	69	102	125	148	159	98	62	90	17.81	12.60
Mississippi	16.7	17.0	15.0	16.0	18.0	17.5	100	77	73	65	98	138	151	160	102	56	85	20.87	14.88
Louisiana	17.8	16.0	17.5	19.2	19.5	17.0	100	77	75	64	94	146	161	150	85	65	83	21.46	14.11
Texas	22.2	10.0	30.0	26.0	25.2	20.0	100	82	74	58	104	167	176	118	84	54	83	21.36	16.60
Oklahoma	20.5	7.5	24.0	28.0	25.0	18.0	87	72	64	46	93	147	164	127	54	32	70	15.68	12.60
Arkansas	19.2	13.0	18.0	23.4	22.0	19.5	104	78	80	64	98	140	180	164	97	57	85	24.35	16.58
Montana	16.4	21.0	4.0	12.1	20.0	25.0	99	77	76	69	93	175	135	165	80	67	53	15.98	13.25
Wyoming	22.2	25.0	16.0	24.0	22.0	24.0	95	80	70	67	90	175	140	165	56	50	60	24.17	14.40
Colorado	16.7	17.5	15.0	20.5	14.5	16.0	85	73	60	55	90	125	135	142	70	31	66	17.75	10.56
New Mexico	20.8	25.0	21.6	21.7	22.0	13.6	114	75	80	73	113	188	180	151	110	90	82	31.78	11.15
Arizona	27.6	28.0	29.0	22.0	29.0	30.0	147	110	120	115	140	190	210	200	170	100	115	46.90	34.50
Utah	23.6	28.0	19.2	21.9	24.6	24.4	115	70	75	80	115	170	181	150	150	76	85	34.71	20.74
Nevada	28.2	32.0	26.9	32.0	29.1	21.1	133	118	110	93	125	150	210	140	160	120	105	47.20	22.16
Idaho	36.2	40.0	32.0	36.0	35.0	38.0	104	68	72	65	100	155	183	165	100	50	79	45.51	30.02
Washington	38.2	38.0	36.0	36.0	40.0	41.0	116	80	73	77	100	162	170	185	125	86	105	54.11	43.05
Oregon	30.3	31.0	26.5	31.0	30.0	33.0	109	70	82	82	95	150	155	155	130	84	91	39.93	30.03
California	34.2	35.0	32.0	33.0	35.0	36.0	124	88	87	88	124	185	193	179	120	77	100	50.12	36.00
United States	28.4	24.0	28.9	31.5	29.6	28.2	85.4	69.1	64.4	57.5	88.9	127.9	136.5	134.5	67.0	42.3	65.7	27.77	18.55

[1] Based upon farm price December 1.

CORN—Continued.

TABLE 10.—*Corn: Farm price, cents per bushel, on 1st of each month, 1908–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[1]
1908	54.0	56.0	58.1	61.2	64.7	73.7	75.7	78.1	76.5	72.3	63.5	60 6	63.4
1909	60.7	61.4	64.7	67.5	71.9	76.3	77.0	75.2	71.0	67.1	62.2	57.9	65.9
1910	62.3	65.2	65.9	65.5	63.5	65.2	66.2	67.2	66.3	61.1	52.6	48.0	62.1
1911	48.2	49.0	48.9	49.7	51.8	55.1	60.0	65.8	65.9	65.7	64.7	61.8	55.3
1912	62.2	64.6	66.6	71.1	79.4	82.5	81.1	79.3	77.6	70.2	58.4	48.7	67.6
1913	48.9	50.6	52.2	53.7	56.8	60.6	63.2	65.4	75.4	75.3	70.7	69.1	59.4
1914	69.6	68.3	69.1	70.7	72.1	75.0	75.5	76.8	81.5	78.2	70.6	64.4	71.4
1915	66.2	72.8	75.1	75.1	77.7	77.9	77.7	78.9	77.3	70.5	61.9	57.5	71.2
1916	62.1	66.7	68.2	70.3	72.3	74.1	75.4	79.4	83.6	82.3	85.0	88.9	73.8
1917	90.0	95.8	100.9	113.4	150.6	160.1	164.6	196.6	175.5	175.1	146.0	127.9	129.2
1918	134.8	138.8	154.3	153.6	155.7	152.5	153.7	159.7	165.7	159.5	140.3	136.5	147.3
1919	144.7	138.1	137.2	149.6	162.6	171.2	176.5	191.2	185.4	153.9	133.4	134.5	151.5
1920	140.4	146.8	148.5	158.6	169.6	185.2	185.6	163.7	155.7	121.3	87.3	67.0	140.4
1921	66.7	62.4	64.5	63.0	59.5	62.5	62.2	61.7	56.2	51.0	41.1	42.3	58.6
1922	43.4	45.8	54.8	56.9	59.7	61.6	62.2	64.4	62.7	61.6	62.9	65.7	56.1
Average, 1913–1922	86.7	88.6	92.5	96.5	103.7	108.1	109.7	113.8	111.9	102.9	90.9	90.2	102.6

[1] Weighted average.

TABLE 11.—*Corn: Monthly marketings by farmers, 1917–1922.*

Year.	Estimated amount sold monthly by farmers of United States (millions of bushels).												
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Season.
1917–18	34	26	22	24	56	78	91	103	88	45	36	37	640
1918–19	27	28	35	27	30	49	61	30	31	34	33	25	410
1919–20	20	25	21	25	40	66	57	42	38	26	33	47	440
1920–21	35	36	45	35	46	74	93	76	58	36	55	61	650
1921–22	28	42	49	39	38	71	80	72	43	27	44	43	576
Average	29	31	34	30	42	68	76	65	52	34	40	43	544
	Per cent of year's sales.												
1917–18	5.3	4.0	3.4	3.8	8.8	12.2	14.2	16.1	13.7	7.1	5.6	5.8	100.0
1918–19	6.7	6.8	8.4	6.7	7.3	12.1	15.0	7.2	7.5	8.2	8.0	6.1	100.0
1919–20	4.5	5.6	4.9	5.6	9.2	15.0	12.9	9.5	8.7	5.9	7.6	10.6	100.0
1920–21	5.4	5.6	6.9	5.3	7.1	11.3	14.3	11.7	8.9	5.6	8.5	9.4	100.0
1921–22	4.9	7.3	8.6	6.7	6.6	12.4	13.8	12.4	7.5	4.7	7.6	7.5	100.0
Average	5.4	5.9	6.4	5.6	7.8	12.6	14.0	11.4	9.2	6.3	7.5	7.9	100.0

TABLE 12.—*Corn: Extent and causes of yearly crop losses, 1909–1921.*

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	13.0	7.3	1.5	1.0	0.5	1.6	0.7	25.8	0.2	2.3	0.4	0.3	29.6
1910	13.9	3.0	.8	.9	.4	1.6	.5	21.3	.2	2.3	.4	1.2	26.0
1911	23.4	1.6	(1)	.4	.2	3.4	.1	29.6	.2	2.3	.2	.4	33.7
1912	8.7	4.6	.9	1.7	.5	1.0	.3	18.1	.3	4.8	.3	2.3	26.3
1913	27.1	1.2	.4	1.0	.3	3.1	.4	33.7	.1	3.7	.2	.4	38.9
1914	20.8	1.3	.4	.4	.5	2.1	.4	26.1	.1	3.6	.1	.2	30.6
1915	3.0	11.9	2.1	6.9	.6	.2	1.1	26.5	.3	2.1	.1	.2	29.9
1916	18.5	5.8	1.7	1.7	.4	1.7	1.1	31.3	.3	2.0	.1	.6	34.7
1917	12.1	2.9	.6	13.5	.6	1.2	.3	31.6	.3	1.4	.1	.2	33.8
1918	22.1	.9	.5	2.0	.4	6.3	3.2	32.8	.3	2.6	.1	1.5	37.7
1919	10.8	7.3	1.4	.1	.3	1.0	.4	21.4	.4	3.1	.1	.2	25.4
1920	5.4	3.3	.6	.7	.5	.3	.4	11.3	.3	3.6	.1	.3	15.9
1921	10.6	1.1	.3	.2	.4	1.0	.6	14.1	.8	3.4	.0	.1	18.7
Average	14.6	4.0	.9	2.3	.4	1.9	.7	24.9	.3	2.9	.2	.6	29.3

[1] Less than 0.05 per cent.

CORN—Continued.

TABLE 13.—*Corn: Monthly and yearly average price per bushel of reported sales, No. 3 yellow, 1899–1900 to 1921–22.*

CHICAGO.[1]

Crop year.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Weighted average.
1899–1900	$0.31	$0.30	$0.30	$0.32	$0.36	$0.39	$0.38	$0.40	$0.41	$0.40	$0.40	$0.42	$0.36
1900–1901	.37	.35	.36	37	.39	.42	.43	.42	.48	.56	.56	.56	.43
1901–2	.60	.64	.62	.59	.59	.62	.62	.63	.65	.60	.59	.60	.62
1902–3	.53	.46	.43	.43	41	.41	.46	.49	.51	.53	.51	.45	.47
1903–4	.44	.44	43	.46	.46	.49	.49	.50	.49	.52	.53	.55	.49
1904–5	.48	.43	.42	.44	.47	.48	.50	.55	.57	.54	53	.53	.48
1905–6	.45	.42	.42	.42	.40	.42	.47	.49	.52	.54	.47	.46	.44
1906–7	.43	.42	.41	.43	.43	.44	.52	.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
Av., 1899–1908	.48	.46	.46	.47	.48	.50	.53	.55	.57	.58	.57	.60	.51
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	.67	.64	.71	.74	.72	.75	.77	.74	.78	.81	.74	.65	.70
1915–16	.63	.69	.74	.74	.73	.76	.75	.74	.81	.85	.86	.96	.79
1916–17	.98	.92	.98	1.00	1.09	1.40	1.59	1.70	1.99	2.06	2.10	2.03	1.11
1917–18	2.21	1.77	1.77	1.81	1.70	1.65	1.60	1.62	1.70	1.72	1.58	1.41	1.63
1918–19	1.33	1.45	1.43	1.27	1.53	1.62	1.74	1.78	1.92	1.95	1.55	1.41	1.62
1919–20	1.46	1.47	1.51	1.46	1.58	1.69	2.02	1.89	1.58	1.58	1.31	.91	1.59
1920–21	.77	.74	.65	.63	.62	.57	.60	.63	.60	.56	.53	.45	.62
Av., 1914–1920	1.15	1.10	1.11	1.09	1.14	1.21	1.30	1.30	1.34	1.35	1.24	1.12	1.15
1921–22	.47	.47	.48	.55	.57	.58	.62	.61	.64	.62	.64	.69	.55

KANSAS CITY.[2]

Av., 1909–1913	$0.58	$0.56	$0.57	$0.56	$0.58	$0.62	$0.65	$0.64	$0.67	$0.71	$0.69	$0.65	$0.60
Av., 1914–1920	1.13	1.08	1.08	1.08	1.12	1.19	1.27	1.26	1.31	1.30	1.37	1.08	1.12
1921–22	.43	.42	.45	.53	.54	.57	.59	.59	.60	.58	.59	.64	.54

ST. LOUIS.[3]

Av., 1909–1913	$0.58	$0.56	$0.56	$0.56	$0.58	$0.62	$0.65	$0.64	$0.68	$0.71	$0.70	$0.66	$0.60
Av., 1914–1920	1.13	1.10	1.11	1.11	1.14	1.22	1.30	1.29	1.35	1.31	1.23	1.10	1.15
1921–22	.47	.48	.48	.54	.58	.57	.61	.60	.65	.61	.63	.69	.57

[1] Compiled from Chicago Daily Trade Bulletin.
[2] Compiled from Kansas City Daily Price Current and Grain Market Review.
[3] Compiled from St. Louis Daily Market Reporter.

CORN—Continued.

TABLE 14.—*Corn (American mixed): Average spot prices per bushel of 56 pounds at Liverpool.*[1]

[For rate of exchange used in conversion from shillings see Table 551, p. 1010.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1912	$0.92	$0.95	$0.94	$0.95	$0.95	$0.95	$0.93	$0.99	$0.99	$0.99	$0.91	$0.86
1913	.82	.82	.81	.82	.82	.82	.82	.90	.95	.89	.90	.91
1914	.91	.91	.91	.91	.91	.92	.93	1.13	1.11	1.04	1.00	.98
1915	1.04	1.11	1.10	1.09	1.13	1.08	1.10	1.18	1.16	1.16	(2)	1.23
1916	1.40	1.47	1.43	1.43	1.47	1.28	1.37	1.44	1.41	1.48	1.71	1.83
1917	1.95	2.00	2.05	1.98	2.03	2.05	2.05	2.05	2.05	2.05	2.05	2.05
1918	2.16	2.16	2.16	2.16	2.16	2.16	2.34	2.52	2.52	2.52	2.53	2.53
1919	2.11	2.11	1.65	1.63	1.63	1.61	1.55	(2)	(2)	(2)	(2)	(2)
1920	(2)	1.93	2.14	2.16	2.04	2.06	(2)	(2)	(2)	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

[1] Broomhall's Corn Trade News. [2] No quotations.

TABLE 15.—*Corn: Spot prices per bushel of 56 pounds at Buenos Aires.*[1]

[For rate of exchange used in conversion from shillings see Table 551, p. 1010.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1912	(2)	(2)	(2)	$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	[3] .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	.103	.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

[1] International Yearbook of Agricultural Statistics 1912-1921. Review of the River Plata, 1922. Average of weekly quotations.
[2] No quotations.
[3] Interpolation, no quotation.

TABLE 16.—*Corn: Spot prices per bushel of 56 pounds of yellow La Plata at Liverpool.*[1]

[For rate of exchange used in conversion from shillings, see Table 551, p. 1010.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1912	(2)	(2)	(2)	(2)	$0.97	$0.87	$0.71	$0.75	$0.78	$0.72	$0.68	$0.67	$0.77
1913	$0.71	$0.75	$0.76	$0.74	.72	.69	.67	.67	.70	.66	.63	.67	.70
1914	.65	.66	.68	.68	.74	.76	.78	.97	.93	.83	.78	.83	.77
1915	.98	1.06	1.02	1.06	1.11	.97	.92	.90	.85	.94	1.06	1.19	1.00
1916	1.40	1.44	1.42	1.43	1.47	1.33	1.45	1.54	1.39	1.48	1.69	1.81	1.49
1917	[3] 1.89	1.92	2.00	2.16	(2)	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.11
1918	2.23	2.23	2.23	2.23	2.23	2.23	2.42	2.61	2.61	2.61	2.61	2.61	2.40
1919	2.04	2.04	1.75	1.74	1.74	1.72	1.65	1.66	1.69	1.68	1.65	1.52	1.74
1920	[4] 1.49	[5] 1.77	[5] 1.96	1.97	1.81	1.67	1.53	1.43	1.60	1.49	1.15	1.25	1.59
1921	1.28	1.22	1.30	1.28	1.18	1.09	1.05	.93	.83	.72	.78	.88	1.04
1922	.92	1.08	1.08	1.03	1.06	1.01	1.10	1.10	1.09	1.08	.96	1.00	1.04

[1] Statement prepared by Foreign Section, Division of Statistical and Historical Research, Bureau of Agricultural Economics.
[2] Not quoted.
[3] Trading in maize controlled January 5, 1917.
[4] Afloat price.
[5] Nominal.

CORN—Continued.

TABLE 17.—*Corn: Monthly and yearly receipts and shipments, 11 primary markets, 1909–10 to 1921–22.*[1]

Year.	Chicago.	Milwaukee.	Minneapolis.	Duluth.	St. Louis.	Toledo.	Detroit.	Kansas City.	Peoria.	Omaha.	Indianapolis.	Total.
	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.*
1909–10:												
Receipts	88,428	6,535	6,564	883	22,913	4,001	2,477	15,102	15,387	(2)	(2)	162,280
Shipments	66,011	5,893	5,047	943	16,383	1,840	1,412	12,873	11,009	(2)	(2)	121,411
1910–11:												
Receipts	113,808	7,895	8,948	1,697	23,766	6,236	3,860	16,026	16,477	(2)	(2)	198,713
Shipments	92,652	7,625	5,370	1,697	15,422	3,290	1,930	13,395	11,141	(2)	(2)	152,522
1911–12:												
Receipts	108,431	9,410	5,423	12	25,176	4,121	2,857	19,646	19,041	20,817	13,687	228,621
Shipments	73,940	6,506	3,264	12	15,492	2,037	1,888	14,971	14,292	15,404	1,947	149,753
1912–13:												
Receipts	131,792	11,613	6,258	492	22,762	2,996	2,757	16,992	17,923	22,618	15,974	252,177
Shipments	94,311	7,887	4,374	492	12,257	1,885	1,615	10,614	11,202	17,732	3,637	166,006
1913–14:												
Receipts	84,838	15,804	10,710	878	16,961	4,560	2,835	27,494	14,723	37,108	14,118	230,029
Shipments	57,528	10,727	8,776	362	10,119	2,314	1,636	19,192	6,651	33,040	5,183	155,528
Average, 1909–1913:												
Receipts	105,459	10,251	7,581	792	22,314	4,383	2,957	19,052	16,710	.....	.....	214,364
Shipments	75,688	7,728	5,366	701	13,935	2,273	1,696	14,209	10,859	.....	.....	149,044
1914–15:												
Receipts	116,348	19,609	14,699	3,036	18,626	4,582	4,058	16,396	16,736	24,599	15,087	253,776
Shipments	80,256	16,985	11,997	3,036	10,206	2,594	3,021	11,914	6,831	23,117	6,498	176,455
1915–16:												
Receipts	101,325	9,887	5,661	(2)	17,974	4,656	4,726	25,837	35,948	21,496	22,790	250,300
Shipments	62,148	6,943	3,927	(2)	8,678	1,422	3,139	22,459	13,722	15,948	11,073	149,459
1916–17:												
Receipts	78,723	12,755	9,550	32	21,312	2,882	3,192	12,743	31,533	29,820	24,421	226,963
Shipments	40,497	8,681	7,779	6	13,191	1,190	2,425	8,469	11,870	25,179	14,801	134,088
1917–18:												
Receipts	98,786	12,374	16,715	177	25,354	2,609	4,361	31,366	36,176	46,159	20,583	294,660
Shipments	34,540	7,006	9,636	170	16,130	1,160	717	24,481	17,062	36,355	9,206	156,463
1918–19:												
Receipts	61,366	6,784	6,621	6	19,219	1,127	1,633	16,146	18,511	21,805	15,905	169,123
Shipments	32,019	3,697	4,773	(2)	11,956	549	626	10,345	10,530	21,197	7,130	102,822
1919–20:												
Receipts	87,641	14,652	9,192	5	27,595	2,122	1,671	11,218	22,449	23,227	19,991	219,763
Shipments	37,236	7,079	6,384	(2)	15,975	1,298	481	5,034	17,660	18,604	7,170	116,921
1920–21:												
Receipts	167,241	27,455	12,066	4,834	25,924	3,194	1,663	14,137	16,091	20,012	17,505	310,122
Shipments	113,374	21,823	8,483	3,777	17,044	1,349	261	9,742	9,823	17,356	6,353	209,385
Average, 1914–1920:												
Receipts	101,633	14,788	10,643	.....	22,286	3,025	3,043	18,263	25,349	26,731	19,469	246,387
Shipments	57,153	10,316	7,568	.....	13,311	1,366	1,533	13,206	12,500	22,537	8,890	149,370
1921–22:												
Receipts	186,815	25,630	15,920	14,111	33,809	3,994	2,454	16,063	24,116	29,583	21,665	374,160
Shipments	115,700	22,168	12,048	14,034	22,713	1,795	909	10,242	18,295	26,047	7,053	250,998

[1] Compiled from Chicago Daily Trade Bulletin.

[2] No report.

CORN—Continued.

TABLE 17.—*Corn: Monthly and yearly receipts and shipments, 11 primary markets, 1909–10 to 1921–22*—Continued.

Month.	Chicago.	Milwaukee.	Minneapolis.	Duluth.	St. Louis.	Toledo.	Detroit.	Kansas City.	Peoria.	Omaha.	Indianapolis.	Total.
1921.	*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.*
November:												
Receipts	6,598	607	574	265	1,697	190	114	365	1,255	619	1,821	14,105
Shipments	5,037	1,762	305	1,260	1,105	50	42	277	805	639	585	11,867
December:												
Receipts	19,618	3,890	2,095	1,503	3,905	495	297	2,062	2,835	3,208	2,731	42,639
Shipments	7,294	1,475	1,227	234	1,740	167	87	1,372	1,827	2,518	978	18,919
1922.												
January:												
Receipts	24,713	2,987	2,253	1,445	3,944	685	274	1,513	2,576	3,992	2,155	46,537
Shipments	12,931	1,987	1,266	.....	2,056	390	173	983	2,137	2,974	816	25,713
February:												
Receipts	33,348	3,567	2,613	1,753	4,293	636	504	2,232	4,080	3,051	3,481	59,558
Shipments	19,130	1,230	1,074	1	2,147	375	150	1,063	3,200	2,293	804	31,467
March:												
Receipts	14,288	2,626	2,462	2,171	2,748	373	276	2,029	1,912	3,358	1,687	33,930
Shipments	13,849	2,015	1,505	37	2,466	170	111	861	1,505	3,184	682	26,385
April:												
Receipts	5,256	960	564	379	1,154	138	138	1,102	1,019	1,807	671	13,188
Shipments	2,115	2,729	793	58	1,159	82	79	563	540	2,277	307	10,702
May:												
Receipts	8,424	2,296	993	869	2,362	170	145	1,577	1,598	2,668	863	21,965
Shipments	5,750	2,623	1,446	5,843	1,927	159	102	810	946	2,640	405	22,651
June:												
Receipts	15,876	2,835	2,034	2,253	3,148	274	165	2,239	1,879	2,672	1,906	35,281
Shipments	4,616	3,694	1,408	2,975	2,472	73	58	616	1,185	2,944	557	20 598
July:												
Receipts	11,362	1,217	775	1,472	2,931	119	80	987	689	1,925	918	22,475
Shipments	11,243	1,286	1,920	1,353	2,075	105	12	1,056	840	1,955	367	22,212
August:												
Receipts	11,795	999	680	732	2,931	261	171	978	1,685	2,958	1,518	24,708
Shipments	12,211	660	657	1,551	2,185	31	2	1,443	1,546	2,298	227	22,811
September:												
Receipts	19,137	1,995	402	872	2,509	356	182	428	2,060	1,573	1,609	31,123
Shipments	8,952	1,068	273	498	1,617	107	32	660	1,758	1,167	615	16,747
October:												
Receipts	16,400	1,651	475	397	2,187	297	108	551	2,528	1,752	2,305	28,651
Shipments	12,572	1,639	174	224	1,764	86	55	538	2,006	1,158	710	20,926

TABLE 18.—*Corn: Visible supply in United States, first of each month, 1909–10 to 1921–22.*[1]

Crop year.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.
	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.*
1909–10	2,653	3,289	8,465	9,764	13,480	13,778	10,603	5,940	5,146	3,770	2,750	5,011
1910–11	3,510	1,545	5,099	9,145	11,794	11,166	7,047	4,685	7,482	7,100	6,724	6,339
1911–12	1,703	2,054	5,140	6,900	14,257	15,914	7,490	5,699	8,204	2,451	1,823	3,101
1912–13	2,689	1,525	5,879	9,717	17,918	21,494	7,270	2,549	11,479	6,389	2,612	7,308
1913–14	6,206	2,026	12,126	16,505	18,374	18,812	9,380	4,409	7,589	3,203	3,923	5,461
Av., 1909–1913	3,352	2,088	7,342	10,406	15,165	16,233	8,358	4,656	7,980	4,583	3,566	5,444
1914–15	3,114	3,382	19,703	34,156	41,238	32,877	20,203	12,795	5,225	2,306	2,382	3,444
1915–16	3,288	4,387	8,919	14,773	24,605	27,697	21,004	14,505	6,870	5,167	3,330	5,093
1916–17	2,361	2,677	5,838	10,671	12,931	11,974	7,173	2,629	3,277	2,841	2,371	1,163
1917–18	1,277	1,932	3,155	4,623	8,939	19,016	16,111	13,038	11,487	9,466	5,232	5,503
1918–19	4,733	2,216	2,415	5,549	4,483	2,514	4,245	2,600	4,038	2,461	956	2,163
1919–20	1,484	1,477	2,921	3,575	4,951	5,669	5,035	2,740	4,364	6,152	2,564	7,587
1920–21	10,085	4,597	5,409	14,297	22,333	32,896	23,018	15,103	24,304	14,584	11,500	11,765
Av., 1914–1920	3,763	2,952	6,908	12,520	17,068	18,949	13,837	9,058	8,509	6,139	4,048	5,245
1921–22	18,935	15,518	23,279	26,729	40,897	46,889	35,564	27,046	29,337	19,509	7,314	12,206

[1] Compiled from the Chicago Daily Trade Bulletin.

CORN—Continued.

TABLE 19.—*Corn: Summary in per cent of carloads graded by licensed inspectors for yearly periods, all inspection points; total of all classes and subclasses under each grade.*[1]

1917–18 TO 1921–22.

Crop year.	Receipts.							Shipments.						
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	S. G.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	S. G.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct*
1917–18	0.7	5.9	18.5	17.3	13.8	13.5	30.3	0.3	7.2	34.3	19.8	8.1	10.1	20.2
1918–19	6.5	17.9	21.0	21.4	14.8	8.3	10.1	2.2	27.6	37.6	15.0	5.3	5.3	7.0
1919–20	12.9	21.7	17.5	25.6	12.3	4.0	6.0	5.8	38.5	30.1	15.1	4.9	2.3	3.3
1920–21	21.2	27.4	19.8	19.5	6.5	2.9	2.7	14.2	57.9	20.4	4.4	.7	1.1	1.3
1921–22	7.2	46.0	26.8	10.0	5.1	3.7	1.2	3.2	74.7	15.9	2.4	1.7	1.6	.5
Average, 1917–1921	9.7	23.8	20.7	18.7	10.5	6.5	10.1	5.1	41.2	27.6	11.3	4.2	4.1	6.5
NOVEMBER, 1921, TO OCTOBER, 1922.														
White	9.6	50.7	20.4	11.1	4.8	2.6	0.8	6.9	76.5	12.2	2.5	1.3	0.5	0.1
Yellow	6.8	42.0	26.5	11.6	7.0	5.2	.9	3.9	67.6	18.7	3.7	2.8	3.1	.2
Mixed	6.5	50.0	31.5	6.4	2.0	1.8	1.8	1.7	80.7	14.2	1.1	.9	.6	.8

[1] Compiled from United States Department of Agriculture data.

TABLE 20.—*Corn (including meal): International trade, calendar years 1909–1921.*

[The item *maicena* or *maizena* is included as "Corn and corn meal."]

GENERAL NOTE.—Substantially the international trade of the world. It should not be expected that the world export and import totals for any year will agree. Among sources of disagreement are these: (1) Different periods of time covered in the "year" of the various countries; (2) imports received in year subsequent to year of export; (3) want of uniformity in classification of goods among countries; (4) different practices and varying degrees of failure in recording countries of origin and ultimate destination; (5) different practices of recording reexported goods; (6) opposite methods of treating free ports; (7) clerical errors, which, it may be assumed, are not infrequent.

The exports given are domestic exports, and the imports given are imports for consumption as far as it is feasible and consistent so to express the facts. While there are some inevitable omissions, on the other hand there are some duplications because of reshipments that do not appear as such in official reports. For the United Kingdom import figures refer to imports for consumption, when available, otherwise total imports, less exports of "foreign and colonial merchandise." Figures for the United States include Alaska, Porto Rico, and Hawaii.

Country.	Average, 1909–1913.		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Argentina	2	115,749	1	97,851	.....	173,642	.....	111,603
British South Africa	257	4,115	184	13,582	637	5,149	23	20,133
Bulgaria	44	9,307	4	(1)	(1)	4,185	(1)	696
Rumania	176	38,966	595	26	429	17,329	(1)	30,280
Russia	335	30,034	.....	.....	.....	.....	.....	.....
United States	1,226	45,054	11,213	16,002	7,784	21,230	164	132,186
Uruguay	5	201	.....	10	.....	(1)	.....	209
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary	13,877	268	.....	.....	[2] 5,124	.....	[2] 6,699	.....
Belgium	25,801	8,130	1,483	675	10,513	2,327	19,386	7,129
Canada	10,629	25	6,459	229	10,793	113	12,455	110
Cuba	2,746	(1)	2,308	.....	3,217	.....	.....	.....
Denmark	11,440	6	7,781	1	9,822	4	18,575	434
Egypt	471	61	8	208	948	1	1,604	397
France	18,708	82	6,937	61	17,609	858	12,466	600
Germany	32,160	1	.....	.....	16,099	(1)	.....	.....
Italy	14,895	206	8,232	(1)	12,599	4	17,965	11
Mexico	4,404	82	.....	.....	.....	.....	.....	.....
Netherlands	29,580	8,750	9,635	38	15,566	37	35,643	355
Norway	1,079	.....	2,814	.....	2,623	.....	3,528	.....
Portugal	1,674	5	1,610	(1)	.....	.....	.....	.....
Spain	9,775	44	2,509	483	7,719	188	11,906	576
Sweden	1,476	26	3,199	15	1,505	41	4,186	.....
Switzerland	3,987	1	5,274	.....	963	(1)	5,107	.....
United Kingdom	82,976	96	38,986	17	71,057	67	78,194	65
Other countries	3,268	9,817	2,259	3,563	3,729	7,376	2,942	1,856
Total	270,991	271,026	111,491	132,761	198,736	232,551	230,843	306,640

[1] Less than 500. [2] Austria only.

WHEAT.

TABLE 21.—*Wheat: Area and production in undermentioned countries.*[1]

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922 [2]	Average, 1909–1913.	1920	1921	1922 [2]
NORTHERN HEMISPHERE.								
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada [3]	9,945	18,232	23,261	22,631	197,119	263,189	300,858	388,773
United States [3]	47,097	61,143	62,408	56,770	690,108	833,027	794,893	810,123
Mexico	[4] 2,628	.....	.....	.....	9,995	.....	[5] 5,089	5,190
Total North American countries marked [3]	57,042	79,375	85,669	79,401	887,227	1,096,216	1,095,751	1,198,896
EUROPE.								
United Kingdom:								
England and Wales [3]	1,792	1,875	1,976	1,969	57,528	53,352	69,776	60,800
Scotland	52	54	65	65	2,345	2,080	2,568	.....
Ireland	43	50	43	.....	1,608	1,400	1,448	.....
Norway	12	40	41	.....	307	999	972	[5] 760
Sweden [3]	255	360	360	360	7,907	10,528	12,677	8,473
Denmark [3]	[6] 123	180	220	237	4,916	7,390	11,145	8,466
Netherlands [3]	138	152	180	156	4,976	5,993	8,562	5,210
Belgium [3]	[7] 395	306	343	299	14,585	10,274	14,495	9,870
Luxemburg	27	27	27	.....	615	449	661	[5] 520
France [3]	[8] 16,308	12,585	13,300	12,701	[8] 317,254	236,929	323,467	235,380
Spain [3]	9,547	10,254	10,386	10,281	130,446	138,605	145,150	125,908
Portugal	[6] 1,180	1,098	.....	.....	8,683	10,376	8,613	[5] 6,000
Italy [3]	[8] 11,746	[8] 11,290	[8] 11,779	11,540	[8] 183,260	[8] 141,337	[9] 194,071	163,629
Switzerland [3]	[6] 156	119	110	103	3,314	3,584	3,576	2,363
Germany [3]	[8] 4,768	3,399	3,561	3,384	[8] 152,119	82,583	107,798	69,655
Austria	[8] 3,011	371	378	.....	[8] 61,075	5,424	6,452	7,150
Czechoslovakia	.....	1,573	1,556	1,529	.....	26,362	38,682	30,472
Hungary [3]	[8] 8,284	2,662	2,697	2,855	[8] 156,523	38,294	52,715	43,945
Yugoslavia [3]	.....	3,360	3,699	3,637	.....	43,011	51,809	42,250
Serbia [3]	[8] 874	.....	.....	.....	[8] 14,775	.....	.....	.....
Greece [3]	868	1,399	988	890	7,200	12,194	11,170	9,553
Bulgaria [3]	[8] 2,764	2,183	2,361	1,930	[8] 43,725	29,999	31,893	27,925
Rumania [3]	[8] 4,576	5,026	6,149	6,548	[8] 86,679	62,571	77,119	87,820
Poland [3]	[8] 1,260	1,790	2,093	2,563	[8] 23,343	22,740	37,409	42,274
Lithuania	.....	.....	179	.....	.....	.....	2,840	.....
Latvia	.....	.....	46	69	.....	.....	784	948
Esthonia	.....	.....	.....	.....	.....	.....	427	.....
Finland	.....	19	20	22	129	272	280	296
Russia, including Ukraine and Northern Caucausia	[8] 50,388	.....	.....	.....	[8] 522,794	.....	.....	.....
Total European countries marked [3]	63,854	56,940	60,202	59,453	1,208,550	899,384	1,152,832	943,521
AFRICA.								
Morocco	.....	1,997	1,469	1,853	.....	21,999	17,466	9,553
Algeria [3]	3,371	3,096	2,816	3,103	33,071	6,798	33,764	18,233
Tunis [3]	1,193	1,319	1,500	939	6,063	5,229	10,623	3,307
Egypt [3]	1,311	1,190	1,458	1,518	34,000	31,711	37,011	36,648
Total African countries marked [3]	5,875	5,605	5,774	5,560	73,134	43,738	81,398	58,188

[1] Sources: Official sources unless otherwise stated.
[2] Figures for 1922 and 1921–22 compiled from reports received up to November 1, 1922.
[3] Indicates countries reporting for all periods given either as listed or as part of some other country.
[4] 1 year only.
[5] *Unofficial.*
[6] 3-year average.
[7] 4-year average.
[8] Old boundaries.
[9] Includes 1,235,000 bushels in the new territory of Venezia Tridentina and Venezia Giulia.

WHEAT—Continued.

TABLE 21.—*Wheat: Area and production in undermentioned countries*[1]—Continued.

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922[2]	Average, 1909–1913.	1920	1921	1922[2]
ASIA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Turkey	.....	.....	.....	.....	35,000	.....	.....	.....
Cyprus	.....	.....	198	.....	2,286	.....	2,425	[3,4] 2,400
Persia	.....	.....	.....	.....	16,000	[3] 8,000	[3] 8,000	[3] 12,000
India[5]	29,043	.....	.....	.....	349,919	.....	.....	.....
British India[5]	.....	23,373	20,240	22,237	.....	318,565	210,149	308,187
Native States[5]	.....	6,576	5,543	5,997	.....	59,323	40,208	58,165
Russia (Asiatic)	9,764	.....	.....	.....	84,139	.....	.....	.....
Japanese Empire:								
Japan	1,179	1,300	1,264	.....	25,274	30,026	26,921	26,495
Chosen	369	.....	.....	.....	4,871	.....	10,705	.....
Formosa	14	.....	.....	.....	173	.....	.....	.....
Total Asiatic countries marked[5]	29,043	29,949	25,783	28,234	349,919	377,888	250,357	366,352
Total Northern Hemisphere countries marked[3,5]	155,814	171,869	177,428	172,648	2,518,830	2,417,226	2,580,338	2,566,957

Country.	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22
SOUTHERN HEMISPHERE.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Peru	.....	203	203	.....	.....	2,627	2,645	[3] 2,800
Chile[5]	1,021	1,196	1,314	1,296	20,316	19,916	23,190	22,179
Uruguay[5]	[6] 734	680	700	812	[6] 7,314	5,948	7,768	9,944
Argentina[5]	15,799	14,957	14,816	13,927	157,347	214,140	169,754	180,641
Union of South Africa[5]	[7] 751	800	823	839	4,620	6,630	8,113	8,689
Australia[5]	6,798	6,419	9,072	9,587	84,943	45,976	145,874	132,282
New Zealand[5]	258	140	220	353	7,885	4,560	6,872	10,565
Total Southern Hemisphere countries marked[5]	25,361	24,192	26,945	26,814	282,425	297,170	361,571	364,300
World total countries marked[3,5]	181,175	196,061	204,373	199,462	2,801,255	2,714,396	2,941,909	2,931,257
World total all countries reporting	249,842	202,793	209,862	203,000	3,576,549	2,824,410	3,078,887	3,035,841

[1] Official sources unless otherwise stated.
[2] Figures for 1922 and 1921–22 compiled from reports received up to November 1, 1922.
[3] Unofficial.
[4] Cyprus and Malta.
[5] Indicates countries reporting for all periods either as listed or as part of some other country.
[6] 4-year average.
[7] 3-year average.

TABLE 22.—*Wheat: World production so far as reported, 1891–1922.*

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
	Bushels.		*Bushels.*		*Bushels.*		*Bushels.*
1891	2,432,322,000	1899	2,783,885,000	1907	3,133,965,000	1915	4,198,782,000
1892	2,481,805,000	1900	2,610,751,000	1908	3,182,105,000	1916	[1] 2,608,545,000
1893	2,559,174,000	1901	2,955,975,000	1909	3,581,519,000	1917	[1] 2,287,889,000
1894	2,660,557,000	1902	3,090,116,000	1910	3,575,055,000	1918	[1] 2,803,616,000
1895	2,593,312,000	1903	3,189,813,000	1911	3,551,795,000	1919	[1] 2,742,339,000
1896	2,506,320,000	1904	3,163,542,000	1912	3,791,951,000	1920	[1] 2,824,410,000
1897	2,236,268,000	1905	3,327,084,000	1913	4,127,437,000	1921	[1] 3,078,887,000
1898	2,948,305,000	1906	3,434,354,000	1914	3,585,916,000	1922	[1] 3,035,841,000

[1] Russia not included. In 1915 Russia produced 18 per cent of the reported world production.

WHEAT—Continued.

TABLE 25.—*Wheat: Acreage, production, value, exports, etc., in the United States, 1849–1922.*

[See headnote of Table 4.]

Year.	Acreage harvested.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Chicago cash price per bushel, No. 1 northern spring.				Domestic exports, including flour, fiscal year beginning July 1.	Imports, including flour, fiscal year beginning July 1.	Per cent of crop exported.
						December.		Following May.				
						Low.	High.	Low.	High.			
	1,000 acres.	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*	*Bushels.*	*P. ct.*
1849	.....	.....	*100,486*	.....	.....	....	....	....	....	7,535,901	.....	7.5
1859	.....	.....	*173,105*	.....	.....	....	....	....	....	17,213,133	1,565,791	9.9
1866–1875	20,470	12.0	244,672	105.3	257,587	95	105	110	125	50,534,641	1,749,128	20.7
1876–1885	34,433	12.4	425,054	92.6	391,104	97	104	101	114	127,468,781	711,806	30.0
1886–1895	37,500	12.7	476,788	67.3	321,071	74	80	75	86	143,076,110	992,754	30.0
1896	43,916	12.4	544,193	71.7	390,346	74⅝	93⅛	68¾	97⅞	145,124,972	1,544,242	26.7
1897	46,046	13.3	610,254	80.9	493,683	92	109	117	185	217,306,005	2,058,938	35.6
1898	51,007	15.1	772,163	58.2	449,022	62¾	70	68⅜	79½	222,618,420	1,875,173	28.8
1899	*52,589*	12.1	636,051	58.6	372,982	64	69½	63⅝	67⅞	186,096,762	320,194	29.3
1900	51,387	11.7	602,708	62.0	373,578	69¼	74⅜	70	75⅛	215,990,073	603,101	35.8
1901	52,473	15.0	788,638	62.6	493,766	73	79½	72⅜	76½	234,772,516	120,502	29.8
1902	49,649	14.6	724,808	63.0	456,851	71⅞	77⅞	74¾	80⅝	202,905,598	1,080,128	28.0
1903	51,632	12.9	663,923	69.5	461,439	77¾	87	87¾	101½	120,727,613	217,682	18.2
1904	47,825	12.5	596,911	92.4	551,788	115	122	89½	113¾	44,112,910	3,286,189	7.4
1905	49,389	14.7	726,819	74.6	542,543	82½	90	80¼	87¼	97,609,007	261,908	13.4
1906	47,800	15.8	756,775	66.2	501,316	....	....	84	106	146,700,425	590,092	19.4
1907	45,116	14.1	637,981	86.5	552,074	....	....	....	....	163,043,669	519,785	25.6
1908	45,970	14.0	644,656	92.2	594,128	106½	112	126½	137	114,268,468	456,940	17.7
1909	*44,262*	15.8	700,434	98.4	689,108	106	119¾	100	119¼	87,364,318	815,617	12.5
1910 [1]	45,681	13.9	635,121	88.3	561,051	104	110	98	106	69,311,760	1,146,558	10.9
1911	49,543	12.5	621,338	87.4	543,063	105	110	115	122	79,689,404	3,413,626	12.8
1912	45,814	15.9	730,267	76.0	555,280	85	90¾	90½	96	142,879,596	1,282,039	19.6
1913	50,184	15.2	763,380	79.9	610,122	89½	93	96	100	145,590,349	2,383,537	19.1
1914	53,541	16.6	891,017	98.6	878,680	115	131	141	164½	332,464,975	715,369	37.3
1915	60,469	17.0	1,025,801	91.9	942,303	106	128½	116	126	243,117,026	7,187,650	23.7
1916	52,316	12.2	636,318	160.3	1,019,968	155½	190	258	340	203,573,928	24,924,985	32.0
1917	45,089	14.1	636,655	200.8	1,278,112	220	220	220	220	132,578,633	31,215,213	20.8
1918	59,181	15.6	921,438	204.2	1,881,826	220	220	245	280	287,401,579	11,288,591	31.2
1919	75,694	12.8	967,979	214.9	2,080,056	280	325	295	345	219,864,548	5,495,516	22.7
1920 [1]	61,143	13.6	833,027	143.7	1,197,263	164	187	142	178	366,077,439	57,398,002	43.9
1921	63,696	12.8	814,905	92.6	754,834	118½	138	127	173	279,406,777	17,251,481	34.3
1922 [2]	61,230	14.0	856,211	100.9	864,139	121	139¾	....	....	.....	.....	.....

[1] Acreage adjusted to census basis.

[2] Preliminary estimate.

WHEAT—Continued.

TABLE 23.—*Wheat: Yield per acre in 29 foreign countries, 1899 to 1921.*[1]

Year.	Algeria.	Argentina.	Australia.	Austria.	Belgium.	British India.	Bulgaria.	Canada.	Chile.	Czechoslovakia.	Denmark.	Egypt.	France.	Germany.	Greece.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1899	6.9	13.3	7.8	19.0	.....	10.9	10.6	17.4	.....	.....	42.7	.....	21.3	28.4	.....
1900	10.3	12.7	7.3	15.6	33.0	10.7	.....	13.1	.....	.....	42.0	.....	19.2	27.9	.....
1901	9.9	9.0	8.8	16.7	34.5	11.1	.....	25.2	.....	.....	30.6	.....	18.5	23.5	.....
1902	9.9	6.9	7.8	19.0	34.9	9.7	.....	25.3	.....	.....	44.9	.....	20.2	30.3	.....
1903	9.7	11.4	2.5	17.7	34.8	12.7	17.8	17.2	.....	.....	44.2	.....	22.7	29.3	.....
1904	7.8	12.1	13.7	19.5	35.1	12.7	18.7	16.6	.....	.....	42.4	.....	18.6	29.5	.....
1905	7.5	12.4	9.0	19.6	30.8	9.9	14.4	21.7	.....	.....	40.3	.....	20.8	28.5	.....
1906	10.4	9.6	11.5	20.3	34.9	12.1	15.7	20.3	.....	.....	41.2	.....	20.4	30.3	.....
1907	9.6	11.1	11.5	18.3	40.3	10.9	9.7	15.3	.....	.....	43.0	.....	23.5	29.6	.....
1908	8.7	13.5	8.6	21.0	35.4	10.0	15.1	17.0	16.6	.....	.....	24.7	19.5	29.7	.....
Average, 1899–1908	9.1	11.3	9.0	18.7	34.8	11.1	.....	18.9	.....	.....	.....	.....	20.5	28.8	.....
1909	10.6	10.4	12.3	19.9	37.4	10.9	12.5	21.5	16.1	.....	.....	25.0	22.0	30.5	.....
1910	10.4	9.1	14.2	19.2	31.2	12.8	15.7	16.1	23.4	.....	.....	25.6	15.6	29.6	.....
1911	11.5	10.1	13.3	19.6	39.5	12.3	17.5	20.8	18.8	.....	44.7	28.1	20.3	30.6	.....
1912	7.5	10.6	9.9	22.4	38.7	11.9	15.5	20.4	20.5	.....	44.0	23.5	20.6	33.7	.....
1913	10.5	11.3	12.9	19.9	37.4	12.2	17.9	21.0	21.4	.....	49.9	28.4	19.8	35.1	.....
Average, 1909–1913	10.1	10.3	12.5	20.2	36.9	12.0	15.8	20.0	19.9	.....	.....	26.1	19.7	31.9	.....
1914	9.2	7.0	11.5	22.9	34.9	11.0	9.8	15.7	16.1	26.3	43.2	25.7	18.9	29.6	8.3
1915	10.8	10.9	2.7	.....	.....	11.6	15.3	26.0	17.7	19.0	48.6	25.1	20.1	28.6	.....
1916	8.9	11.2	14.8	.....	.....	10.7	12.5	17.1	17.7	15.9	39.7	25.7	16.5	27.9	.....
1917	7.2	5.0	13.6	14.6	.....	11.5	13.4	15.8	17.7	12.2	32.8	27.2	13.0	22.9	11.0
1918	15.6	10.3	12.1	12.9	.....	10.4	10.4	10.9	17.8	12.9	45.2	25.5	20.5	25.4	12.6
1919	9.1	10.1	9.5	13.8	28.8	11.8	16.4	10.1	16.4	18.2	46.3	22.8	16.1	24.8	10.4
1920	3.2	14.3	7.2	14.7	33.6	12.6	18.6	14.4	.....	16.8	41.1	26.6	18.8	24.3	8.7
Average, 1914–1920	9.3	9.8	10.6	.....	.....	11.3	13.6	15.4	.....	17.3	42.5	25.5	17.8	26.6	.....
1921	14.7	11.5	16.0	17.1	32.6	9.7	18.0	12.9	21.9	26.4	50.9	25.4	24.5	27.5	11.3

[1] Complied from United States Department of Agriculture office data. Data not available in cases of omission.

Year.	Italy.	Japan.	Netherlands.	New Zealand.	Norway.	Poland (Russian).	Rumania.	Russia proper.	Russian Empire.	Spain.	Sweden.	Switzerland.	United Kingdom.	Uruguay.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1899	.....	18.6	28.6	33.7	.....	16.5	6.3	8.3	9.1	10.8	24.5	.....	33.8	.....
1900	.....	19.0	29.6	32.8	.....	15.0	14.4	8.0	8.1	11.4	28.0	.....	29.5	8.5
1901	15.2	18.8	31.3	32.4	.....	11.6	17.9	7.6	7.9	14.9	21.5	.....	31.9	5.4
1902	12.8	17.1	33.6	25.0	.....	15.6	20.8	10.9	11.0	14.6	23.5	.....	33.9	10.5
1903	17.0	8.3	31.1	39.5	.....	14.9	18.6	10.4	10.9	14.4	27.6	.....	31.0	8.0
1904	13.9	17.6	33.0	35.2	.....	17.1	12.6	11.4	11.3	10.6	25.7	.....	27.8	.....
1905	13.5	16.6	32.1	36.3	.....	16.6	21.4	9.4	10.2	10.4	26.8	.....	33.5	11.7
1906	15.3	18.7	35.3	31.3	.....	16.8	22.8	7.0	8.0	15.1	31.4	.....	34.8	6.5
1907	15.1	21.0	39.7	25.4	24.2	14.6	10.0	7.5	8.5	11.0	28.9	.....	35.0	11.0
1908	.....	20.5	36.8	29.8	.....	17.4	12.3	8.4	9.3	12.9	30.8	.....	33.4	12.1
Average, 1899–1908	.....	17.6	32.9	32.6	.....	15.6	15.7	8.9	9.4	12.6	26.9	.....	32.6	.....
1909	16.4	20.8	32.7	35.9	26.1	17.3	13.6	12.5	11.8	15.4	32.7	.....	34.9	12.6
1910	13.0	20.2	32.9	29.0	24.5	18.1	23.0	10.6	10.8	14.6	31.3	.....	31.4	.....
1911	16.4	21.0	38.8	26.6	22.6	19.2	19.7	6.6	7.0	15.3	32.3	34.6	32.5	9.4
1912	14.1	21.8	39.2	34.7	27.7	19.7	17.4	9.5	10.3	11.4	.....	31.2	30.0	11.0
1913	18.3	22.6	36.6	28.1	27.0	18.3	20.8	13.0	12.4	11.7	32.8	34.8	32.7	6.7
Average, 1909–1913	15.6	21.3	36.1	30.6	25.6	18.5	18.9	10.4	10.4	13.7	.....	.....	32.3	.....
1914	14.4	19.6	39.0	32.3	22.5	.....	8.9	.....	9.9	12.0	30.9	31.8	33.8	6.5
1915	13.6	21.8	43.5	29.8	23.8	.....	19.1	.....	.....	13.9	30.7	34.7	32.7	4.6
1916	15.1	23.1	35.7	22.3	22.6	.....	16.2	.....	.....	15.0	28.4	30.8	30.0	10.4
1917	13.3	24.9	32.7	23.9	21.6	.....	.....	.....	.....	.....	21.1	32.8	31.6	6.9
1918	17.0	23.7	36.7	25.0	26.6	.....	3.3	.....	.....	13.3	23.5	38.9	34.4	13.4
1919	16.0	24.2	35.8	31.6	26.1	20.8	15.5	.....	.....	12.5	27.3	27.1	29.2	8.2
1920	12.5	21.8	37.9	32.6	25.0	12.7	14.1	.....	.....	13.5	29.0	30.1	28.7	8.7
Average, 1914–1920	14.5	22.8	37.5	27.3	24.5	.....	.....	.....	.....	.....	27.2	32.3	31.6	8.9
1921	16.0	21.2	49.4	31.2	23.5	17.1	13.0	.....	.....	13.8	34.9	30.5	35.4	11.1

[1] Compiled from United States Department of Agriculture office data. Data not available in cases of omission.

WHEAT—Continued.

TABLE 24.—*Wheat: Production in 29 foreign countries, 1899 to 1921.*[1]

Year.	Algeria.	Argentina.	Australia.	Austria.	Belgium.	British India.	Bulgaria.	Canada.	Chile.	Czechoslovakia.[2]	Denmark.	Egypt.[3]	France.	Germany.	Greece.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1899	22,281	104,981	42,723	50,208	.....	255,273	21,629	[4] 34,006	.....	.....	4,054	33,024	365,449	141,368	.....
1900	33,593	101,654	41,237	40,929	13,788	200,000	.....	[5] 55,572	.....	.....	4,135	37,742	325,542	141,137	.....
1901	32,244	74,752	49,877	44,027	14,143	264,825	.....	[4] 62,458	.....	.....	979	34,486	310,913	97,816	.....
1902	33,896	56,379	39,777	49,655	14,521	227,380	.....	[4] 66,187	.....	.....	4,531	34,665	327,898	143,314	.....
1903	34,034	103,758	12,768	46,198	12,350	297,601	35,551	[6] 56,439	.....	.....	4,460	32,922	362,968	130,625	.....
1904	25,484	129,671	76,486	53,734	13,817	359,936	42,242	[6] 56,045	.....	.....	4,282	33,229	299,639	139,802	.....
1905	25,579	150,743	56,254	54,531	12,401	283,063	34,949	[6] 84,175	.....	.....	4,067	31,383	334,838	135,946	.....
1906	34,323	134,930	70,680	58,254	12,963	319,952	39,109	[6] 102,256	.....	.....	4,161	32,486	328,697	144,753	.....
1907	31,260	155,991	68,515	53,287	15,835	317,061	23,545	92,691	.....	.....	4,343	32,435	381,223	127,842	.....
1908	31,260	192,437	46,063	62,129	13,393	228,689	36,495	112,434	18,915	.....	4,318	30,000	316,684	138,440	.....
Average, 1899–1908	30,395	120,535	50,438	51,295	.....	275,378	.....	.....	.....	.....	3,933	.....	335,385	133,504	.....
1909	29,739	156,162	65,564	58,467	14,603	285,197	32,071	166,744	17,671	.....	3,829	32,444	359,174	137,999	.....
1910	35,722	131,010	93,263	57,589	12,449	359,647	42,247	149,990	19,682	.....	5,463	33,213	252,963	141,884	.....
1911	39,375	145,981	98,109	58,886	15,745	375,629	48,295	230,924	18,184	.....	5,676	36,087	322,339	149,411	.....
1912	27,172	166,190	73,894	69,638	15,348	370,515	44,756	224,159	22,468	.....	5,045	31,335	334,333	160,224	.....
1913	37,661	187,391	94,880	59,625	14,769	367,845	44,812	231,717	23,575	.....	6,692	38,503	319,370	171,075	.....
Average, 1909–1913	33,934	157,347	84,942	60,841	14,583	351,767	42,436	200,707	20,316	.....	5,341	34,316	317,636	152,119	.....
1914	33,241	113,904	106,601	38,024	13,973	312,032	25,980	161,280	16,403	23,541	5,785	33,488	282,689	145,944	7,200
1915	34,654	168,468	25,677	.....	.....	376,581	36,940	393,543	19,000	17,262	7,978	39,905	222,776	141,676	.....
1916	29,151	184,158	184,709	.....	.....	323,008	27,764	262,781	20,184	14,363	6,041	37,253	204,908	110,207	.....
1917	23,151	80,115	157,224	5,992	8,252	379,232	33,294	233,743	22,498	10,972	4,296	30,414	134,575	81,791	11,505
1918	49,774	184,000	118,349	5,159	6,189	370,421	25,341	189,075	23,120	11,549	6,330	32,765	225,736	85,865	13,722
1919	25,559	171,591	75,638	5,114	9,895	280,485	34,028	193,260	21,591	[7] 15,369	5,923	30,137	187,094	79,701	9,693
1920	8,561	214,143	45,976	5,424	10,275	377,888	39,705	263,189	.....	26,362	7,390	31,711	236,929	82,858	12,194
Average, 1914–1920	29,156	159,483	102,025	.....	.....	345,664	31,865	242,410	.....	.....	6,249	33,668	213,530	104,006	.....
1921	41,480	169,756	144,191	6,452	11,523	250,469	42,510	300,857	25,180	40,673	11,207	37,011	322,767	97,864	11,170

[1] Compiled from United States Department of Agriculture data.
[2] Bohemia, Moravia, and Silesia only.
[3] 1889 to 1907 estimated from acreage figures.
[4] Manitoba and Saskatchewan only.
[5] Census figures.
[6] Manitoba, Saskatchewan, and Alberta only.
[7] Bohemia and Moravia only.

Year.	Italy.	Japan.	Netherlands.	New Zealand.	Norway.	Poland (Russian).	Rumania.	Russia Proper.	Russian Empire.	Spain.	Sweden.	Switzerland.	United Kingdom.	Uruguay.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1899	137,912	21,198	5,097	13,485	.....	21,545	26,064	314,877	454,145	97,707	4,554	.....	69,380	7,164
1900	147,341	21,785	4,671	8,852	326	19,722	56,663	319,193	422,994	100,702	5,380	.....	56,034	6,891
1901	181,512	22,398	4,231	6,733	319	14,409	72,386	319,992	427,781	136,904	4,193	.....	55,627	3,664
1902	150,648	20,243	5,105	4,174	265	20,349	76,220	463,259	607,370	133,522	4,757	.....	60,115	7,604
1903	203,191	9,600	4,257	7,693	307	19,255	73,700	454,597	621,459	128,978	5,538	.....	50,357	5,240
1904	184,819	19,754	4,424	8,140	212	21,241	53,738	519,966	666,752	95,505	5,135	.....	39,115	.....
1905	176,735	18,346	4,850	9,411	329	20,239	103,328	451,328	636,286	92,070	5,529	.....	61,491	7,565
1906	194,372	20,282	4,943	7,013	303	21,152	113,867	344,766	543,481	140,655	6,650	.....	62,529	4,606
1907	195,475	22,795	5,324	5,782	290	18,173	42,287	340,417	570,570	100,330	6,279	.....	58,313	6,867
1908	167,917	22,587	5,119	5,743	330	21,182	57,813	383,017	627,698	119,968	6,938	3,527	55,629	7,430
Average, 1899–1908	183,822	19,908	4,802	7,703	.....	19,727	67,302	391,141	557,854	114,634	5,495	.....	56,859	.....
1909	190,378	22,966	4,157	9,049	313	21,194	56,751	586,819	846,165	144,103	7,761	3,568	65,188	8,595
1910	153,403	23,556	4,441	9,008	294	22,757	110,761	552,066	836,242	137,448	7,533	2,756	58,377	.....
1911	192,395	25,647	5,511	8,551	271	24,129	93,724	346,372	563,485	148,495	8,106	3,524	63,340	5,972
1912	165,720	26,514	5,604	7,490	332	24,626	88,924	472,389	801,497	109,783	7,797	3,178	59,211	8,757
1913	214,772	26,757	5,164	5,343	325	24,011	83,236	656,324	1,027,662	112,401	9,502	3,546	58,483	5,461
Average, 1909–1913	183,334	25,088	4,976	7,888	307	23,343	86,679	522,794	815,010	130,446	8,140	3,314	60,920	.....
1914	169,582	22,975	5,779	5,397	270	.....	46,296	.....	833,639	116,089	8,906	3,278	64,400	5,887
1915	170,541	26,773	7,090	6,854	285	.....	89,786	.....	.....	139,298	9,660	3,957	76,244	3,596
1916	176,530	30,137	4,786	7,332	317	.....	78,520	.....	.....	152,329	9,038	3,821	61,659	9,867
1917	139,999	34,745	3,949	5,243	432	.....	.....	.....	.....	142,674	6,929	4,556	66,350	5,390
1918	183,294	32,923	5,431	7,022	1,090	.....	18,447	.....	.....	135,709	8,888	7,905	96,079	13,060
1919	169,769	32,562	6,015	6,568	1,071	22,156	66,060	.....	.....	129,250	9,509	3,524	69,324	6,890
1920	141,337	28,288	5,766	4,560	999	22,741	70,350	.....	.....	138,606	10,545	3,584	56,834	5,948
Average, 1914–1920	164,436	29,772	5,545	6,139	638	.....	.....	.....	.....	136,279	9,068	4,375	70,127	7,234
1921	188,126	26,921	8,686	6,872	941	35,576	76,977	.....	.....	143,205	12,566	3,574	73,800	7,768

[1] Compiled from United States Department of Agriculture data. Data not available in cases of omission.

WHEAT—Continued.

TABLE 26.—*Wheat: Harvested each month, per cent and millions of bushels.*

Month.	Per cent.	Million bushels.	Month.	Per cent.	Million bushels.
January	5	187	August	25	937
February	1	38	September	2	76
March	3	113	October	(1)	(1)
April	7	262	November	(1)	(1)
May	4	150	December	3	113
June	15	562			
July	35	1,312	Total	100	3,750

[1] Less than 1 per cent—practically none.

The proportion of the world wheat crop which is harvested each month has been estimated in the Bureau of Statistics (Crop Estimates) to be approximately as above.

"The proportion of the crop harvested in any month varies from year to year according as the season is early or late, and also as the yield is relatively large or small in the different latitudes. The figures given are merely approximations; the percentages have been applied to the average yearly world production of the past five years, in round numbers, to obtain the quantities harvested.

"From the figures shown it appears that the world harvest season begins in December, when operations start in Australia and South America, enlarge in January, and practically end in February. India then commences, and increases in activity through March and April. In April harvesting operations begin in such countries as Persia, Asia Minor, and Mexico. In May activity is lessened, for then the Indian harvest has been about completed and the harvest season is crossing the Mediterranean from North Africa to southern Europe, where harvests do not become general until June. In June, July, and August, about 75 per cent of the crop is harvested, the season progressing steadily northward during these months. By September harvest operations are nearly completed; Scotland, northern Russia and Siberia, and Canada having a little left over from August. Practically no harvesting of wheat is done in October, and very little in November."

This table is based on pre-war data; it is probable that these monthly ratios are practically correct at the present time.

TABLE 27.—*Wheat: Acreage, production, and total farm value, by States, 1920-1922.*

State.	Thousands of acres.			Production (thousands of bushels).			Total value, basis Dec. 1 price (thousands of dollars).		
	1920	1921	1922 [1]	1920	1921	1922 [1]	1920	1921	1922 [1]
Maine	13	11	11	286	187	275	658	327	468
Vermont	11	9	9	209	126	189	418	158	274
New York	467	475	466	10,203	9,437	9,014	17,856	9,868	10,636
New Jersey	74	81	77	1,184	1,539	1,540	2,427	1,739	1,694
Pennsylvania	1,368	1,365	1,378	22,700	23,850	25,444	38,590	24,566	27,988
Delaware	116	113	109	1,972	1,300	1,766	3,372	1,274	1,907
Maryland	598	590	578	10,166	8,260	9,537	16,774	8,508	10,681
Virginia	892	847	830	11,150	8,301	10,375	20,070	9,629	12,658
West Virginia	253	250	240	3,162	3,125	2,760	6,008	3,656	3,367
North Carolina	680	600	612	7,956	4,500	5,508	16,708	6,480	7,491
South Carolina	107	118	165	1,177	1,298	1,320	3,001	2,700	2,072
Georgia	124	138	190	1,240	1,449	1,520	2,976	2,536	2,280
Ohio	2,395	2,434	2,544	30,430	30,185	35,644	50,209	32,600	41,703
Indiana	2,080	2,016	2,056	24,960	24,192	29,798	41,683	25,644	33,373
Illinois	2,990	2,909	3,196	45,492	46,822	55,422	73,242	46,822	59,312
Michigan	1,008	945	1,023	15,383	14,840	14,326	25,844	15,433	16,475
Wisconsin	341	214	176	5,152	2,812	3,006	7,934	2,727	3,096
Minnesota	2,880	2,371	1,939	28,168	22,938	27,036	36,618	22,249	27,306
Iowa	613	555	757	10,732	9,944	16,867	15,024	8,751	16,699
Missouri	3,012	3,206	3,105	37,653	34,952	38,818	60,245	34,602	40,759
North Dakota	8,916	9,500	8,740	80,244	80,750	123,234	104,317	68,638	110,911
South Dakota	2,930	2,845	2,989	26,920	25,980	40,012	30,958	22,603	36,811
Nebraska	3,593	3,967	4,177	60,480	59,875	59,838	79,229	49,696	57,445
Kansas	9,294	10,554	9,756	143,078	128,695	122,887	186,002	119,687	120,429
Kentucky	588	634	650	5,998	6,340	7,475	11,456	7,291	8,820
Tennessee	424	450	472	4,028	4,500	4,484	7,855	5,400	5,515
Alabama	20	20	23	192	210	218	442	321	349
Mississippi	10	6	5	100	84	60	213	109	87
Texas	1,583	2,081	1,249	20,579	20,810	9,992	35,396	20,810	10,991
Oklahoma	3,380	3,786	3,300	54,080	47,325	31,350	73,008	40,700	30,723
Arkansas	126	103	86	1,197	958	1,118	2,274	958	1,185
Montana	2,787	2,715	2,699	28,690	33,430	40,370	36,724	28,416	35,929
Wyoming	196	193	180	3,920	3,316	3,060	5,292	2,620	2,509
Colorado	1,405	1,719	1,620	25,273	23,239	21,776	34,118	17,662	19,380
New Mexico	195	227	105	3,566	3,088	885	4,993	3,242	1,062
Arizona	36	40	49	864	840	1,274	2,264	1,050	1,465
Utah	273	276	294	5,331	6,299	5,682	8,156	4,725	5,113
Nevada	19	21	21	424	493	550	763	641	660
Idaho	1,100	1,123	1,123	24,600	26,952	24,275	30,750	19,405	21,847
Washington	2,459	2,550	2,426	41,665	58,245	32,444	56,248	50,091	33,742
Oregon	1,073	1,082	1,093	22,427	25,364	19,744	29,155	21,560	21,323
California	714	557	712	9,996	8,355	15,308	17,993	8,940	17,604
United States	61,143	63,696	61,230	833,027	814,905	856,211	1,197,263	754,834	864,139

[1] Preliminary estimate.

WHEAT—Continued.

TABLE 28.—*Winter and spring wheat: Acreage (sown and harvested), production, and farm value December 1, by States in 1922 (preliminary) and United States totals, 1900–1922.*

State.	Winter wheat.[1]						Spring wheat.[1]				
	Acreage sown in preceding fall.	Acreage harvested.	Average yield per acre.	Production.	Average farm price Dec. 1.	Total farm value Dec. 1.	Acreage.	Average yield per acre.	Production.	Average farm value Dec. 1.	Total farm value Dec. 1.
	1,000 acres.	*1,000 acres.*	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*1,000 acres.*	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*
Me.	.....	.....	.....	.....	.....	.....	11	25.0	275	170	468
Vt.	.....	.....	.....	.....	.....	.....	9	21.0	189	145	274
N. Y.	456	445	19.5	8,678	118	10,240	21	16.0	336	118	396
N. J.	79	77	20.0	1,540	110	1,694	.....	.....	.....	.....	.....
Pa.	1,392	1,364	18.5	25,234	110	27,757	14	15.0	210	110	231
Del.	112	109	16.2	1,766	108	1,907	.....	.....	.....	.....	.....
Md.	590	578	16.5	9,537	112	10,681	.....	.....	.....	.....	.....
Va.	843	830	12.5	10,375	122	12,658	.....	.....	.....	.....	.....
W. Va.	244	240	11.5	2,760	122	3,367	.....	.....	.....	.....	.....
N. C.	621	612	9.0	5,508	136	7,491	.....	.....	.....	.....	.....
S. C.	183	165	8.0	1,320	157	2,072	.....	.....	.....	.....	.....
Ga.	209	190	8.0	1,520	150	2,280	.....	.....	.....	.....	.....
Ohio	2,567	2,516	14.0	35,224	117	41,212	28	15.0	420	117	491
Ind.	2,136	2,052	14.5	29,754	112	33,324	4	11.0	44	112	49
Ill.	3,189	3,030	17.5	53,025	107	56,737	166	14.5	2,407	107	2,575
Mich.	1,035	1,014	14.0	14,196	115	16,325	9	14.5	130	115	150
Wis.	110	95	18.6	1,767	103	1,820	81	15.3	1,239	103	1,276
Minn.	95	89	19.0	1,691	101	1,708	1,850	13.7	25,345	101	25,598
Iowa	703	689	23.0	15,847	99	15,689	68	15.0	1,020	99	1,010
Mo.	3,229	3,100	12.5	38,750	105	40,688	5	13.5	68	105	71
N. Dak.	.....	.....	.....	.....	.....	.....	8,740	14.1	123,234	90	116,911
S. Dak.	102	96	19.0	1,824	92	1,678	2,893	13.2	38,188	92	35,133
Nebr.	4,149	3,942	14.5	57,159	96	54,873	235	11.4	2,679	96	2,572
Kans.	12,284	9,741	12.6	122,737	98	120,282	15	10.0	150	98	147
Ky.	670	650	11.5	7,475	118	8,820	.....	.....	.....	.....	.....
Tenn.	492	472	9.5	4,484	123	5,515	.....	.....	.....	.....	.....
Ala.	25	23	9.5	218	160	349	.....	.....	.....	.....	.....
Miss.	6	5	12.0	60	145	87	.....	.....	.....	.....	.....
Tex.	1,784	1,249	8.0	9,992	110	10,991	.....	.....	.....	.....	.....
Okla.	3,929	3,300	9.5	31,350	98	30,723	.....	.....	.....	.....	.....
Ark.	89	86	13.0	1,118	106	1,185	.....	.....	.....	.....	.....
Mont.	471	386	16.5	6,369	89	5,668	2,313	14.7	34,001	89	30,261
Wyo.	42	38	17.0	646	82	530	142	17.0	2,414	82	1,979
Colo.	1,793	1,262	13.0	16,406	89	14,601	358	15.0	5,370	89	4,779
N. Mex.	112	45	5.0	225	120	270	60	11.0	660	120	792
Ariz.	54	49	26.0	1,274	115	1,465	.....	.....	.....	.....	.....
Utah	162	159	14.0	2,226	90	2,003	135	25.6	3,456	90	3,110
Nev.	3	3	19.7	59	120	71	18	27.3	491	120	589
Idaho	465	444	19.5	8,658	90	7,792	679	23.0	15,617	90	14,055
Wash.	1,533	1,426	16.3	23,244	104	24,174	1,000	9.2	9,200	104	9,568
Oreg.	879	844	20.0	16,880	108	18,230	249	11.5	2,864	108	3,093
Calif.	774	712	21.5	15,308	115	17,604	.....	.....	.....	.....	.....
U. S.	45,611	42,127	13.9	586,204	104.8	614,561	19,103	14.1	270,007	92.4	249,578
1921	44,895	43,414	13.8	600,316	95.1	571,044	20,282	10.6	214,589	85.6	183,790
1920	44,861	40,016	15.3	610,597	148.6	907,291	21,127	10.5	222,430	130.4	289,972
1919	51,483	50,494	15.1	760,377	210.5	1,600,805	25,200	8.2	207,602	230.9	479,251
1918	42,301	37,130	15.2	565,099	206.3	1,165,995	22,051	16.2	356,339	200.9	715,831
1917	40,534	27,257	15.1	412,901	202.8	837,237	17.832	12.5	223,754	197.0	440,875
1916	39,203	34,709	13.8	480,553	162.7	781,906	17,607	8.8	155,765	152.8	238,062
1915	42,881	41,308	16.3	673,947	94.7	638,149	19,161	18.4	351,854	86.4	304,154
1914	37,128	36,008	19.0	684,990	98.6	675,623	17,533	11.8	206,027	98.6	203,057
1913	33,618	31,699	16.5	523,561	82.9	433,995	18,485	13.0	239,819	73.4	176,127
1912	33,215	26,571	15.1	399,919	80.9	323,572	19,243	17.2	330,348	70.1	231,708
1911	32,648	29,162	14.8	430,656	88.0	379,151	20,381	9.4	190,682	86.0	163,912
1910	31,656	27,329	15.9	434,142	88.1	382,318	18,352	11.0	200,979	88.9	178,733
1905–1909	31,066	28,762	15.4	443,728	85.4	379,005	17,745	14.1	249,605	80.1	199,998
1900–1904	36,040	31,832	13.6	432,084	71.8	310,054	18,761	13.0	243,314	64.9	157,905

[1] Preliminary estimate.

WHEAT—Continued

TABLE 29.—*Wheat: Production and distribution in the United States, 1897–1922.*

Year.	Stocks in mills and elevators July 1.	Old stock on farms July 1.	Crop.			Total supplies.[1]	Stock on farms Mar. 1 following.	Stocks in mills and elevators Mar. 1.	Shipped out of county where grown.
			Quantity.	Weight per bushel.	Quality.				
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*Pounds.*	*Per cent.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1897–1901	.....	42,960	681,963	57.2	87.0	724,923	175,055	.....	365,058
1902–1906	.....	42,048	693,847	57.2	.....	735,895	159,665	.....	396,532
1907	.....	55,438	637,981	58.2	89.9	693,419	148,392	.....	377,999
1908	.....	33,188	644,656	58.3	89.4	677,844	137,628	.....	392,441
1909	.....	14,171	700,434	57.9	90.4	714,605	163,371	.....	428,262
1910	.....	36,725	635,121	58.5	93.1	671,846	162,705	98,597	352,906
1911	.....	34,071	621,338	57.8	88.3	655,409	122,041	95,710	348,739
1912	.....	23,876	730,267	58.3	90.0	754,143	156,471	118,400	449,881
1913	.....	35,515	763,380	58.7	93.2	798,895	151,795	93,627	411,733
1914	.....	32,236	891,017	58.0	89.7	923,253	152,903	85,955	541,198
1915	.....	28,972	1,025,801	57.9	88.4	1,054,773	244,448	155,027	633,380
1916	.....	74,731	636,318	57.1	87.0	711,049	100,650	89,173	361,088
1917	.....	15,611	636,655	58.5	92.4	652,166	107,745	66,138	325,500
1918	.....	8,063	921,438	58.8	93.1	929,501	128,703	107,037	541,666
1919	19,672	19,261	967,979	56.3	82.1	987,240	169,904	123,233	591,552
1920	37,304	49,546	833,027	57.4	88.9	882,573	217,037	87,075	491,035
1921	26,767	56,707	814,905	56.6	85.8	871,612	124,253	75,071	502,470
1922[2]	27,830	32,359	856,211	57.7	87.6	888,570	153,134	91,546	574,452

[1] Crop and carry-over on farms only. [2] Preliminary estimate.

TABLE 30.—*Winter and spring wheat: Condition of crop, United States, on 1st of months named, and per cent of winter wheat area abandoned, 1900–1922.*

Year.	Winter wheat.						Spring wheat.			
	December of previous year.	Area abandoned.	April.	May.	June.	When harvested.	June.	July.	August.	When harvested.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1900–1904	93.4	.....	85.3	85.7	81.3	80.7	92.8	83.9	78.2	73.2
1905–1909	89.5	6.6	88.8	87.8	82.5	81.9	93.2	90.3	85.6	82.8
1910	95.8	13.7	80.8	82.1	80.0	81.5	92.8	61.6	61.0	63.1
1911	82.5	10.7	83.3	86.1	80.4	76.8	94.6	73.8	59.8	56.7
1912	86.6	20.1	80.6	79.7	74.3	73.3	95.8	89.3	90.4	90.8
1913	93.2	4.7	91.6	91.9	83.5	81.6	93.5	73.8	74.1	75.3
1914	97.2	3.1	95.6	95.9	92.7	94.1	95.5	92.1	75.5	68.0
1915	88.3	2.7	88.8	92.9	85.8	84.4	94.9	93.3	93.4	94.6
1916	87.7	11.4	78.3	82.4	73.2	75.7	88.2	89.0	63.4	48.6
1917	85.7	31.0	63.4	73.2	70.9	75.9	91.6	83.6	68.7	71.2
1918	79.3	13.7	78.6	86.4	83.8	79.5	95.2	86.1	79.6	82.1
1919	98.5	1.1	99.8	100.5	94.9	89.0	91.2	80.9	53.9	48.5
1920	85.2	10.8	75.6	79.1	78.2	79.7	89.1	88.0	73.4	64.1
1921	87.9	4.6	91.0	88.8	77.9	77.2	93.4	80.8	66.6	62.5
1922	76.0	14.5	78.4	83.5	81.9	77.0	90.7	83.7	80.4	80.1
1923	79.5	.....	.....	.....	.....	.....	.....	.....	.....	.....

WHEAT—Continued.

TABLE 31.—*Winter wheat: Forecast of production, monthly, with preliminary and final estimates.*

Year.	May.	June.	July.	August production estimate.	Final estimate.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1912	370,714	363,000	358,000	389,942	399,919
1913	513,571	492,000	483,000	510,519	523,561
1914	630,319	639,541	652,975	675,115	684,990
1915	692,924	675,500	668,291	656,866	673,947
1916	499,280	469,066	439,030	454,706	480,553
1917	366,116	373,032	402,378	417,347	412,901
1918	572,539	586,915	557,339	555,725	565,099
1919	899,915	892,822	838,582	715,301	760,377
1920	484,647	503,996	518,245	532,641	610,597
1921	629,287	578,342	573,930	543,879	600,316
Average	565,931	557,421	554,177	545,204	571,226
1922	584,793	607,333	569,276	541,809	[1] 586,204

TABLE 32.—*Spring wheat: Forecast of production, monthly, with preliminary and final estimates.*

Year.	June.	July.	August.	September.	October production estimate.	Final estimate.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1912	265,000	271,000	290,000	300,000	330,391	330,348
1913	252,000	218,000	233,000	243,000	242,714	239,819
1914	262,135	274,808	236,120	221,482	216,835	206,027
1915	273,513	294,977	307,250	322,463	345,163	351,854
1916	245,801	269,517	199,329	156,351	152,851	155,765
1917	282,813	275,970	236,019	250,359	242,450	223,754
1918	343,987	333,591	322,205	342,855	363,195	356,339
1919	343,181	322,096	225,080	208,049	203,170	207,602
1920	276,547	291,355	261,506	237,374	218,007	222,430
1921	251,289	235,482	212,946	209,979	196,776	214,589
Average	279,627	278,599	252,346	249,191	251,155	250,853
1922	247,175	247,660	263,392	276,665	268,314	[1] 270,007

[1] Preliminary estimate.

WHEAT—Continued.

TABLE 33.—*Wheat: Yield per acre (winter), in principal producing States, 1899–1922.*[1]

Year.	Kansas.	Nebraska.	Illinois.	Missouri.	Oklahoma.	Ohio.	Indiana.	Washington.	Pennsylvania.	Texas.	Michigan.
	Bush.	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*
1899	9.8	11.4	10.0	9.9	13.3	1[illegible].2	9.8	26.2	13.6	11.1	8.4
1900	17.7	13.3	13.0	12.5	19.0	6.0	5.3	27.2	13.5	18.4	7.6
1901	18.8	19.0	17.6	15.9	15.8	15.3	15.8	33.7	17.1	8.9	11.1
1902	10.4	23.2	17.9	19.9	11.3	17.1	16.0	25.7	15.8	9.0	17.7
1903	14.0	16.4	8.4	8.7	14.5	13.7	10.0	20.0	15.6	13.4	15.5
1904	12.3	14.4	13.8	11.7	12.1	11.5	9.2	28.0	14.1	10.7	9.8
1905	13.9	20.4	16.0	12.4	8.5	17.9	18.3	22.0	17.1	8.9	18.5
1906	15.3	23.2	19.5	14.8	13.7	20.4	20.7	24.0	17.7	11.5	13.1
1907	11.3	19.0	18.0	13.2	9.0	16.3	14.4	29.5	18.6	7.4	14.5
1908	12.8	17.8	13.0	10.0	11.6	16.0	16.6	24.5	18.5	11.0	18.0
Average, 1899–1908	13.6	17.8	14.7	12.9	12.9	14.8	13.6	26.1	16.1	11.0	13.4
1909	14.5	19.4	17.4	14.7	12.8	15.9	15.3	25.8	17.0	9.1	18.8
1910	14.2	16.5	15.0	13.8	16.3	16.2	15.6	20.5	17.8	15.0	18.0
1911	10.8	13.8	16.0	15.7	8.0	16.0	14.7	27.3	13.5	9.4	18.0
1912	15.5	18.0	8.3	12.5	12.8	8.0	8.0	27.6	18.0	15.0	10.0
1913	13.0	18.6	18.7	17.1	10.0	18.0	18.5	27.0	17.0	17.5	15.3
Average, 1909–1913	13.6	17.3	15.1	14.8	12.0	14.8	14.4	25.6	16.7	13.2	16.0
1914	20.5	19.3	18.5	17.0	19.0	18.5	17.4	26.5	18.1	13.0	19.7
1915	12.5	18.5	19.0	12.3	11.6	20.3	17.2	27.6	18.5	15.5	21.3
1916	12.0	20.0	11.0	8.5	9.7	13.5	12.0	26.5	19.0	11.0	16.6
1917	12.2	12.0	18.5	15.3	11.5	22.0	18.5	21.5	17.5	12.0	18.0
1918	14.1	11.1	21.5	17.2	12.6	19.0	21.0	23.5	17.0	10.0	14.0
1919	13.8	14.8	17.5	13.5	14.0	20.0	15.0	21.1	17.5	16.5	20.3
1920	15.4	17.4	15.1	12.5	16.0	12.7	12.0	24.0	16.6	13.0	15.6
Average, 1914–1920	14.4	16.2	17.3	13.8	13.5	18.0	16.2	24.4	17.7	13.0	17.9
1921	12.2	15.3	16.2	10.9	12.5	12.4	12.0	27.9	17.5	10.0	16.0
1922	12.6	14.5	17.5	12.5	9.5	14.0	14.5	16.3	18.5	8.0	14.0

Year.	Oregon.	Virginia.	Maryland.	Montana.	Kentucky.	Iowa.	Idaho.	Colorado.	California.	New York.	All others.
	Bush.	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*
1899	21.2	8.4	14.1	.....	9.1	18.1	24.1	.....	14.1	18.5	8.8
1900	17.3	11.9	19.5	.....	13.0	21.7	20.8	.....	10.3	17.7	11.1
1901	23.3	10.9	17.2	.....	12.1	22.4	21.2	.....	13.0	13.1	10.9
1902	22.2	5.7	14.7	.....	9.3	18.5	22.1	.....	10.9	16.8	7.6
1903	19.0	8.7	12.5	.....	8.4	15.9	20.9	.....	11.2	17.8	9.1
1904	21.4	10.2	13.4	.....	11.4	15.4	22.3	.....	10.8	11.3	11.2
1905	21.0	11.4	16.3	.....	11.3	20.1	32.0	.....	9.3	21.0	11.0
1906	22.3	12.5	16.0	.....	14.1	22.3	25.3	.....	17.1	20.0	11.7
1907	25.5	12.5	18.4	.....	12.0	18.4	26.0	.....	15.0	17.3	10.9
1908	23.2	11.4	16.4	.....	11.6	20.9	30.0	.....	5.2	17.5	11.3
Average, 1899–1908	21.6	10.4	15.9	.....	11.2	19.4	24.5	.....	11.7	17.1	10.4
1909	21.0	11.2	14.5	32.6	11.8	21.6	28.9	29.8	14.0	21.0	12.5
1910	19.1	12.8	17.4	22.0	12.8	21.2	23.7	23.0	18.0	23.7	14.3
1911	22.2	12.0	15.5	31.7	12.7	19.7	31.5	18.0	18.0	19.5	13.0
1912	26.8	11.6	15.0	24.5	10.0	23.0	28.7	24.5	17.0	16.0	12.8
1913	21.4	13.6	13.3	25.6	13.6	23.4	27.4	21.1	14.0	20.0	14.0
Average, 1909–1913	22.1	12.2	15.1	27.3	12.2	21.8	28.0	23.3	16.2	20.0	13.3
1914	22.0	14.5	21.5	23.0	16.5	21.6	27.5	25.0	17.0	22.5	16.1
1915	24.0	13.8	16.1	27.0	11.0	21.5	29.0	26.0	16.0	25.0	13.9
1916	23.0	12.7	16.0	21.5	9.0	18.5	24.0	20.0	16.0	21.0	12.6
1917	17.5	13.0	17.0	13.0	12.0	17.5	18.0	23.0	19.8	21.0	12.4
1918	17.0	12.0	15.5	12.6	13.0	20.5	22.0	10.5	15.0	18.0	11.4
1919	21.2	11.8	13.5	5.2	11.5	18.3	18.5	13.2	15.5	22.0	11.2
1920	22.2	12.5	17.0	12.0	10.2	19.7	20.0	17.5	14.0	22.3	13.2
Average, 1914–1920	21.0	12.9	16.7	16.3	11.9	19.7	22.7	19.3	16.2	21.7	12.9
1921	25.5	9.8	14.0	14.0	10.0	19.2	24.0	12.0	15.0	19.5	10.7
1922	20.0	12.5	16.5	16.5	11.5	23.0	19.5	13.0	21.5	19.5	11.7

[1] Revised, except 1922.

NOTE.—Arranged in order of importance of production according to 10-year (1911–1920) average. Yield per acre computed to nearest tenth from acreage and production figures. Compiled from United States Department of Agriculture data.

WHEAT—Continued.

TABLE 34.—*Wheat: Yield per acre (spring) in principal producing States, 1899–1921.*[1]

Year.	North Dakota.	Minnesota.	South Dakota.	Washington.	Montana.	Idaho.	Iowa.	Colorado.	Nebraska.	Oregon.	Wisconsin.	Utah.	Wyoming.	Illinois.	All other.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1899	12.8	13.4	10.7	21.3	25.7	24.3	12.6	23.7	6.9	17.1	15.5	20.7	18.8	.....	10.0
1900	4.9	10.5	6.9	22.0	26.6	20.8	15.2	22.6	8.0	10.1	15.5	20.9	17.6	.....	10.0
1901	13.1	12.9	12.9	27.2	26.5	21.2	15.7	24.1	11.4	18.8	16.0	20.5	24.5	.....	11.1
1902	15.9	13.9	12.2	20.8	26.0	22.1	13.4	18.0	14.0	17.7	18.1	21.2	23.5	.....	10.2
1903	12.7	13.1	13.8	20.5	28.2	21.3	12.1	26.6	12.6	17.3	6.8	22.6	20.9	.....	9.8
1904	11.8	12.8	9.6	18.9	23.9	23.6	11.4	22.8	10.1	16.1	14.8	26.6	22.1	.....	10.9
1905	14.0	13.3	13.7	22.5	23.8	23.9	13.8	25.0	14.0	16.0	15.8	26.4	25.4	.....	10.1
1906	13.0	10.9	13.4	19.6	24.0	23.5	14.9	32.5	14.7	17.5	15.7	27.4	28.7	.....	14.5
1907	10.0	13.0	11.2	24.5	28.8	24.5	12.8	29.0	12.0	21.5	13.5	28.8	28.5	.....	10.2
1908	11.6	12.8	12.8	15.0	24.2	25.5	15.5	21.0	13.0	16.5	17.4	26.5	26.0	.....	10.1
Average, 1899–1908	12.0	12.7	11.7	21.2	25.8	23.1	13.7	24.5	11.7	16.9	14.9	24.2	23.6	.....	10.7
1909	13.7	16.8	14.1	20.6	28.8	26.0	14.7	29.4	14.0	18.7	19.0	28.5	26.9	.....	12.7
1910	5.0	16.0	12.8	14.5	22.0	20.4	20.9	21.9	13.9	18.0	18.7	25.3	25.0	.....	13.4
1911	8.0	10.1	4.0	19.4	25.2	29.0	13.8	19.5	10.0	17.7	14.5	27.0	26.0	.....	12.2
1912	18.0	15.5	14.2	20.4	23.5	28.3	17.0	24.0	14.1	19.5	18.5	29.6	29.2	.....	20.4
1913	10.5	16.2	9.0	19.0	21.5	28.0	17.0	21.0	12.0	19.5	18.6	28.0	25.0	.....	16.5
Average, 1909–1913	11.0	14.9	10.8	18.8	24.2	26.3	16.7	23.2	12.8	18.7	17.9	27.7	26.4	.....	15.0
1914	11.2	10.5	9.0	20.0	17.0	24.0	13.5	22.5	11.5	16.5	17.0	25.0	22.0	.....	20.8
1915	18.2	17.0	17.0	22.2	26.0	26.5	16.7	21.0	16.0	17.0	22.5	28.0	27.0	.....	21.1
1916	5.5	7.5	6.3	21.5	18.0	23.5	13.0	19.5	12.5	23.0	16.6	25.0	22.0	.....	21.0
1917	8.0	17.5	14.0	13.6	9.0	22.0	21.5	22.0	13.2	11.0	21.2	25.0	22.0	25.0	18.4
1918	13.6	21.0	19.0	9.5	12.5	21.0	18.0	17.5	11.9	11.0	24.7	23.8	26.0	26.9	20.1
1919	6.9	9.3	8.0	13.0	2.3	18.0	9.5	15.4	8.5	13.0	12.4	18.7	15.0	14.5	13.8
1920	9.1	9.5	9.0	11.9	10.0	24.0	11.3	19.4	9.5	17.0	12.6	23.7	20.0	16.5	15.5
Average, 1914–1920	10.4	13.2	11.8	16.0	13.5	22.7	14.8	19.6	11.9	15.5	18.1	24.2	22.0	.....	18.7
1921	8.5	9.5	9.0	15.0	12.0	24.0	10.3	19.0	11.3	17.0	11.1	26.3	17.0	14.5	14.0
1922	14.1	13.7	13.2	9.2	14.7	23.0	15.0	15.0	11.4	11.5	15.3	25.6	17.0	14.5	15.3

[1] Revised, except 1922.

NOTE.—Arranged in order of importance of production according to 10-year (1911–1920) average. Yield per acre computed to nearest tenth from acreage and production figures. Compiled from United States Department of Agriculture data.

WHEAT—Continued.

TABLE 35.—*Winter and spring wheat: Yield per acre, in States producing both, 1918–1922, and average.*

State.	Winter wheat.						Spring wheat.					
	5-yr. aver. 1918–1922	1918	1919	1920	1921	1922	5-yr. aver. 1918–1922	1918	1919	1920	1921	1922
	Bush.	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*	*Bush.*
New York	20.3	18.0	22.0	22.3	19.5	19.5	16.7	20.0	15.0	18.0	14.5	16.0
Pennsylvania	17.4	17.0	17.5	16.6	17.5	18.5	15.6	17.0	15.0	16.0	15.0	15.0
Ohio	15.6	19.0	20.0	12.7	12.4	14.0	15.6	21.5	16.0	13.0	12.5	15.0
Indiana	14.9	21.0	15.0	12.0	12.0	14.5	13.4	23.0	9.0	12.0	12.0	11.0
Illinois	17.6	21.5	17.5	15.1	16.2	17.5	17.4	26.9	14.5	16.5	14.5	14.5
Michigan	16.0	14.0	20.3	15.6	16.0	14.0	12.5	18.0	11.2	10.0	9.0	14.5
Wisconsin	19.5	21.2	19.6	22.0	16.0	18.6	15.2	24.7	12.4	12.6	11.1	15.3
Minnesota	17.1	18.0	15.0	19.6	14.0	19.0	12.6	21.0	9.3	9.5	9.5	13.7
Iowa	20.1	20.5	18.3	19.7	19.2	23.0	12.8	18.0	9.5	11.3	10.3	15.0
Missouri	13.3	17.2	13.5	12.5	10.9	12.5	12.5	15.6	8.5	13.0	12.0	13.5
South Dakota	15.5	17.0	13.0	14.5	14.0	19.0	11.6	19.0	8.0	9.0	9.0	13.2
Nebraska	14.6	11.1	14.8	17.4	15.3	14.5	10.5	11.9	8.5	9.5	11.3	11.4
Kansas	13.6	14.1	13.8	15.4	12.2	12.6	9.6	8.0	9.3	12.5	8.2	10.0
Montana	12.1	12.7	5.2	12.0	14.0	16.5	10.3	12.5	2.3	10.0	12.0	14.7
Wyoming	18.2	24.0	12.0	20.0	18.0	17.0	19.0	26.0	15.0	20.0	17.0	17.0
Colorado	13.2	10.5	13.2	17.5	12.0	13.0	17.3	17.5	15.4	19.4	19.0	15.0
New Mexico	13.0	10.0	19.1	18.2	12.6	5.0	17.8	24.0	18.7	18.5	16.6	11.0
Utah	15.8	16.6	12.7	15.9	19.9	14.0	23.6	23.8	18.7	23.7	26.3	25.6
Nevada	21.5	29.0	19.7	18.7	20.2	19.7	24.1	25.0	21.4	23.0	24.0	27.3
Idaho	20.8	22.0	18.5	20.0	24.0	19.5	22.0	21.0	18.0	24.0	24.0	23.0
Washington	22.6	23.5	21.1	24.0	27.9	16.3	11.7	9.5	13.0	11.9	15.0	9.2
Oregon	21.2	17.0	21.2	22.2	25.5	20.0	13.9	11.0	13.0	17.0	17.0	11.5
United States	14.7	15.2	15.1	15.3	13.8	13.9	11.9	16.2	8.2	10.5	10.6	14.1

TABLE 36.—*Wheat: Per cent of land area sown to wheat in the United States, by States.*[1]

[10-year average, 1912–1921.]

State.	Per cent.	State.	Per cent.	State.	Per cent.
North Dakota	17.79	Virginia	3.77	Wisconsin	0.77
Kansas	15.38	Kentucky	3.00	Utah	.55
Maryland	9.97	Tennessee	2.47	Georgia	.53
Indiana	9.20	Michigan	2.38	Arkansas	.51
Delaware	8.70	North Carolina	2.35	California	.51
Ohio	7.24	Iowa	2.26	Arizona	.47
South Carolina	7.14	Montana	1.97	Wyoming	.26
South Dakota	7.00	Alabama	1.86	New Mexico	.17
Nebraska	6.98	West Virginia	1.80	Vermont	.10
Minnesota	6.96	New Jersey	1.71	Nevada	.06
Illinois	6.89	Oregon	1.51	Maine	.05
Oklahoma	6.72	Idaho	1.49	Mississippi	.04
Missouri	6.19	New York	1.36		
Washington	5.02	Colorado	1.34	United States	2.97
Pennsylvania	4.74	Texas	.82		

[1] Compiled from United States Department of Agriculture data.

TABLE 37.—*Wheat: Trend of production costs for winter and spring wheat.*[1]

[1913 cost per unit equals 100.]

State.	Product.	1913			1920			1922		
		Yield.	Cost per unit.	Index.	Yield.	Computed cost per unit.	Index.	Yield.	Computed cost per unit.	Index.
		Bushels.	*Per bushel.*		*Bushels.*	*Per bushel.*		*Bushels.*	*Per bushel.*	
Kansas, Nebraska, Missouri	Winter	15	$1.02	100	15	$2.13	209	14	$1.25	123
North Dakota, South Dakota, Minnesota	Spring	12	.99	100	9	2.99	302	14	1.00	101

[1] Cost of Production Division, Bureau of Agricultural Economics.

WHEAT—Continued.

TABLE 38.—*Wheat: Yield per acre, price per bushel December 1, and value per acre, by States.*

State.	Yield per acre (bushels).						Farm price per bushel (cents).											Value per acre[1] (dollars).	
	5-year average, 1918-1922.	1918	1919	1920	1921	1922	10-year average, 1913-1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917-1921.	1922
Me.	21.0	22.0	18.8	22.0	17.0	25.0	178	101	109	112	187	235	237	220	230	175	170	41.35	42.50
Vt.	18.4	22.0	16.0	19.0	14.0	21.0	164	100	100	107	165	236	231	227	200	125	145	37.97	30.45
N. Y.	19.9	18.2	21.0	21.8	19.2	19.3	151	93	108	101	168	210	215	215	175	108	118	37.45	22.77
N. J.	18.0	17.0	18.0	16.0	19.0	20.0	155	96	109	106	164	213	215	220	205	113	110	34.18	22.00
Pa.	17.4	17.0	17.5	16.6	17.5	18.5	148	91	104	104	162	205	214	216	170	103	110	31.26	20.35
Del.	13.9	13.0	12.0	17.0	11.5	16.2	149	88	109	109	162	208	222	213	171	98	108	25.82	17.50
Md.	15.3	15.5	13.5	17.0	14.0	16.5	149	89	106	105	171	207	219	215	165	103	112	28.12	18.48
Va.	11.7	12.0	11.8	12.5	9.8	12.5	155	96	108	108	165	216	219	224	180	116	122	22.93	15.25
W. Va.	12.8	14.2	13.5	12.5	12.5	11.5	156	100	108	108	160	217	221	220	190	117	122	25.97	14.03
N. C.	8.6	7.0	7.9	11.7	7.5	9.0	171	106	117	120	176	234	230	233	210	144	136	18.66	12.24
S. C.	10.2	11.0	10.0	11.0	11.0	8.0	203	130	145	138	189	290	260	258	255	208	157	27.16	12.56
Ga.	9.8	10.2	10.5	10.0	10.5	8.0	195	120	134	129	186	290	266	263	240	175	150	24.36	12.00
Ohio	15.6	19.0	19.9	12.7	12.4	14.0	149	90	105	104	169	204	212	212	165	108	117	32.34	16.38
Ind.	14.9	21.0	14.9	12.0	12.0	14.5	147	88	103	102	169	203	208	210	165	106	112	29.06	16.24
Ill.	17.6	22.1	17.1	15.2	16.1	17.3	144	86	101	100	165	201	208	210	161	100	107	32.01	18.51
Mich.	15.7	14.2	19.4	15.3	15.7	14.0	147	89	103	101	167	204	209	210	168	104	115	29.83	16.10
Wis.	16.6	24.2	13.5	15.1	13.1	17.1	141	82	100	95	160	202	205	215	154	97	103	31.93	17.61
Minn.	12.7	20.9	9.4	9.8	9.7	13.9	141	76	102	90	162	202	204	250	130	97	101	24.73	14.04
Iowa.	18.3	18.9	14.8	17.5	17.9	22.3	134	76	96	87	156	199	200	200	140	88	99	29.45	22.08
Mo.	13.3	17.2	13.5	12.5	10.9	12.5	142	84	98	98	165	195	205	209	160	99	105	24.82	13.12
N. Dak.	10.4	13.6	6.9	9.0	8.5	14.1	136	73	101	87	152	200	203	241	130	85	90	15.83	12.69
S. Dak.	11.8	19.0	8.2	9.2	9.1	13.4	133	71	94	86	150	196	199	240	115	87	92	20.69	12.33
Nebr.	14.2	11.2	13.8	16.8	15.1	14.3	131	71	95	84	160	195	197	202	131	83	96	22.28	13.73
Kans.	13.6	14.1	13.8	15.4	12.2	12.6	136	79	95	89	164	198	199	215	130	93	98	22.65	12.35
Ky.	11.2	13.0	11.5	10.2	10.0	11.5	153	96	103	105	166	212	214	211	191	115	118	21.70	13.57
Tenn.	9.7	10.0	9.3	9.5	10.0	9.5	158	98	105	108	169	222	214	222	195	120	123	18.60	11.68
Ala.	9.5	9.0	9.0	9.6	10.5	9.5	185	115	126	125	185	270	245	245	230	153	160	21.85	15.20
Miss.	13.3	16.5	14.0	10.0	14.0	12.0	179	95	125	105	175	300	250	250	213	130	145	32.15	17.40
Tex.	11.5	10.0	16.5	13.0	10.0	8.0	148	94	99	107	173	210	215	200	172	100	110	22.41	8.80
Okla.	12.9	12.6	14.0	16.0	12.5	9.5	135	82	92	89	167	194	210	205	135	86	98	21.74	9.31
Ark.	10.7	12.0	9.5	9.5	9.3	13.0	146	90	99	101	163	201	207	202	190	100	106	20.71	13.78
Mont.	10.6	12.6	2.7	10.3	12.3	15.0	132	66	91	78	161	192	194	235	128	85	89	14.88	13.35
Wyo.	18.8	25.4	14.4	20.0	17.2	17.0	128	72	89	78	145	200	189	212	135	79	82	32.31	13.94
Colo.	14.2	12.3	13.7	18.0	13.5	13.4	128	78	87	80	150	193	195	202	135	76	89	25.97	11.93
N. Mex.	15.2	16.7	19.0	18.3	13.6	8.4	142	97	90	90	150	215	210	200	140	105	120	28.05	10.08
Ariz.	24.4	26.0	25.0	24.0	21.0	26.0	168	110	125	115	150	210	240	225	262	125	115	52.06	29.90
Utah.	19.4	20.2	15.4	19.5	22.8	19.3	129	73	86	86	152	178	188	210	153	75	90	30.25	17.37
Nev.	23.7	25.5	21.2	22.3	23.5	26.2	144	82	95	95	140	180	206	214	180	130	120	43.73	31.44
Idaho.	21.5	21.3	18.2	22.4	24.0	21.6	124	63	87	80	146	182	192	205	125	72	90	32.09	19.44
Wash.	16.6	13.1	16.8	16.9	22.8	13.4	133	73	100	82	143	193	196	214	135	86	104	26.91	13.94
Oreg.	19.3	14.7	19.2	20.9	23.4	18.1	132	75	102	84	145	182	201	212	130	85	108	28.74	19.55
Calif.	16.2	15.0	15.5	14.0	15.0	21.5	147	95	104	95	152	200	216	204	180	107	115	28.97	24.72
U. S.	13.8	15.6	12.8	13.6	12.8	14.0	138.8	79.9	98.6	91.9	160.3	200.8	204.2	214.9	143.7	92.6	100.9	23.81	14.11

[1] Based upon farm price Dec. 1.

WHEAT—Continued.

TABLE 39.—*Wheat: Extent and causes of yearly crop losses, 1909–1921.*

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.
	P.ct.	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*
1909	8.5	3.2	0.7	2.4	2.0	1.2	0.6	18.9	1.6	1.1	0.2	0.3	22.8
1910	18.9	.9	.2	6.6	.5	2.6	.2	30.0	.9	1.9	.4	.4	33.8
1911	25.5	.8	(1)	1.5	.4	3.8	.1	32.3	1.9	1.9	.2	.2	37.8
1912	8.1	1.8	.3	9.5	1.5	1.8	.4	24.0	1.8	2.3	.3	.2	29.5
1913	14.2	.4	.2	1.9	.7	1.7	.3	20.0	.3	2.2	.1	.1	23.5
1914	6.7	1.4	.1	1.1	1.0	2.7	.2	13.4	3.0	2.6	.1	.1	19.8
1915	1.3	7.3	1.0	1.2	1.6	.1	.4	13.0	2.4	3.6	.1	.1	19.7
1916	6.9	3.8	.6	5.1	1.3	2.7	.2	21.2	12.6	4.0	.1	.1	38.7
1917	19.1	.4	.1	11.8	1.0	1.6	.2	34.4	.7	.7	.1	.1	36.3
1918	14.6	.3	.1	3.8	1.1	2.0	.2	22.4	1.5	1.1	.3	.1	25.7
1919	12.3	6.2	.4	1.3	.8	2.9	.3	24.3	10.2	2.5	.1	(1)	37.6
1920	8.1	2.3	.2	1.0	1.0	1.5	.4	17.6	9.5	4.4	.1	.1	32.2
1921	13.3	2.0	.2	1.8	1.4	3.6	.3	23.9	5.2	3.6	.1	.1	33.1
Average	12.1	2.4	.3	3.8	1.1	2.2	.3	22.7	3.2	2.5	.2	.1	30.0

[1] Less than 0.05 per cent.

TABLE 40.—*Wheat: Farm price, cents per bushel on 1st of each month, 1908–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[1]
1908	88.7	89.0	89.2	89.8	89.3	92.3	89.5	90.4	88.7	90.4	91.5	92.8	90.3
1909	93.5	95.2	103.9	107.0	115.9	123.5	120.8	107.1	95.2	94.6	99.9	98.6	101.3
1910	103.4	105.0	105.1	104.5	99.9	97.6	95.3	98.9	95.8	93.7	90.5	88.3	96.5
1911	88.6	89.8	85.4	83.8	84.6	86.3	84.3	82.7	84.8	88.4	91.5	87.4	86.9
1912	88.0	90.4	90.7	92.5	99.7	102.8	99.0	89.7	85.8	83.4	83.8	76.0	87.4
1913	76.2	79.9	80.6	79.1	80.9	82.7	81.4	77.1	77.1	77.9	77.0	79.9	78.4
1914	81.0	81.6	83.1	84.2	83.9	84.4	76.9	76.5	93.3	93.5	97.2	98.6	88.4
1915	107.8	129.9	133.6	131.7	139.6	131.5	102.8	106.5	95.0	90.9	93.1	91.9	105.2
1916	102.8	113.9	102.9	98.6	102.5	100.0	93.0	107.1	131.2	136.3	158.4	160.3	125.9
1917	150.3	164.8	164.4	180.0	245.9	248.5	220.1	228.9	209.7	200.6	200.0	200.8	200.8
1918	201.9	201.2	202.7	202.6	203.6	202.5	203.2	204.5	205.6	205.8	206.0	204.2	204.3
1919	204.8	207.5	208.0	214.2	231.1	228.4	222.0	217.2	205.7	209.6	213.2	214.9	212.7
1920	231.8	235.7	226.6	234.0	251.3	258.3	253.6	232.2	218.7	214.3	188.0	143.7	217.2
1921	149.2	149.3	147.2	133.5	110.7	127.4	112.2	104.8	101.2	105.6	94.2	92.6	112.7
1922	93.3	97.0	116.9	117.0	121.0	116.5	102.6	97.1	88.1	90.4	97.8	100.9	98.8
Average, 1913–1922	139.9	146.1	146.6	147.5	157.0	158.0	146.8	145.2	142.6	142.5	142.5	146.4	153.2

[1] Weighted average.

WHEAT—Continued.

TABLE 41.—*Wheat: Average price per bushel to producers in principal producing States, 1909–10 to 1921–22.*[1]

[Yearly averages are based upon prices on first of each month and weighted by monthly rate of movement from farms.]

State.	5-year average, 1909-1913.	7-year average, 1914-1920.	1921-22	State.	5-year average, 1909-1913.	7-year average, 1914-1920.	1921-22
	Cents.	*Cents.*	*Cents.*		*Cents.*	*Cents.*	*Cents.*
Kansas	85.6	162.3	110.5	Oregon	81.3	155.4	95.8
North Dakota	85.4	164.7	105.6	Idaho	71.0	149.7	82.2
Nebraska	80.9	156.8	110.0	Texas	96.6	167.7	107.2
Minnesota	89.0	166.3	115.2	Michigan	95.5	172.3	111.3
Washington	77.2	156.4	94.0	Iowa	86.1	162.0	99.4
Illinois	91.8	168.1	108.8	Colorado	83.9	148.4	86.8
South Dakota	84.9	159.4	100.4	Virginia	101.8	175.9	126.5
Missouri	90.6	162.9	106.2	Maryland	95.8	172.1	113.0
Ohio	96.7	172.0	116.0	Kentucky	97.3	173.8	123.3
Oklahoma	87.2	160.5	97.7	New York	96.9	174.5	115.8
Indiana	93.6	168.8	114.2	California	96.4	172.5	122.0
Pennsylvania	98.3	172.9	114.5	North Carolina	111.0	191.8	141.7
Montana	78.4	158.5	98.5	All other	104.0	182.5	134.2

[1] Compiled from United States Department of Agriculture data.

TABLE 42.—*Wheat: Monthly marketings by farmers, 1917–1922.*

Year.	Estimated amount sold monthly by farmers of United States (millions of bushels).												
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Season.
1917-18	41	69	108	101	77	43	26	22	21	23	17	12	560
1918-19	136	154	139	107	67	56	36	24	16	13	15	12	775
1919-20	137	186	125	89	60	45	34	24	23	25	27	25	800
1920-21	82	97	108	72	47	42	38	36	33	34	44	47	680
1921-22	142	136	122	79	51	40	33	36	29	24	26	27	745
Average	108	128	120	90	60	45	33	28	24	24	26	25	711
	Per cent of year's sales.												
1917-18	7.4	12.4	19.3	18.0	13.7	7.6	4.7	3.9	3.7	4.1	3.1	2.1	100.0
1918-19	17.6	19.9	18.0	13.8	8.7	7.3	4.6	3.1	2.0	1.6	1.9	1.5	100.0
1919-20	17.1	23.2	15.6	11.1	7.5	5.7	4.2	3.0	2.9	3.1	3.4	3.2	100.0
1920-21	12.1	14.3	15.9	10.6	6.9	6.2	5.5	5.3	4.9	5.0	6.4	6.9	100.0
1921-22	19.1	18.2	16.4	10.6	6.8	5.4	4.4	4.9	3.9	3.2	3.5	3.6	100.0
Average	14.7	17.6	17.0	12.8	8.7	6.4	4.7	4.0	3.5	3.4	3.7	3.5	100.0

WHEAT—Continued.

TABLE 43.—*Wheat: Monthly and yearly average price per bushel of reported sales, 1909–10 to 1921–22.*

NO. 2 RED WINTER, CHICAGO.[1]

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted average.
1909–10	$1.10	$1.04	$1.07	$1.20	$1.18	$1.25	$1.26	$1.23	$1.18	$1.11	$1.11	$1.01	$1.10
1910–11	1.07	1.02	.99	.96	.93	.94	.98	.91	.90	.90	.96	.91	1.02
1911–12	.86	.90	.93	1.00	.96	.96	.97	1.01	1.03	1.09	1.16	1.10	.90
1912–13	1.05	1.03	1.03	1.06	.99	.86	1.09	.99	.95	1.02	1.03	1.00	1.03
1913–14	.87	.88	.93	.92	.92	.94	.97	.97	.95	.95	.99	.82	.88
Av., 1909–1913	.99	.97	.99	1.03	1.00	.99	1.05	1.02	1.00	1.01	1.05	.97	.....
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
1916–17	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	2.23	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]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	.....
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

NO. 1 NORTHERN SPRING, MINNEAPOLIS.[3]

1909–10	$1.29	$1.06	$1.04	$1.04	$1.05	$1.12	$1.14	$1.14	$1.15	$1.11	$1.10	$1.09	$1.09
1910–11	1.21	1.13	1.09	1.08	1.04	1.03	1.06	1.02	.98	.96	.99	.97	1.05
1911–12	.99	1.05	1.09	1.10	1.05	1.02	1.06	1.06	1.08	1.10	1.16	1.13	1.07
1912–13	1.09	.98	.89	.90	.84	.82	.89	.87	.85	.88	.91	.92	.87
1913–14	.91	.88	.87	.84	.85	.86	.87	.93	.92	.91	.94	.92	.88
Av., 1909–1913	1.10	1.02	1.00	.99	.97	.97	1.00	1.00	1.00	.99	1.02	1.01	.....
1914–15	.92	1.10	1.12	1.11	1.18	1.20	1.38	1.52	1.49	1.58	1.58	1.35	1.20
1915–16	1.44	1.18	.97	1.02	1.02	1.14	1.29	1.26	1.14	1.22	1.22	1.11	1.09
1916–17	1.21	1.64	1.64	1.79	1.95	1.79	1.93	1.86	2.03	2.38	2.96	2.73	1.76
1917–18	2.66	2.47	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.20
1918–19	2.17	2.23	2.23	2.19	2.22	2.22	2.21	2.24	2.36	2.56	2.59	2.48	2.25
1919–20	2.66	2.59	2.56	2.67	2.85	3.07	3.01	2.67	2.84	3.06	3.09	2.93	2.72
1920–21	2.89	2.56	2.54	2.16	1.80	1.68	1.79	1.72	1.66	1.53	1.55	1.69	2.07
Av., 1914–1920	1.99	1.97	1.89	1.87	1.88	1.90	1.97	1.92	1.96	2.07	2.17	2.07	.....
1921–22	1.67	1.48	1.51	1.34	1.25	1.30	1.34	1.51	1.51	1.58	1.56	1.46	1.43

NO. 1 DARK NORTHERN SPRING, MINNEAPOLIS.[3]

1917–18	.....	$2.50	$2.21	$2.21	$2.21	$2.21	$2.21	$2.21	$2.21	$2.21	$2.21	$2.21	$2.23
1918–19	$2.21	2.29	2.24	2.23	2.25	2.25	2.25	2.29	2.41	2.63	2.68	2.56	2.36
1919–20	2.72	2.71	2.77	2.84	3.00	3.25	3.34	2.90	2.97	3.23	3.26	3.01	3.00
1920–21	2.94	2.59	2.65	2.21	1.82	1.72	1.81	1.74	1.72	1.57	1.67	1.74	2.02
Av., 1917–1920	2.62	2.52	2.47	2.37	2.32	2.36	2.40	2.28	2.33	2.41	2.46	2.38	.....
1921–22	1.81	1.57	1.56	1.37	1.30	1.33	1.39	1.58	1.50	1.66	1.71	1.53	1.48

[1] Compiled from the Chicago Daily Trade Bulletin
[2] Based on small number of sales.
[3] Compiled from the Minneapolis Market Record.

WHEAT—Continued.

Table 43.—*Wheat: Monthly and yearly average price per bushel of reported sales, 1909–10 to 1921–22*—Continued.

NO. 2 HARD WINTER, KANSAS CITY.[1]

Crop year.	Jnly.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weighted average.
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
1910–11	1.04	1.00	.99	.95	.91	.93	.95	.90	.88	.88	.90	.88	.98
1911–12	.87	.93	.95	1.04	1.00	1.00	1.05	1.03	1.05	1.09	1.11	1.09	.97
1912–13	.92	.89	.88	.88	.83	.84	.87	.86	.86	.88	.87	.88	.88
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	.....
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	1.26	1.07	1.07	1.03	1.12	1.20	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	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	(2)	2.52
1918–19	2.20	2.16	2.16	2.16	2.15	2.24	2.31	2.26	2.39	2.62	2.60	2.47	2.19
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	1.93	.....
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

NO. 2 RED WINTER, ST. LOUIS.[3]

1909–10	$1.13	$1.12	$1.14	$1.23	$1.22	$1.28	$1.30	$1.27	$1.23	$1.12	$1.16	$1.02	$1.13
1910–11	1.07	1.02	1.02	1.00	.96	.98	1.03	.96	.93	.90	.94	.88	.99
1911–12	.84	.88	.94	1.00	.96	.97	1.02	1.01	1.04	1.13	1.21	1.11	.94
1912–13	1.03	1.04	1.03	1.09	1.04	1.07	1.11	1.09	1.08	1.09	1.04	.99	1.05
1913–14	.85	.88	.94	.93	.94	.95	.96	.95	.95	.94	.96	.84	.89
Av. 1909–1913	.98	.99	1.01	1.05	1.02	1.07	1.08	1.06	1.05	1.04	1.06	.97	.....
1914–15	.87	.93	1.10	1.10	1.11	1.18	1.40	1.57	1.50	1.54	1.50	1.19	1.10
1915–16	1.17	1.14	1.14	1.21	1.16	1.23	1.34	1.30	1.17	1.22	1.20	1.10	1.20
1916–17	1.25	1.45	1.60	1.73	1.87	1.83	1.96	1.88	2.05	2.66	3.04	2.65	1.63
1917–18	2.36	2.32	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.23
1918–19	2.21	2.21	2.19	2.22	2.22	2.32	2.41	2.38	2.55	2.71	2.60	2.41	2.23
1919–20	2.22	2.20	2.21	2.24	2.29	2.48	2.70	2.55	2.58	2.76	2.99	2.89	2.30
1920–21	2.70	2.47	2.56	2.25	2.03	1.99	2.02	1.90	1.66	1.41	1.58	1.50	2.18
Av., 1914–1920	1.83	1.82	1.85	1.84	1.83	1.88	2.00	1.96	1.95	2.06	2.15	1.98	.....
1921–22	1.23	1.23	1.36	1.26	1.20	1.21	1.16	1.32	1.35	1.44	1.38	1.18	1.27

NO. 1 NORTHERN SPRING, WINNIPEG.[4]

1909–10	$1.31	$1.19	$1.00	$0.97	$0.97	$0.98	$1.03	$1.03	$1.04	$1.03	$0.98	$0.93	$0.96
1910–11	1.08	1.07	1.03	.98	.92	.90	.94	.93	.90	.90	.95	.97	.96
1911–12	.95	1.01	1.01	1.00	.99	.95	.95	.97	.98	1.01	1.04	1.06	.99
1912–13	1.07	1.06	1.00	.91	.85	.80	.82	.84	.85	.89	.93	.96	.92
1913–14	.97	.95	.89	.81	.83	.84	.85	.88	.90	.90	.93	.94	.89
Av., 1909–1913	1.08	1.06	.99	.93	.91	.89	.92	.93	.93	.95	.97	.97	.....
1914–15	.90	1.04	1.13	1.11	1.18	1.18	1.32	1.51	1.49	1.54	1.61	1.32	1.28
1915–16	1.35	1.25	.95	.96	1.02	1.07	1.18	1.26	1.10	1.04	1.17	1.11	1.12
1916–17	1.14	1.42	1.59	1.68	1.96	1.76	1.80	1.68	1.85	2.11	2.75	2.49	1.85
1917–18	2.34	2.40	2.25	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.24
1918–19	2.21	2.21	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24
1919–20	2.24	2.24	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.17
1920–21	2.15	2.15	2.72	2.32	2.03	1.94	1.94	1.88	1.91	1.76	1.86	1.89	2.05
Av., 1914–1920	1.76	1.82	1.86	1.81	1.82	1.79	1.83	1.85	1.86	1.86	2.00	1.92	.....
1921–22	1.86	1.74	1.46	1.14	1.11	1.13	1.14	1.36	1.41	1.43	1.46	1.33	1.38

[1] Compiled from Kansas City Price Current and Grain Market Review.
[2] No sales.
[3] Compiled from St. Louis Daily Market Reporter.
[4] Compiled from Winnipeg Farmers' Advocate.

WHEAT—Continued.

TABLE 44.—*Wheat: Monthly and yearly average price per bushel, 1909–10 to 1921–22.*

NO. 2 HARD WINTER, NEW YORK.[1]

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Yearly average.
1909–10	$1.31	$1.12	$1 12	$1.20	$1.19	$1.24	$1.26	$1.33	$1.27	$1.19	$1.14	$1.05	$1.20
1910–11	1.14	1.10	1.06	1.04	1.02	1.02	1.08	1.03	1.00	.99	1.03	.97	1.04
1911–12	.98	.98	1.04	1.10	1.05	1.07	1.11	1.13	1.13	1.19	1.24	1.20	1.10
1912–13	1.10	1.03	1.01	1.02	.98	.99	1.06	1.04	1.00	1.03	1.02	1.04	1.03
1913–14	.99	.97	.98	.95	.98	1.00	.93	1.02	1.02	1.02	1.05	1.00	.99
Av., 1909–1913	1.10	1.04	1.04	1.06	1.04	1.06	1.09	1.11	1.08	1.08	1.10	1.05	1.07
1914–15	.92	1.01	1.13	1.12	1.23	1.31	1.52	1.72	1.66	1.67	1.65	1.37	1.36
1915–16	1.36	1.22	1.20	1.24	(2)	(2)	1.40	1.42	1.25	1.29	1.24	1.15	1.28
1916–17	1.26	1.57	1.68	1.84	2.00	1.87	2.09	2.00	2.16	2.63	3.07	(2)	2.02
1917–18	2.44	2.46	2.28	2.64	2.81	2.62	2.26	2.26	2.26	2.26	2.26	2.26	2.40
1918–19	2.31	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.37
1919–20	2.38	2.38	2.38	2.38	2.38	2.38	2.37	2.37	2.51	3.02	3.09	2.98	2.55
1920–21	2.92	2.62	2.65	2.33	2.06	1.95	2.00	1.90	1.81	1.59	1.75	1.67	2.10
Av., 1914–1920	1.94	1.95	1.96	1.99	.....	.....	2.00	2.01	2.00	2.12	2.21	1.97	.....
1921–22	1.46	1.36	1.38	1.20	1.16	1.25	1.23	1.43	1.45	1.51	1.49	1.30	1.35

[1] Compiled from New York Journal of Commerce.
[2] Nominal.

TABLE 45.—*Wheat: Monthly and yearly weighted average price*[1] *per bushel of reported cash sales of all classes and grades combined at markets named, 1918–19 to 1921–22.*[2]

MINNEAPOLIS.

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Yearly weighted average.
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*	*Cents.*
1918–19	212.8	221.3	219.0	218.6	220.5	220.0	218.9	221.2	230.5	245.3	251.8	239.8	222.4
1919–20	248.9	230.1	234.0	240.9	261.6	278.5	276.5	245.6	254.8	285.3	297.0	278.7	257.6
1920–21	274.6	247.1	244.9	203.9	172.4	163.0	167.8	156.3	151.5	135.1	144.5	146.0	187.9
1921–22	145.3	132.2	138.6	121.5	117.3	117.7	120.2	138.9	141.3	148.2	149.7	136.5	131.2

KANSAS CITY.

1918–19	220.2	215.5	214.0	213.2	212.4	217.5	223.1	218.6	227.1	252.0	248.0	233.8	218.1
1919–20	219.3	264.4	215.9	221.2	235.9	252.2	266.3	233.4	241.5	263.5	286.3	273.5	244.9
1920–21	267.4	245.6	246.0	206.6	176.3	170.2	173.0	164.6	154.6	133.5	147.5	139.7	190.2
1921–22	117.0	115.0	120.4	109.8	107.6	108.2	111.1	127.4	131.4	132.3	125.9	113.2	118.2

CHICAGO.

1918–19	225.0	223.0	220.6	220.6	220.6	223.2	222.3	220.1	230.8	250.0	252.5	232.8	223.0
1919–20	223.9	222.2	221.9	225.7	242.0	249.5	272.2	235.5	242.0	289.8	295.8	280.5	226.1
1920–21	264.9	248.8	249.8	209.9	280.7	173.4	178.6	171.9	157.3	139.7	156.5	142.7	216.3
1921–22	124.1	119.8	124.4	112.0	107.9	110.5	112.7	128.6	129.7	132.4	132.7	115.9	121.6

ST. LOUIS.

1918–19	221.6	221.0	221.2	222.0	221.7	230.5	230.2	231.2	252.3	262.3	257.8	239.5	223.6
1919–20	220.7	218.6	218.3	220.9	224.8	224.9	252.5	247.4	253.5	275.8	293.1	283.0	225.2
1920–21	273.3	249.9	253.1	219.2	197.2	191.2	194.7	183.7	163.8	139.8	155.0	148.2	210.1
1921–22	120.3	116.3	122.6	111.6	107.7	109.0	115.3	131.3	133.1	133.3	130.6	113.1	120.4

FOUR MARKETS COMBINED.

1918–19	221.2	219.9	218.5	218 3	219.4	220.6	220.7	221.3	232.4	249.2	251.7	238.2	221.7
1919–20	223.1	235.9	223.6	229 .3	246.5	256.8	267.9	240.1	248.6	278.2	292.3	277.0	241.8
1920–21	270.6	247.3	246.6	205 .8	175.1	167.2	172.4	163.2	154.3	135.3	147.6	144.1	193.3
1921–22	122.9	121.7	128.5	117 .3	113.1	113.8	115.8	131.4	136.1	138.5	135.0	122.5	123.7

[1] The prices in this table are comparable with the farm prices. The farm prices are averages of the several prices reported which covered all classes and grades sold from the farm.
[2] Compiled from Daily Trade papers of markets named.

WHEAT—Continued.

TABLE 46.—*Wheat: Monthly and yearly average spot prices per bushel of 60 pounds of good average quality red wheat at Liverpool, 1862–1922.*[1]

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Yearly. Average.	Yearly. High.	Yearly. Low.
Average, 1862–1868	$1.62	$1.60	$1.58	$1.57	$1.56	$1.53	$1.52	$1.50	$1.50	$1.51	$1.51	$1.54	$1.55	$1.77	$1.35
1869–1878	1.56	1.54	1.51	1.54	1.56	1.54	1.52	1.53	1.54	1.53	1.52	1.54	1.54	1.74	1.38
1879	1.29	1.29	1.36	1.32	1.35	1.32	1.38	1.35	1.46	1.68	1.64	1.69	1.43	1.75	1.64
1880	1.57	1.59	1.63	1.53	1.43	1.38	1.35	1.31	1.28	1.34	1.40	1.40	1.43	1.64	1.26
1881	1.41	1.37	1.42	1.43	1.38	1.42	1.44	1.55	1.64	1.65	1.61	1.57	1.49	1.68	1.35
1882	1.59	1.58	1.50	1.55	1.52	1.52	1.52	1.37	1.25	1.25	1.26	1.29	1.43	1.61	1.20
1883	1.33	1.39	1.35	1.32	1.32	1.31	1.30	1.36	1.33	1.28	1.28	1.28	1.32	1.40	1.26
1884	1.24	1.24	1.24	1.14	1.14	1.16	1.14	1.15	1.00	.97	.97	1.02	1.12	1.26	.95
1885	1.08	1.03	1.06	1.16	1.12	1.06	1.06	1.07	1.06	1.09	1.06	1.05	1.08	1.20	1.02
1886	1.07	1.06	1.01	1.03	1.03	.97	.97	.99	.99	.98	1.02	1.08	1.02	1.09	.95
1887	1.09	1.07	1.06	1.03	1.06	1.02	.95	.90	.88	.94	.98	1.00	1.00	1.13	.86
1888	.99	.98	.98	.99	1.00	.99	1.00	1.10	1.15	1.22	1.25	1.21	1.07	1.26	.97
Average, 1879–1888	1.27	1.26	1.26	1.25	1.24	1.22	1.21	1.22	1.20	1.24	1.25	1.26	1.24	1.40	1.15
1889	1.16	1.14	1.12	1.04	.95	.94	1.00	1.03	1.02	1.03	1.02	1.02	1.04	1.17	.93
1890	1.03	1.03	1.03	1.05	1.06	1.03	1.04	1.05	1.04	1.04	1.03	1.03	1.04	1.07	1.02
1891	1.12	1.12	1.19	1.24	1.25	1.19	1.14	1.23	1.19	1.20	1.26	1.23	1.20	1.30	1.11
1892	1.16	1.14	1.14	1.09	1.02	1.04	1.02	.91	.86	.88	.86	.83	1.00	1.20	.80
1893	.85	.85	.81	.81	.84	.82	.82	.79	.80	.78	.76	.78	.81	.89	.73
1894	.76	.74	.71	.70	.67	.64	.65	.61	.61	.60	.67	.73	.67	.78	.58
1895	.67	.64	.68	.73	.81	.82	.77	.79	.72	.74	.75	.75	.74	.86	.63
1896	.80	.83	.80	.80	.81	.79	.76	.75	.81	.95	.99	.99	.84	1.03	.73
1897	.96	.91	.89	.86	.86	.83	.90	1.10	1.15	1.10	1.09	1.09	.98	1.22	.81
1898	1.08	1.18	1.14	1.28	1.57	1.28	.96	.89	.84	.89	.89	.87	1.07	.71	.78
Average, 1889–1898	.96	.96	.95	.96	.98	.94	.91	.92	.90	.92	.93	.93	.94	1.12	.81
1899	.86	.83	.79	.81	.86	.87	.82	.80	.84	.86	.83	.81	.83	.89	.77
1900	.86	.87	.86	.93	.95	.91	.91	.86	.91	.86	.87	.86	.88	.95	.84
1901	.89	.87	.87	.86	.86	.84	.82	.83	.81	.83	.84	.90	.85	.94	.78
1902	.90	.89	.89	.90	.92	.89	.91	.91	.86	.85	.85	.88	.89	.94	.83
1903	.90	.91	.90	.89	.90	.91	.89	.91	.90	.89	.88	.88	.90	.94	.86
1904	.89	.90	.95	.95	.92	.89	.89	.90	.....	.....	.....	.....	.91	.98	.85
1905	.....	.....	1.01	.99	.97	.....	.....	.....	.94	.96	.97	.96	.97	1.01	.93
1906	1.03	1.03	1.04	.99	.95	.95	.96	.92	.91	.91	.90	.90	.96	1.04	.89
1907	.89	.92	.92	.92	.98	1.04	1.04	1.05	1.11	1.14	1.12	1.13	1.02	1.23	.87
1908	1.16	1.07	1.04	1.11	1.09	1.08	1.09	1.08	1.11	1.12	1.15	1.16	1.11	1.20	1.02
Average, 1899–1908	.93	.92	.93	.94	.93	.93	.93	.92	.93	.94	.93	.94	.93	1.01	.86
1909	1.16	1.21	1.23	1.32	1.38	1.34	1.37	1.30	1.10	1.15	1.21	1.21	1.25	1.42	1.07
1910	1.24	1.23	1.21	1.18	1.10	1.04	1.08	1.15	1.12	1.08	1.04	1.04	1.13	1.25	.98
1911	1.07	1.07	.....	.....	1.03	1.04	1.04	1.04	1.07	1.08	1.05	1.07	1.06	1.10	1.03
1912	1.11	1.15	1.20	1.23	1.23	1.22	1.24	1.15	1.16	1.16	1.11	1.09	1.17	1.27	1.07
1913	1.11	1.12	1.12	1.13	1.12	1.11	1.10	1.07	1.04	1.02	1.04	1.05	1.09	1.15	1.02
Average, 1909–1913	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	1.24	1.03
1914	1.02	1.04	1.07	1.07	1.11	1.09	1.05	1.28	1.29	1.28	1.38	1.47	1.18	.....	.....
1915	1.67	1.95	1.91	1.94	1.98	1.65	1.63	1.61	1.67	1.71	1.59	1.73	1.75	.....	.....
1916	1.94	1.90	2.00	1.93	1.71	1.55	1.58	1.96	2.00	2.15	2.22	2.39	1.94	.....	.....
1917	2.39	2.43	2.42	2.46	2.46	2.46	2.50	2.50	2.38	2.26	2.26	2.26	2.40	.....	.....
1918	2.32	2.32	2.39	2.32	2.32	2.32	2.32	2.32	2.32	2.39	2.46	2.46	2.36	.....	.....
1919	2.46	2.46	2.43	2.41	2.41	2.39	2.29	2.21	2.16	2.16	2.11	1.95	2.29	.....	.....
1920	1.90	1.75	2.11	2.37	2.34	2.40	2.34	2.20	2.13	2.34	2.53	2.39	2.23	.....	.....
Average, 1914–1920	1.96	1.98	2.05	2.07	2.05	1.98	1.96	2.01	1.99	2.04	2.08	2.09	2.02	.....	.....
1921	2.33	2.14	2.14	2.13	2.18	1.96	1.71	1.59	1.56	1.31	1.26	1.37	1.81	.....	.....
1922	1.37	.....	1.58	1.58	1.59	1.44	1.49	1.35	1.29	1.44	.....	.....	.....	.....	.....

[1] 1862 to 1903 compiled from Broomhall's 1904 Year Book, p. 144; 1914 to 1920 from Broomhall's 1921 Year Book. Remainder of table from Corn Trade News. High and low not given 1914–1922. Conversions at par 1862 to 1912; current exchange rate for remainder of period. Prices of red wheat supplemented with prices of other American wheat for same months, the margin between which is practically negligible.

WHEAT—Continued.

TABLE 47.—*Flour (wheat): Monthly average wholesale price per barrel at markets named, 1909–10 to 1921–22.*

MINNEAPOLIS—SPRING PATENTS.[1]

Year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Yearly average.
1909–10	$6.21	$5.89	$5.14	$5.29	$5.22	$5.48	$5.58	$5.45	$5.52	$5.38	$5.42	$5.33	$5.49
1910–11	6.20	5.79	5.75	5.21	5.03	5.01	5.28	4.91	4.75	4.64	4.89	4.81	5.19
1911–12	4.88	4.88	4.98	5.25	5.05	5.05	5.00	5.10	5.10	5.10	5.43	5.60	5.19
1912–13	5.43	5.24	4.68	4.63	4.59	4.13	4.26	4.43	4.43	4.43	4.43	4.63	4.61
1913–14	4.66	4.57	4.45	4.33	4.18	4.15	4.26	4.52	4.54	4.51	4.51	4.51	4.43
Av., 1909–1913	5.48	5.27	5.00	4.94	4.81	4.76	4.88	4.88	4.87	4.81	4.94	4.98	4.98
1914–15	4.62	5.78	6.02	5.58	5.79	6.01	6.86	7.54	7.16	7.61	7.41	6.78	6.43
1915–16	6.78	6.42	5.13	5.23	5.28	5.98	6.23	6.13	5.70	5.90	5.79	5.29	5.82
1916–17	5.68	7.69	8.26	9.08	9.56	8.60	9.00	8.45	9.44	11.33	14.09	13.08	9.52
1917–18	12.86	13.22	11.15	10.84	10.24	10.07	9.85	10.05	9.89	9.90	9.42	9.89	10.62
1918–19	10.45	10.53	10.49	10.44	10.41	10.44	10.42	10.69	11.22	12.09	12.52	12.00	10.97
1919–20	12.15	12.13	11.54	12.03	13.20	14.48	14.97	13.73	13.41	14.69	15.49	14.64	13.54
1920–21	14.12	13.33	13.02	11.45	9.74	9.28	9.94	9.38	9.10	8.30	9.04	9.40	10.51
Av., 1914–1920	9.52	9.87	9.37	9.24	9.17	9.27	9.61	9.42	9.42	9.98	10.54	10.15	9.63
1921–22	9.27	8.34	8.62	7.67	7.39	7.26	7.33	8.17	8.27	8.46	8.32	7.71	8.07

ST. LOUIS—SOFT WINTER PATENTS.[2]

1909–10	$5.80	$4.92	$5.14	$5.75	$5.68	$5.82	$5.77	$5.80	$5.75	$5.40	$5.29	$5.11	$5.52
1910–11	5.20	4.85	4.76	4.68	4.58	4.58	4.86	4.64	4.52	4.38	4.39	4.36	4.65
1911–12	4.17	4.25	4.40	4.69	4.68	4.62	4.74	4.70	4.72	5.07	5.54	5.43	4.75
1912–13	5.26	4.49	4.54	4.70	4.67	4.70	4.84	4.86	4.68	4.59	4.52	4.45	4.69
1913–14	4.12	3.88	3.98	3.95	4.08	4.14	4.20	4.11	4.02	3.85	3.92	3.74	4.00
Av., 1909–1913	4.91	4.48	4.56	4.75	4.74	4.77	4.88	4.82	4.74	4.66	4.73	4.62	4.72
1914–15	3.47	4.16	5.04	4.86	4.91	5.03	6.18	6.98	6.57	6.65	6.66	5.56	5.51
1915–16	5.56	4.87	4.83	5.08	5.18	5.39	5.60	5.79	5.24	5.32	5.20	4.91	5.25
1916–17	5.24	6.85	7.31	7.84	8.72	8.31	8.67	8.44	8.83	11.29	13.91	12.53	9.00
1917–18	10.64	10.78	10.36	10.33	10.26	10.28	10.46	10.74	11.40	11.39	10.94	10.72	10.69
1918–19	10.25	10.25	10.25	10.25	10.25	10.25	11.22	11.65	10.71	11.45	11.41	10.28	10.69
1919–20	10.80	10.13	9.90	9.95	10.12	11.31	12.08	11.49	11.59	12.34	13.93	13.18	11.40
1920–21	11.98	11.99	12.09	11.38	10.13	9.44	9.73	9.71	8.76	7.10	7.81	7.98	9.84
Av., 1914–1920	8.28	8.43	8.54	8.53	8.51	8.57	9.13	9.26	9.01	9.36	9.98	9.31	8.91
1921–22	6.61	6.63	6.94	6.60	6.25	6.25	5.99	6.69	7.05	6.79	7.07	6.48	6.61

CHICAGO—WINTER PATENTS.[3]

1909–10	$6.08	$5.07	$4.72	$5.28	$5.41	$5.40	$5.48	$5.42	$5.48	$5.27	$5.05	$4.75	$5.28
1910–11	4.92	4.87	4.72	4.57	4.40	4.41	4.53	4.31	4.09	4.06	4.20	4.16	4.44
1911–12	4.08	4.12	4.32	4.64	4.61	4.85	4.40	4.58	4.58	4.76	5.21	5.17	4.61
1912–13	4.86	4.52	4.69	4.52	4.56	4.59	4.62	4.67	4.50	4.48	4.48	4.41	4.58
1913–14	4.25	4.12	4.16	4.21	4.21	4.22	4.25	4.25	4.25	4.22	4.21	4.24	4.22
Av., 1909–1913	4.84	4.54	4.52	4.64	4.66	4.69	4.66	4.65	4.58	4.56	4.63	4.55	4.63
1914–15	3.80	4.54	5.36	5.16	5.23	5.22	6.28	7.42	7.01	7.18	7.19	5.69	5.84
1915–16	5.16	5.24	5.10	5.26	5.23	5.39	5.92	6.11	5.38	5.76	5.54	5.37	5.46
1916–17	5.23	6.55	7.30	7.78	8.82	8.20	9.09	8.44	9.10	11.20	14.91	13.80	9.20
1917–18	11.77	12.25	11.74	10.68	10.38	10.44	9.92	10.45	11.00	10.95	10.82	10.88	10.94
1918–19	10.88	10.68	10.20	10.08	9.58	10.22	10.55	10.42	10.36	11.44	12.99	11.82	10.77
1919–20	11.02	10.54	10.80	11.35	11.91	13.00	13.68	12.88	12.08	12.30	13.68	13.42	12.22
1920–21	12.98	11.79	12.22	11.00	10.40	8.78	10.19	9.26	9.05	7.91	7.84	8.76	10.01
Av., 1914–1920	8.69	8.80	8.96	8.76	8.79	8.75	9.38	9.28	9.14	9.53	10.42	9.96	9.21
1921–22	7.12	7.00	7.01	6.95	6.51	6.44	6.01	6.97	6.81	6.95	7.54	7.11	6.87

[1] 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.

WHEAT—Continued.

TABLE 47.—*Flour (wheat): Monthly average wholesale price per barrel at markets named, 1909–10 to 1921–22*—Continued.

CHICAGO—SPRING PATENTS.[1]

Year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Yearly average.
1909–10	$6.17	$5.81	$6.08	$5.92	$6.13	$6.45	$6.41	$6.35	$6.46	$6.28	$6.27	$6.18	$6.21
1910–11	6.76	6.65	6.37	6.31	6.18	6.28	6.42	6.05	5.56	5.36	5.62	5.44	6.08
1911–12	5.53	5.83	5.89	6.12	5.95	5.80	5.82	5.86	5.80	5.88	6.38	6.40	5.94
1912–13	6.10	5.79	5.65	5.36	5.14	4.84	4.60	4.66	4.64	4.71	4.88	4.81	5.10
1913–14	4.89	4.80	4.73	4.62	4.58	4.65	4.68	4.80	4.86	4.71	4.74	4.72	4.73
Av., 1909–1913	5.89	5.78	5.74	5.67	5.60	5.60	5.59	5.54	5.46	5.39	5.58	5.51	5.61
1914–15	4.58	5.62	6.18	5.71	5.79	5.90	6.97	7.62	7.41	7.62	7.85	6.62	6.49
1915–16	6.66	6.76	5.40	5.60	5.69	5.84	6.51	6.74	5.87	6.16	6.11	5.99	6.11
1916–17	5.96	7.63	8.15	9.84	9.79	9.02	9.54	9.01	9.75	12.02	15.34	17.46	10.29
1917–18	12.53	13.03	11.46	10.89	10.55	10.45	10.08	10.75	11.25	11.50	11.15	10.88	11.21
1918–19	10.65	11.00	10.62	10.40	9.58	10.50	10.42	10.28	10.20	11.45	13.10	11.25	10.79
1919–20	11.62	12.25	11.40	11.52	13.00	13.95	13.88	14.42	13.18	13.75	15.40	14.50	13.24
1920–21	13.35	13.10	12.42	11.75	10.75	8.32	10.00	8.82	8.75	8.48	8.42	9.60	10.31
Av., 1914–1920	9.34	9.91	9.38	9.39	9.31	9.14	9.63	9.66	9.49	10.14	11.05	10.90	9.78
1921–22	8.82	9.00	8.10	7.75	7.38	7.32	6.78	7.84	7.55	7.60	8.00	7.65	7.82

NEW YORK—WINTER PATENTS.[2]

1909–10	$6.52	$6.28	$5.43	$5.77	$5.78	$5.74	$5.96	$5.95	$5.96	$5.82	$5.74	$5.40	$5.86
1910–11	5.44	5.36	5.07	4.92	4.81	4.88	5.02	4.92	4.78	4.63	4.67	4.65	4.93
1911–12	4.68	4.67	4.71	4.90	4.90	4.90	4.96	5.06	5.08	5.32	6.00	6.00	5.10
1912–13	5.79	5.28	5.34	5.33	5.33	5.33	5.55	5.75	5.44	5.50	5.50	5.54	5.47
1913–14	5.58	5.42	4.89	4.91	4.90	4.90	4.92	4.97	5.00	4.88	5.00	4.98	5.03
Av., 1909–1913	5.60	5.40	5.09	5.17	5.14	5.15	5.28	5.33	5.25	5.23	5.38	5.31	5.27
1914–15	4.90	5.22	5.81	5.80	5.80	5.86	6.79	7.88	7.56	7.39	7.55	6.64	6.43
1915–16	6.48	6.62	5.68	5.89	5.90	6.20	6.70	6.62	6.28	6.24	5.91	5.48	6.17
1916–17	5.63	7.34	7.86	8.30	8.90	8.60	9.09	8.87	9.53	11.41	14.57	12.98	9.42
1917–18	11.72	11.12	10.94	10.64	10.51	10.45	10.44	10.43	10.91	11.00	10.98	10.98	10.84
1918–19	11.35	10.71	10.40	10.28	10.25	10.53	10.48	10.25	10.55	11.40	11.38	11.19	10.73
1919–20	11.11	10.53	10.52	10.22	10.18	10.68	10.99	10.98	10.91	11.47	12.90	13.67	11.18
1920–21	12.46	11.20	11.22	10.14	9.38	8.82	8.87	8.36	8.15	7.00	7.09	7.39	9.17
Av., 1914–1920	9.09	8.96	8.92	8.75	8.70	8.73	9.05	9.06	9.12	9.42	10.05	9.76	9.13
1921–22	6.50	6.24	6.32	6.02	5.73	5.68	6.00	6.66	6.99	6.57	6.32	5.93	6.25

NEW YORK—SPRING PATENTS.[2]

1909–10	6.45	6.31	5.62	5.51	5.56	5.63	5.80	5.76	5.82	5.66	5.62	5.42	5.76
1910–11	6.05	5.78	5.71	5.52	5.33	5.40	5.46	5.25	5.08	5.02	5.23	5.10	5.41
1911–12	5.13	5.36	5.44	5.42	5.45	5.22	5.42	5.43	5.40	5.54	5.88	5.73	5.45
1912–13	5.51	5.37	5.11	4.87	4.80	4.60	4.66	4.70	4.80	4.66	4.89	4.95	4.91
1913–14	4.98	4.98	4.75	4.50	4.52	4.56	4.61	4.76	4.90	4.66	4.72	4.79	4.73
Av., 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	4.59	5.78	6.09	5.78	5.83	6.02	7.03	7.78	7.41	7.63	7.79	6.50	6.52
1915–16	6.82	6.91	6.44	5.58	5.62	6.10	6.69	6.64	5.99	6.32	6.27	5.78	6.26
1916–17	6.09	7.80	8.36	8.94	9.69	8.99	9.49	9.06	9.80	11.66	14.99	13.68	9.88
1917–18	12.32	12.46	11.69	11.31	10.93	10.86	10.63	10.63	10.94	11.00	10.98	10.98	11.23
1918–19	11.41	11.26	11.07	10.92	10.82	10.90	10.64	10.69	11.27	12.09	12.51	11.93	11.29
1919–20	12.12	12.35	11.73	12.20	13.11	14.25	14.49	13.25	13.07	13.88	14.83	14.20	13.29
1920–21	13.93	13.06	12.82	11.34	9.77	9.12	9.58	8.98	8.82	8.12	8.61	9.07	10.27
Av., 1914–1920	9.61	9.95	9.74	9.44	9.40	9.46	9.79	9.58	9.61	10.10	10.85	10.31	9.82
1921–22	9.03	8.48	8.31	7.50	6.97	6.94	6.85	8.05	7.95	7.96	8.18	7.63	7.82

[1] Compiled from Chicago Board of Trade and Daily Trade Bulletin.
[2] Compiled from New York Journal of Commerce.

WHEAT—Continued.

TABLE 48.—*Wheat: Monthly and yearly average prices per bushel of 60 pounds of Barletta* [1] *at Buenos Aires, 1912–1922.*[2]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average.
1912	$1.01	$1.00	$1.00	$1.03	$0.96	$0.99	$0.99	$1.01	$1.02	$1.01	$0.96	$0.92	$0.99
1913	.91	1.00	.93	.99	.95	1.02	1.02	1.01	[3] 1.07	[4] 1.03	[4] 1.03	.95	1.00
1914	.95	.99	.98	.95	1.01	.99	1.01	1.22	1.23	[5] 1.12	[5] 1.24	[5] 1.22	1.08
1915	1.26	1.42	1.39	1.44	1.48	1.35	1.33	1.29	1.31	1.36	1.31	1.20	1.35
1916	1.05	1.06	.96	.95	.85	.83	.84	1.06	1.19	1.49	1.74	1.48	1.13
1917	1.65	1.64	1.67	1.72	2.00	2.21	2.23	2.02	2.00	2.02	2.10	1.79	1.92
1918	1.56	1.55	1.58	1.59	1.57	1.56	1.50	1.41	1.42	1.41	1.46	1.49	1.51
1919	1.31	1.31	1.27	1.27	1.33	1.34	1.82	1.94	1.85	1.66	1.71	1.63	1.54
1920	1.65	1.75	2.02	2.55	2.79	2.58	2.85	2.43	2.48	2.58	[4] 2.75	1.86	2.36
AV., 1914–1920	1.35	1.39	1.41	1.50	1.58	1.55	1.65	1.62	1.64	1.66	1.76	1.52	1.55
1921	1.76	1.58	1.62	1.46	1.48	1.50	1.45	1.43	1.50	1.22	1.05	1.05	1.43
1922	1.04	1.26	1.32	1.30	1.32	1.22	1.27	1.20	1.16	1.22	1.20	1.22	1.23

[1] Barletta is a semihard wheat.
[2] International Yearbook of Agricultural Statistics, 1922, for prices and monthly exchange rates. Exchange after July, 1921, from Federal Reserve Board Bulletin.
[3] No. 1 Rosario wheat.
[4] Description "Pan."
[5] New crop.

TABLE 49.—*Wheat: Spot prices per bushel of 60 pounds at Karachi, India, 1912 to 1922.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly 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	1.09
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	[2] 1.49	[2] 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	([3])	([3])	([3])	1.36	1.36	1.25	1.22	1.11	.89	.91	1.17	1.20

[1] Compiled from Indian Trade Journal. Converted at par of $0.3244 per rupee to 1919, and current exchange rate as given by Federal Reserve Board Bulletins 1919 to date.
[2] First week of month, from Review of the Trade of India.
[3] Not quoted.

WHEAT—Continued.

TABLE 50.—*Wheat: Yearly prices in England, 1259 to 1921.*

In the accompanying tabulation of wheat prices in England the figures represent cents per bushel, the original quotation having been reduced to equivalent American units. Prices between 1261 and 1580 are derived from figures taken from J. E. T. Rogers's work on Agriculture and Prices. The prices are taken from sales or purchases at all times of the year and from all parts of England. It is believed that payments were made by weight up to the time that Elizabeth reformed the currency, but the money values have not been reduced from what are supposed to be their nominal to what are supposed to be their real values. The prices from 1582 to 1771 are reduced from Oxford wheat prices, taken from Lloyd's collection (quoted in Rogers's work), obtained from the register of the clerks of the Oxford market; 1772 to 1915, average price of British wheat, from the report of the British Board of Agriculture and Fisheries. The number in the left-hand column added to the number at top of column will determine the year, thus 1600 plus 9 equals the year 1609.

	1200	1300	1400	1500	1600	1700	1800	1900[1]
0	.....	$0.14	$0.24	$0.18	$0.87	$1.03	$3.46	$0.82
1	.....	.15	.22	.25	.80	.85	3.63	.81
2	.....	.15	.20	.24	.73	.74	2.12	.85
3	.....	.12	.15	.19	.80	.85	1.79	.81
4	.....	.17	.12	.15	.75	1.07	1.89	.86
5	.....	.15	.11	.15	.78	.81	2.73	.90
6	.....	.12	.13	.16	.76	.68	2.41	.86
7	.....	.17	.14	.17	.87	.69	2.29	.93
8	.....	.21	.22	.12	1.33	.99	2.47	.97
9	.....	.23	.27	.09	1.21	1.99	2.96	1.12
10	.....	.21	.15	.12	.82	1.99	3.24	.96
11	.....	.13	.15	.17	.91	1.39	2.90	.96
12	.....	.15	.15	.27	1.10	1.16	3.85	1.06
13	.....	.17	.13	.18	1.18	1.22	3.34	.96
14	.....	.25	.13	.14	1.17	1.32	2.26	1.06
15	.....	.45	.19	.20	1.02	1.08	1.99	1.61
16	.....	.48	.24	.16	1.05	1.27	2.39	1.77
17	.....	.25	.16	.19	1.19	1.12	2.95	2.28
18	.....	.14	.21	.18	1.15	.93	2.62	2.19
19	.....	.17	.15	.22	.90	.93	2.27	2.19
20	.....	.19	.19	.28	.79	.85	2.06	2.43
21	.....	.35	.16	.23	.77	.89	1.71	1.73
22	.....	.27	.13	.18	1.41	.87	1.36	.....
23	.....	.22	.13	.17	1.37	.85	1.62	.....
24	.....	.22	.15	.15	1.16	.91	1.94	.....
25	.....	.17	.12	.16	1.24	1.13	2.08	.....
26	.....	.11	.12	.19	1.18	1.28	1.78	.....
27	.....	.12	.13	.41	.92	1.10	1.78	.....
28	.....	.19	.27	.28	.76	1.50	1.84	.....
29	.....	.20	.24	.29	1.04	1.38	2.02	.....
30	.....	.22	.18	.22	1.39	.94	1.95	.....
31	.....	.24	.14	.25	1.57	.72	2.02	.....
32	.....	.14	.21	.24	1.27	.67	1.78	.....
33	.....	.13	.18	.23	1.32	.70	1.61	.....
34	.....	.12	.16	.21	1.30	.91	1.40	.....
35	.....	.16	.17	.31	1.26	1.07	1.20	.....
36	.....	.15	.16	.32	1.32	1.12	1.48	.....
37	.....	.11	.28	.21	1.30	1.07	1.70	.....
38	.....	.10	.45	.21	1.41	.81	1.96	.....
39	.....	.18	.23	.17	1.07	.95	2.15	.....
40	.....	.11	.12	.17	1.09	1.44	2.02	.....
41	.....	.11	.12	.27	1.21	1.30	1.96	.....
42	.....	.12	.12	.24	1.01	.85	1.74	.....
43	.....	.17	.13	.28	1.21	.63	1.52	.....
44	.....	.11	.12	.27	1.00	.65	1.56	.....
45	.....	.11	.19	.47	1.16	.66	1.55	.....
46	.....	.21	.18	.25	1.37	.92	1.66	.....
47	.....	.20	.16	.15	1.59	.92	2.12	.....
48	.....	.13	.17	.24	1.78	.88	1.54	.....
49	.....	.16	.16	.49	1.88	.90	1.35	.....
50	.....	.25	.20	.54	1.64	.86	1.22	.....
51	.....	.31	.20	.71	1.48	.99	1.17	.....
52	.....	.22	.17	.32	1.17	1.07	1.24	.....
53	.....	.13	.15	.30	.78	1.13	1.62	.....
54	.....	.16	.12	.56	.60	.97	2.20	.....
55	.....	.18	.16	.66	.84	.80	2.27	.....
56	.....	.18	.15	.85	1.07	1.15	2.10	.....
57	.....	.21	.17	.25	1.17	1.81	1.71	.....
58	.....	.17	.17	.28	1.55	1.42	1.23	.....
59	$0.17	.18	.15	.33	1.59	1.04	1.33	.....

[1] Wheat prices in England and Wales, 1916 to 1921, taken from Broomhall's Corn Trade Year Book.

WHEAT—Continued.

TABLE 50.—*Wheat: Yearly prices in England, 1259 to 1921*—Continued.

	1200	1300	1400	1500	1600	1700	1800	1900
60	$0.14	$0.19	$0.21	$0.43	$1.40	$0.89	$1.62	.....
61	.13	.16	.22	.47	1.65	.73	1.68	.....
62	.18	.23	.13	.33	1.88	.90	1.69	.....
63	.12	.26	.11	.59	1.30	.99	1.36	.....
64	.13	.22	.12	.33	1.26	1.20	1.22	.....
65	.10	.18	.14	.32	1.15	1.39	1.27	.....
66	.13	.20	.16	.49	.87	1.23	1.52	.....
67	.13	.26	.16	.33	.89	1.90	1.96	.....
68	.16	.20	.17	.34	1.00	1.71	1.94	.....
69	.15	.36	.19	.35	1.16	1.33	1.46	.....
70	.19	.28	.17	.30	1.05	1.49	1.43	.....
71	.21	.21	.17	.37	1.02	1.52	1.72	.....
72	.19	.24	.12	.39	1.09	1.59	1.73	.....
73	.16	.19	.12	.79	1.32	1.60	1.78	.....
74	.20	.26	.14	.43	1.86	1.65	1.70	.....
75	.15	.23	.16	.48	1.35	1.52	1.37	.....
76	.19	.14	.15	.67	.87	1.20	1.40	.....
77	.15	.11	.20	.61	1.06	1.43	1.73	.....
78	.13	.11	.20	.51	1.43	1.32	1.41	.....
79	.15	.17	.18	.39	1.34	1.05	1.33	.....
80	.15	.19	.18	.50	1.06	1.12	1.35	.....
81	.18	.17	.26	.49	1.17	1.40	1.38	.....
82	.18	.16	.31	.56	1.06	1.50	1.37	.....
83	.21	.15	.22	.52	1.06	1.65	1.26	.....
84	.15	.17	.16	.47	1.10	1.53	1.08	.....
85	.16	.15	.14	.63	1.10	1.31	1.00	.....
86	.14	.12	.16	.96	.80	1.22	.94	.....
87	.09	.10	.17	.84	.86	1.29	.99	.....
88	.09	.11	.17	.43	.69	1.41	.97	.....
89	.13	.16	.18	.59	.85	1.60	.90	.....
90	.19	.26	.15	.69	.88	1.67	.97	.....
91	.17	.16	.20	.61	.90	1.48	1.13	.....
92	.16	.10	.13	.50	1.19	1.31	.92	.....
93	.25	.11	.12	.55	1.69	1.50	.80	.....
94	.27	.12	.14	.96	1.53	1.59	.69	.....
95	.20	.15	.12	1.16	1.32	2.29	.70	.....
96	.14	.18	.16	1.39	1.41	2.39	.80	.....
97	.16	.17	.15	1.71	1.62	1.63	.92	.....
98	.16	.16	.16	1.14	1.74	1.53	1.03	.....
99	.18	.17	.14	.71	1.69	2.10	.78	.....

TABLE 51.—*Wheat: Monthly and yearly average price per bushel of 60 pounds at Port Adelaide, Australia, 1912 to 1921.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average.
1912	$0.88	$0.87	$0.88	$0.96	$0.96	$0.98	$0.96	$0.96	$0.99	$1.00	$0.96	$0.86	$0.94
1913	.85	.86	.86	.89	.88	.87	.86	.87	.86	.84	.84	.84	.86
1914	.86	.87	.90	.90	.92	.93	.93	1.00	1.12	1.14	1.21	1.40	1.02
1915	1.48	1.65	1.74	1.76	1.80	1.81	1.82	1.79	1.78	1.41	1.05	1.23	1.61
1916[2]	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
1917	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
1918	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
1919	1.14	1.19	1.18	1.16	1.16	1.15	1.11	1.07	1.05	1.15	1.12	1.13	1.13
1920	1.19	1.29	1.45	1.50	1.48	1.51	1.48	1.39	1.35	1.33	1.31	1.34	1.38
Av., 1914–1920	1.15	1.20	1.24	1.25	1.25	1.26	1.25	1.24	1.25	1.21	1.14	1.22	1.22
1921	1.69	1.74	1.76	1.77	1.79	1.70	1.63	1.64	1.68	1.74	[3] 1.79	[3] 1.87	1.73

[1] Compiled from Statistical Register of South Australia, 1920–21.

[2] The prices from 1916 to 1920 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.

[3] These prices for old wheat; new wheat price November, $0.93, December, $1.02.

WHEAT—Continued.

TABLE 52.—*Wheat: "World" visible supply 1st of each month, flour included, 1892–93 to 1921–22.*[1]

Year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	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	132,060	122,968	145,738	166,331	196,271	231,575	237,420	234,223	229,383	221,696	215,560	205,039
1893–94	183,744	178,073	183,845	195,713	220,724	235,389	232,065	232,978	222,391	216,545	206,914	195,763
1894–95	173,012	174,492	189,549	205,151	220,788	218,857	227,975	223,496	212,446	198,047	186,523	171,169
1895–96	160,331	158,043	152,268	176,638	209,858	218,787	224,798	202,832	191,887	180,630	161,111	147,563
1896–97	136,456	124,293	126,487	152,972	190,761	202,330	184,618	173,498	155,505	139,011	121,490	107,338
1897–98	88,740	77,900	87,073	119,635	139,313	156,516	157,009	152,042	140,571	132,038	111,229	109,845
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
Av., 1892–93 to 1898–99	137,302	129,410	135,924	157,076	183,514	199,901	201,583	194,957	186,187	176,128	163,248	153,381
1899–1900	140,300	134,975	142,577	162,877	191,191	203,478	200,306	189,356	181,607	184,141	175,766	157,709
1900–1901	149,841	150,193	164,629	188,200	200,715	203,237	211,064	201,161	204,353	197,013	135,436	160,498
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	175,482	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	207,959	219,048	220,457	208,662	214,710	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	170,585	136,844	116,695
Av., 1899–1900 to 1908–9	128,974	122,326	132,387	159,611	182,932	196,072	195,239	189,997	189,878	181,522	159,660	143,733
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
1910–11	118,942	111,015	159,399	214,526	237,558	237,607	234,057	236,025	235,509	226,883	193,983	172,843
1911–12	151,664	164,547	172,913	191,474	227,789	240,490	243,399	229,099	190,189	234,157	214,721	187,416
1912–13	152,266	129,007	132,385	165,377	213,026	239,736	245,099	251,665	273,077	207,502	224,642	138,773
1913–14	158,376	148,710	164,764	162,378	228,792	242,587	252,632	261,961	259,062	243,976	159,524	129,219
Av., 1909–10 to 1913–14	134,344	126,532	144,649	174,608	216,827	229,022	230,614	232,589	231,935	222,990	194,375	157,018
1914–15	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
1917–18	213,968	240,841	232,676	235,874	264,823	289,107	271,008	255,882	248,101	321,675	303,351	272,498
1918–19	252,899	267,097	329,364	383,689	490,099	439,052	442,922	474,609	453,996	414,270	363,423	319,115
1919–20	287,278	306,600	345,636	380,935	378,392	360,972	322,739	280,324	280,305	248,870	239,908	238,791
1920–21	192,310	175,147	155,463	183,042	214,569	221,177	226,287	251,169	286,839	270,615	215,590	199,992
Av., 1914–15 to 1920–21	210,833	211,126	222,052	252,385	294,172	298,734	301,842	301,220	293,689	297,866	274,934	247,779
1921–22	163,062	164,377	206,738	221,740	254,683	247,365	233,412	212,190	272,921	260,248	223,483	190,133

[1] 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 to 1900. Argentina added in 1901; Australia in 1905. Since February, 1916, France ,Germany, Belgium, Holland, and Russia omitted.

WHEAT—Continued.

TABLE 53.—*Wheat: Monthly and yearly receipts and shipments, 11 primary markets, 1909–10 to 1921–22.*[1]

	Chicago.	Milwaukee.	Minneapolis.	Duluth.	St. Louis.	Toledo.	Detroit.	Kansas City.	Peoria.	Omaha.	Indianapolis.	Total.
YEAR.	*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.*
1909–10:												
Receipts	27,542	8,482	92,833	54,687	22,064	4,426	1,821	34,092	1,304	(2)	(2)	247,251
Shipments	20,586	2,757	20,546	50,280	19,622	1,474	167	22,057	1,002	(2)	(2)	138,491
1910–11:												
Receipts	27,400	10,062	90,774	28,628	20,127	4,122	2,003	40,587	1,225	(2)	(2)	224,878
Shipments	17,259	7,875	20,866	25,352	20,082	1,556	105	26,709	1,074	(2)	(2)	120,938
1911–12:												
Receipts	35,563	8,497	96,889	30,598	15,336	6,930	2,861	23,627	1,518	11,030	176	233.025
Shipments	30,008	3,411	52,745	25,571	12,790	4,644	401	16,970	1,106	9,690	173	157,504
1912–13:												
Receipts	44,168	10,337	126,161	83,530	38,792	4,734	977	48,374	1,951	20,193	1,560	380,779
Shipments	43,325	5,685	32,761	75,435	27,179	2,475	715	33,415	1,616	13,133	462	236,261
1913–14:												
Receipts	50,884	6,372	103,679	62,799	27,244	5,802	1,442	32,152	1,629	16,453	1,898	310,354
Shipments	47,905	3,442	28,994	64,799	22,242	3,704	842	23,730	1,424	11,958	812	209,852
Av., 1909–10 to 1913–14:												
Receipts	37,111	8,750	102,067	52,048	24,713	5,203	1,821	35,756	1,525	15,892	1,211	286,097
Shipments	31,816	4,434	31,182	48,287	20,383	2,771	446	24,576	1,244	11,594	482	177,215
1914–15:												
Receipts	107,708	9,550	112,716	62,268	34,196	7,089	2,763	77,745	3,786	17,767	3,028	438,616
Shipments	91,112	7,010	39,510	59,867	26,913	4,168	2,012	65,650	3,527	11,639	916	311,324
1915–16:												
Receipts	85,819	7,337	103,202	95,674	42,226	9,965	2,809	70,442	4,503	25,613	4,851	512,441
Shipments	61,531	3,505	54,932	82,540	31,046	5,571	1,580	51,632	5,336	16,215	1,967	315,855
1916–17:												
Receipts	56,708	10,595	119,701	30,978	41,624	5,719	2,724	68,720	2,870	31,194	2,890	373,123
Shipments	47,342	8,099	39,689	36,789	33,080	2,590	1,082	62,878	2,468	29,221	929	264,167
1917–18:												
Receipts	13,735	13,138	82,229	16,602	17,023	4,583	1,597	22,226	2,195	8,565	2,990	184,883
Shipments	8,118	1,336	19,072	13,646	13,234	1,379	260	8,255	1,422	6,096	1,192	74,010
1918–19:												
Receipts	54,533	15,535	117,787	88,383	42,547	5,940	1,608	54,106	3,405	19,730	6,477	410,051
Shipments	67,122	12,575	38,174	86,932	25,621	1,348	306	35,696	3,871	15,115	2,080	288,340
1919–20:												
Receipts	74,167	7,006	119,419	18,317	45,266	8,046	1,688	92,215	3,663	26,585	7,471	403,843
Shipments	57,215	3,674	37,488	13,664	32,956	2,285	289	55,673	4,285	21,992	1,340	230,841
1920–21:												
Receipts	30,615	4,424	118,579	45,083	45,316	5,052	1,656	87,148	2,199	28,192	4,491	372,755
Shipments	27,886	2,556	50,724	43,272	31,479	1,400	149	64,637	2,011	24,372	458	248,944
Av., 1914–15 to 1920–21:												
Receipts	60,469	9,655	119,090	51,044	38,227	6,628	2,121	67,512	3,260	22,521	4,600	385,127
Shipments	51,461	5,536	39,938	48,101	27,761	2,677	811	49,203	3,203	17,807	1,269	247,767
1921–22:[3]												
Receipts	51,548	9,676	105,343	49,226	39,009	6,753	1,578	90,574	2,564	25,310	4,056	385,637
Shipments	45,803	7,464	43,237	49,843	29,494	3,622	234	69,085	1,709	25,559	890	276,850
MONTHS.												
1921–22.												
July:												
Receipts	14,070	1,442	7,043	2,263	8,932	943	159	17,115	414	5,529	1,790	59,700
Shipments	3,921	949	3,938	2,667	3,622	91	5	7,610	378	2,674	347	26,202
August:												
Receipts	13,270	2,893	15,036	6,192	7,159	1,063	187	15,675	983	5,874	587	68,919
Shipments	18,390	3,253	5,556	4,300	4,762	189	12	11,138	290	6,451	133	54,474
September:												
Receipts	3,297	4,023	13,208	12,567	4,207	595	103	9,271	235	3,399	191	51,096
Shipments	4,478	1,415	8,163	13,667	3,922	381	71	8,411	230	4,092	147	44,977
October:												
Receipts	1,956	515	16,668	8,705	3,589	656	139	7,434	93	2,046	213	42,014
Shipments	1,836	356	5,570	7,748	3,234	265	10	6,847	74	2,273	62	28,275
November:												
Receipts	1,157	104	8,870	5,523	1,585	1,776	93	4,361	89	637	147	24,342
Shipments	2,074	495	2,840	7,681	1,506	639	27	3,672	65	1,026	61	20,086
December:												
Receipts	795	103	8,180	2,851	1,705	470	129	6,288	59	921	115	21,616
Shipments	700	83	2,264	3,097	1,302	478	23	3,243	59	1,004	24	12,277

[1] Compiled from Chicago Daily Trade Bulletin.
[2] No report.
[3] 1921–22 figures subject to revision.

WHEAT—Continued.

TABLE 53.—*Wheat: Monthly and yearly receipts and shipments, 11 primary markets, 1909–10 to 1921–22*—Continued.

MONTHS.	Chicago.	Milwaukee.	Minneapolis.	Duluth.	St. Louis.	Toledo.	Detroit.	Kansas City.	Peoria.	Omaha.	Indianapolis.	Total.
1921–22.	*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.*
January:												
Receipts	702	68	7,799	856	1,801	126	151	5,358	112	822	116	17,911
Shipments	637	171	2,375	312	1,862	158	26	4,052	58	1,182	18	10,851
February:												
Receipts	1,393	114	7,190	661	2,254	343	152	7,781	145	1,593	216	21,842
Shipments	918	135	2,131	150	1,731	393	7	4,511	127	1,112	10	11,225
March:												
Receipts	1,229	66	7,018	2,548	2,449	217	156	3,981	222	1,009	152	19,047
Shipments	1,284	132	3,270	240	2,304	332	23	4,935	173	1,074	48	13,815
April:												
Receipts	2,103	121	3,562	1,247	1,242	135	100	2,871	95	904	164	12,544
Shipments	1,063	128	1,460	331	1,151	158	9	3,231	76	1,187	21	8,815
May:												
Receipts	9,414	117	5,314	2,707	2,559	275	125	5,385	85	2,049	174	28,204
Shipments	3,002	208	2,531	6,221	2,234	347	9	7,291	91	3,025	17	24,976
June:												
Receipts	2,162	110	5,455	3,106	1,527	154	84	5,054	32	527	191	18,402
Shipments	7,500	139	3,139	3,429	1,774	191	12	4,144	88	459	2	20,877

TABLE 54.—*Wheat: Visible supply in United States, first of each month, 1889–90 to 1921–22.*[1]

Year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	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.*
1889–90	13,956	12,688	14,212	18,849	25,713	33,178	33,756	31,489	28,996	26,823	23,457	21,791
1890–91	19,638	18,463	17,501	17,059	21,235	24,570	25,603	23,592	22,926	22,483	20,979	16,477
1891–92	12,583	16,768	19,863	27,895	36,232	41,678	45,908	43,118	41,555	41,036	37,936	29,522
1892–93	24,262	23,992	36,260	47,901	61,694	72,580	81,786	81,487	79,088	77,654	75,027	71,080
1893–94	62,316	59,349	56,881	60,528	69,327	78,091	79,953	79,893	75,569	71,458	66,583	59,394
1894–95	54,657	57,144	66,949	71,413	80,027	85,159	87,886	83,376	78,761	74,308	62,196	52,229
1895–96	44,561	38,517	35,438	40,768	52,990	63,903	69,842	66,734	64,089	60,322	55,519	50,040
1896–97	47,199	46,754	45,574	50,116	58,680	56,312	54,651	49,591	43,797	38,612	34,412	26,897
1897–98	15,583	17,814	14,817	21,104	26,974	34,845	38,816	36,602	34,088	30,223	23,263	23,672
1898–99	14,701	9,093	7,147	11,263	15,476	24,115	26,893	28,583	29,920	29,987	28,144	26,185
Av., 1889–90 to 1898–99	31,946	30,058	31,464	36,690	44,835	51,443	54,509	52,447	49,879	47,291	42,752	37,729
1899–1900	33,587	36,019	34,768	42,143	49,561	55,778	58,291	54,363	54,084	54,204	52,472	44,704
1900–1901	46,442	47,594	50,294	55,409	60,032	62,179	61,245	59,767	57,234	54,749	46,668	36,932
1901–02	30,793	30,369	27,790	35,304	41,192	52,396	59,928	57,929	54,093	49,615	38,328	28,604
1902–03	19,760	21,972	20,966	25,624	32,200	45,082	49,738	48,447	47,807	41,958	33,456	24,528
1903–04	15,970	13,414	13,203	19,489	22,216	30,140	38,204	39,760	35,599	31,727	30,357	21,575
1904–05	14,055	13,093	12,814	17,576	26,495	36,860	40,619	39,387	36,528	32,327	28,529	20,034
1905–06	14,274	13,354	12,140	17,896	28,339	36,493	45,333	48,537	47,283	46,468	38,431	30,811
1906–07	25,892	29,864	30,054	33,352	37,972	41,557	45,768	44,857	44,884	47,208	51,999	49,729
1907–08	46,539	48,318	49,459	43,750	43,683	43,477	48,481	46,711	42,906	38,087	30,318	22,818
1908–09	15,369	16,174	16,297	29,924	48,053	48,973	51,759	44,875	38,213	36,142	29,625	19,786
Av., 1899–1900 to 1908–09	26,268	27,017	26,779	32,047	38,974	45,294	44,761	48,463	45,863	43,349	38,018	29,952
1909–10	9,756	7,609	8,362	19,442	27,001	29,417	27,738	26,463	25,515	29,015	26,228	20,132
1910–11	12,034	12,375	26,452	34,967	40,120	42,989	44,282	43,251	39,868	34,152	27,605	26,838
1911–12	23,833	41,316	48,057	52,709	65,199	69,948	70,489	60,425	57,080	51,042	41,722	30,847
1912–13	23,350	18,841	19,586	31,658	41,712	55,400	65,342	64,913	63,786	58,996	47,157	37,940
1913–14	30,163	37,677	44,530	49,026	55,105	58,868	63,743	60,806	57,021	51,862	43,378	29,775
Av., 1909–10 to 1913–14	19,827	23,564	29,397	37,560	45,827	51,324	54,319	51,172	48,654	45,013	37,218	27,106
1914–15	14,999	29,744	31,534	51,586	65,922	74,086	72,861	60,252	49,682	39,323	26,439	19,082
1915–16	7,948	6,582	7,111	15,900	22,639	48,797	67,311	68,458	63,553	57,387	48,864	44,463
1916–17	42,628	40,889	54,660	57,418	60,470	62,026	59,534	48,721	44,916	39,317	25,756	28,896
1917–18	14,209	5,819	5,058	7,789	14,908	21,031	17,552	13,869	9,739	5,381	2,194	1,146
1918–19	785	17,155	48,821	96,886	122,604	121,561	119,711	136,613	118,219	92,546	49,502	23,702
1919–20	8,681	20,903	56,828	84,909	96,352	89,742	75,363	60,359	50,875	45,896	42,784	37,101
1920–21	17,777	17,487	19,554	27,391	35,500	43,149	43,063	32,555	27,822	18,463	13,488	8,334
Av., 1914–15 to 1920–21	15,290	19,797	31,938	48,840	59,771	64,342	65,056	59,261	52,115	42,618	28,432	23,246
1921–22	8,061	24,658	38,741	52,795	56,595	47,763	49,468	42,280	40,055	35,897	31,281	26,341
1922–23	17,773	19,667	27,349	32,354	32,278	33,428	37,673	.....	.....	.....	.....	.....

[1] Compiled from Chicago Daily Trade Bulletin and Bartels' Red Book.

WHEAT—Continued.

TABLE 55.—*Wheat: Yearly movements and local consumption at 11 primary markets, 1909–10 to 1921–22.*[1]

Crop year.	Supply at beginning of year.	Receipts.	Shipments.	Supply at end of year.	Local consumption.	
					Bushels.	Per cent of total. supply.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	
1909–10	9,756	247,251	138,491	12,034	106,482	41
1910–11	12,034	224,878	120,938	23,833	92,141	39
1911–12	23,833	233,025	157,504	23,350	76,004	30
1912–13	23,350	380,779	236,261	30,163	137,705	34
1913–14	30,163	310,354	209,852	14,999	115,666	34
Average, 1909–1913	19,827	279,257	172,609	20,876	105,599	35
1914–15	14,999	438,616	311,324	7,948	134,343	30
1915–16	7,948	512,441	315,855	42,628	161,906	31
1916–17	42,628	373,123	264,167	14,209	137,375	33
1917–18	14,209	184,883	74,010	785	124,297	62
1918–19	785	410,051	288,340	8,681	113,815	28
1919–20	8,681	403,843	230,841	17,777	163,906	40
1920–21	17,777	372,755	248,944	8,061	133,527	34
Average, 1914–1920	15,290	385,101	247,639	14,298	138,452	35
1921–22	8,061	385,637	276,850	17,771	99,077	25

[1] Compiled from Chicago Trade Bulletin data. Markets included are Chicago, Milwaukee, Minneapolis, Duluth, St. Louis, Toledo, Detroit, Kansas City, Peoria, Omaha, and Indianapolis.

TABLE 56.—*Wheat: Summary in per cent of carloads graded by licensed inspectors for yearly periods, all inspection points, total of all classes and subclasses under each grade.*

1917–18 TO 1921–22.[1]

Crop movement year.	Receipts.						Shipments.					
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	Sample.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	Sample.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1917–18	23.2	34.4	22.3	8.9	5.3	5.9	23.6	34.2	23.3	8.5	5.7	4.7
1918–19	48.2	32.7	10.2	4.3	1.6	3.0	69.1	24.6	3.9	1.2	.4	.8
1919–20	7.5	31.8	31.0	16.7	8.2	4.8	5.8	51.7	31.7	6.8	2.3	1.7
1920–21	23.3	36.8	18.9	7.6	5.8	7.6	11.3	70.8	11.3	2.4	2.2	2.0
1921–22	14.2	41.6	22.8	8.0	4.3	9.1	6.4	76.2	10.2	2.3	1.4	3.5
Average, 1917–18 to 1921–22	23.3	35.5	21.1	9.1	5.1	5.9	23.2	51.5	16.1	4.3	2.4	2.5
JULY, 1921, TO JUNE, 1922, BY CLASSES.												
Hard red spring	28.9	15.6	25.5	18.5	8.7	2.8	28.0	44.3	16.9	7.8	1.9	1.1
Durum	13.3	50.5	20.2	9.8	4.4	1.8	5.4	82.7	6.8	2.9	1.8	.4
Hard red winter	12.7	49.3	19.6	3.8	3.2	11.4	3.6	84.1	6.9	.9	1.0	3.5
Soft red winter	4.9	29.7	32.5	13.3	5.1	14.5	.6	69.7	20.4	2.9	1.6	4.8
Common white	13.6	55.8	22.2	5.1	1.1	2.2	6.3	88.8	3.6	.5	.....	.8
White club	16.6	59.2	21.7	1.3	.2	1.0	5.4	94.1	.5	.....	.....	.....
Mixed	12.7	45.1	22.9	6.8	3.6	8.9	2.2	79.0	8.7	1.8	2.3	6.0

[1] Compiled from United States Department of Agriculture data.

WHEAT—Continued.

TABLE 57.—*Wheat: Supply and distribution in the United States, 1900 to 1922.*[1]

[In millions of bushels, i. e., 000,000 omitted, except as noted.]

Year.	Supply.						
	July 1, carry over from previous year.						
	A Commercial visible supply.	B In country mills and elevators.	C In farmers' hands.	D Total.	E Total crop.	F Imports.[2]	G Total supply.
1900	46	39	51	136	603	630	740
1901	31	29	31	91	789	121	880
1902	20	26	52	98	725	1,080	824
1903	16	19	43	78	664	218	742
1904	14	21	37	72	597	3,286	672
1905	14	19	24	57	727	262	784
1906	26	29	46	101	757	590	859
1907	47	33	55	135	638	520	774
1908	15	20	34	69	645	457	715
Average, 1900-1908	25	26	41	93	683	796	777
1909	10	18	15	43	700	815	744
1910	12	37	36	85	635	1,147	721
1911	24	34	34	92	622	3,414	717
1912	23	31	24	78	730	1,282	809
1913	30	25	36	91	764	2,384	857
Average, 1909-1913	20	29	29	78	690	1,808	770
1914	16	28	32	76	891	705	968
1915	8	18	29	55	1,026	7,188	1,088
1916	43	46	74	163	637	24,925	825
1917	15	17	16	48	637	31,215	716
1918	1	8	8	17	921	11,289	949
1919	9	19	19	47	968	5,496	1,021
1920	18	36	50	104	833	57,398	994
Average, 1914-1920	16	24	33	73	844	19,745	937
1921	8	26	57	91	795	17,252	903
1922	18	28	32	78	.....	.....	.....

Year	Distribution.						
	H Seeding.[3]	I Exports.	J Carry over June 30 to following year.	K Estimated consumption.	Estimated farm sales.	Stocks on farms Mar. 1, following.[2]	Stocks in mills and elevators, Mar. 1.[2]
1900	75	216	91	358	548	128,098	.....
1901	75	235	98	472	694	173,353	.....
1902	77	203	78	466	657	164,047	.....
1903	73	121	72	476	598	132,608	.....
1904	74	44	57	495	535	111,055	.....
1905	74	98	101	511	630	158,403	.....
1906	73	147	135	504	675	206,642	.....
1907	73	163	69	469	586	148,721	.....
1908	70	115	43	487	594	143,692	.....
Average, 1900-1908	74	149	83	471	613	151,846	.....

[1] Compiled from United States Department of Agriculture data.
[2] In thousands of bushels.
[3] 1½ bushels per acre sown.

WHEAT—Continued.

TABLE 57.—*Wheat: Supply and distribution in the United States, 1900 to 1922*—Con.

[In millions of bushels, i. e., 000,000 omitted, except as noted.]

Year.	Distribution.						
	H Seeding.	I Exports.	J Carry over June 30 to following year.	K Estimated consumption.	Estimated farm sales.	Stocks on farms Mar. 1, following.	Stocks in mills and elevators, Mar. 1.
1909	75	88	85	496	588	159,100	.....
1910	80	69	92	480	564	162,705	98,597
1911	79	80	78	480	561	122,041	95,710
1912	78	143	91	497	536	156,471	118,400
1913	82	146	76	553	660	151,795	93,627
Average, 1909-1913	79	105	84	501	582	150,422	101,583
1914	93	332	55	488	804	152,903	85,955
1915	85	243	163	597	850	244,448	155,027
1916	88	204	48	485	620	100,650	89,173
1917	97	133	17	469	560	107,745	66,138
1918	111	287	47	504	775	128,703	107,037
1919	92	220	104	605	800	169,904	123,233
1920	93	366	91	444	680	237,037	87,075
Average, 1914-1920	94	255	75	513	727	163,055	101,948
1921	94	279	78	452	744	131,136	72,564

TABLE 58.—*Wheat crop classified by grades.*

[Based upon estimate of about 5,000 mill and elevator operators.]

SPRING WHEAT.

State.	No. 1.			No. 2.			No. 3.			No. 4.			No. 5.			Below No. 5.		
	1920	1921	1922	1920	1921	1922	1920	1921	1922	1920	1921	1922	1920	1921	1922	1920	1921	1922
	P.ct	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*	*P.ct*
Wisconsin	5.7	2.7	17.5	15.2	16.5	36.0	25.4	25.1	31.3	20.8	25.6	10.4	18.8	19.7	3.4	14.1	10.4	1.4
Minnesota	6.0	5.6	49.4	8.0	12.3	24.2	14.5	30.9	14.5	19.8	28.9	7.7	27.5	17.0	3.1	23.4	5.3	1.1
Iowa	4.2	3.1	15.3	15.2	12.5	31.3	19.2	27.9	30.9	19.7	25.5	13.0	15.8	18.8	4.8	25.9	12.2	4.7
North Dakota	31.7	14.0	53.5	18.9	22.2	26.4	18.0	29.7	12.9	14.1	20.5	4.8	10.6	10.0	1.9	6.7	3.6	.5
South Dakota	2.5	15.7	51.8	5.3	22.7	25.2	8.9	30.5	15.3	14.9	17.0	5.6	19.9	9.9	1.7	48.5	4.2	.4
Nebraska	7.3	11.2	10.1	14.1	29.6	37.8	17.1	26.9	37.7	15.8	17.4	9.9	14.8	9.4	3.0	30.9	5.5	1.5
Montana	64.6	74.7	84.0	20.7	18.2	12.1	10.1	5.6	3.1	3.1	1.4	.5	.9	.1	.3	.6	....	.6
Wyoming	30.8	70.0	77.4	27.5	19.3	19.5	22.5	10.7	3.1	15.0	....	0	3.9	....	0	.3	....	0
Colorado	33.0	38.3	35.9	30.5	37.3	33.2	19.4	13.8	22.0	8.7	7.2	6.1	4.7	1.5	1.4	3.7	1.9	1.4
New Mexico	41.7	....	....	32.5	....	....	19.2	....	....	4.2	....	....	2.1	....	....	.3	....	....
Utah	25.9	33.6	31.0	51.6	40.1	44.9	17.2	17.1	18.3	5.0	5.6	4.3	.3	3.4	1.1	0	.2	.4
Idaho	26.9	37.3	35.5	49.6	41.5	49.7	15.7	13.5	10.9	3.4	3.8	2.0	1.8	2.7	.9	2.6	1.2	1.0
Washington	20.0	22.0	7.2	36.4	44.2	29.6	28.5	25.9	30.7	10.9	5.9	20.0	3.1	1.2	9.2	1.1	.8	3.3
Oregon	45.3	50.0	27.6	33.9	37.6	38.5	14.1	9.6	23.2	4.1	2.3	6.2	1.8	.5	2.5	.8	....	2.0
United States	24.0	24.1	52.1	20.8	25.6	26.4	16.6	24.2	13.5	12.8	15.1	5.3	11.8	7.9	2.0	14.0	3.1	.7

WINTER WHEAT.

Pennsylvania	13.4	12.3	12.5	52.2	48.6	49.5	22.3	27.5	26.4	7.9	8.1	7.7	2.9	2.3	2.3	1.3	1.2	1.6
Ohio	22.4	6.9	16.4	48.1	41.0	44.1	20.1	33.2	25.9	6.7	13.1	9.2	1.7	4.2	3.1	1.0	1.6	1.3
Illinois	22.2	8.3	10.5	47.8	43.9	43.2	19.9	29.4	27.8	7.1	12.9	13.0	2.0	3.5	4.1	1.0	2.0	1.4
Missouri	19.7	3.8	6.2	47.8	24.2	28.2	21.1	35.0	33.7	8.0	22.8	19.0	2.4	9.2	8.2	1.0	5.0	4.7
Nebraska	21.4	23.4	13.1	42.9	47.0	45.7	20.9	21.8	25.4	9.4	5.9	10.9	3.5	1.6	3.8	1.9	.3	1.1
Kansas	38.4	24.2	6.4	36.2	39.9	29.0	16.7	21.5	34.7	5.9	9.8	19.0	2.3	3.3	7.8	.5	1.3	3.1
Washington	37.4	36.9	8.9	42.6	45.4	44.5	10.7	14.3	31.1	2.3	3.0	11.3	1.0	0	2.7	0	.4	1.5
United States	29.5	19.7	13.3	42.0	39.9	38.0	18.2	25.1	27.6	6.7	10.2	13.1	2.4	3.5	5.2	1.2	1.6	2.8

WHEAT—Continued.

TABLE 59.—*Wheat (flour included): Monthly and yearly exports from the United States, 1909–10 to 1921–22.*[1]

[In thousands of bushels, i. e., 000 omitted.]

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
1909–10	4,629	8,835	12,472	13,898	12,996	9,126	4,973	3,527	3,737	5,330	4,977	2,864	87,364
1910–11	3,130	4,948	6,186	7,450	6,753	8,044	7,000	5,129	5,618	5,244	5,853	3,960	69,315
1911–12	6,275	10,177	10,700	8,820	6,574	7,980	5,814	5,033	5,852	4,923	4,388	3,146	79,682
1912–13	2,996	8,910	16,987	20,745	16,155	14,490	13,445	9,194	8,799	10,820	11,178	9,148	142,867
1913–14	12,968	28,346	17,510	13,113	9,616	10,623	9,706	7,556	6,954	7,040	10,914	11,247	145,593
Average, 1909–1913	6,000	12,243	12,771	12,805	10,419	10,053	8,187	6,088	6,192	6,671	7,462	6,073	104,964
1914–15	30,173	27,617	31,434	25,662	25,896	37,124	32,026	31,430	28,146	29,224	20,288	13,446	332,466
1915–16	11,556	21,612	25,230	23,768	19,264	20,418	20,895	21,066	24,071	22,424	20,592	12,223	243,119
1916–17	10,585	14,921	18,162	16,130	19,004	18,690	24,004	13,561	12,439	18,504	16,219	21,357	203,576
1917–18	8,420	9,738	7,180	11,522	10,616	15,300	12,448	10,494	12,209	12,364	10,914	11,375	132,580
1918–19	11,156	19,494	28,346	24,532	21,991	33,540	22,102	15,842	20,315	31,130	26,304	32,653	287,405
1919–20	16,324	20,312	25,028	20,977	23,896	15,428	12,274	10,581	16,880	13,720	25,890	21,752	222,562
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, 1914–1920	17,553	20,910	24,339	23,661	21,594	24,384	21,551	18,007	19,261	21,738	21,690	20,714	255,402
1921–22 [2]	30,413	66,963	38,950	25,211	19,563	15,014	14,982	10,991	14,371	10,244	14,267	18,200	279,169

[1] Compiled from monthly summary of Foreign and Domestic Commerce.
[2] Preliminary. Total, 279,170,670.

TABLE 60.—*Wheat: Monthly exports, including flour, from countries named, expressed in per cent of year's total based upon 10-year averages, 1911–1920.*[1]

Country.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
United States	6.7	8.9	10.0	9.7	8.5	9.5	8.4	6.9	7.3	8.1	8.3	7.7	100.0
Canada	5.8	4.5	6.3	5.0	9.8	8.4	7.3	6.3	4.3	11.1	15.4	15.8	100.0
Russia [2]	5.4	5.7	6.8	9.4	10.2	8.1	6.3	9.4	11.8	11.3	9.1	6.5	100.0
Argentina	5.5	13.2	17.1	15.0	11.6	10.0	8.1	5.6	4.1	3.4	3.1	3.3	100.0
Australia	12.1	13.3	15.1	11.3	8.3	5.9	5.9	5.4	6.6	6.2	4.7	5.2	100.0

[1] Compiled from United States Department of Agriculture data. [2] Based upon 8-year average.

TABLE 61.—*Wheat: Imported into the United States from Canada (flour not included), by months, 1913–14 to 1921–22.*[1]

Year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
	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.*	*1,000 bush.*
1913–14	4	(2)	(3)	231	104	127	885	175	235	13	73	43	1,890
1914–15	35	69	7	3	102	5	14	47	35	13	19	21	370
1915–16	60	441	348	1,755	796	470	386	218	194	258	504	243	5,673
1916–17	128	394	943	1,507	2,606	838	805	1,337	2,993	3,125	5,459	3,574	23,709
1917–18	1,954	1,398	840	1,712	5,674	3,732	7,339	27	218	71	958	761	24,684
1918–19	508	24	27	55	176	168	39	42	44	281	1,474	1,893	4,731
1919–20	118	28	143	564	404	309	753	534	526	50	410	124	3,963
1920–21	36	170	1,842	9,800	9,522	11,185	4,504	4,403	2,671	4,564	1,902	89	50,688
1921–22	713	239	81	878	1,184	2,052	3,119	199	2,673	483	1,231	120	12,972

[1] Compiled from Monthly Summary of Foreign Commerce. [2] 37 bushels. [3] 397 bushels.

WHEAT—Continued.

TABLE 62.—*Wheat: Per cent of average yearly exports from United States to countries named (flour included), 1899–1900 to 1921–22.*[1]

Country.	10-year average, 1899–1900 to 1908–9.	5-year average, 1909–10 to 1913–14.	7-year average, 1914–15 to 1920–21.	1921–22.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
Belgium	5.67	6.91	4.07	7.12
Denmark	1.34	1.56	.62	.13
France	1.53	3.82	12.09	2.08
Germany	7.82	6.67	2.15	11.28
Italy	1.56	2.30	14.82	15.59
Netherlands	8.12	11.46	6.65	9.37
Norway and Sweden	.65	1.19	2.22	.87
Portugal	1.03	.53	.25	.....
Spain	.06	.06	.13	.69
United Kingdom	21.85	28.17	31.94	23.55
Canada	1.94	2.05	4.43	9.47
Mexico	.68	.74	.83	.44
South America	3.14	5.34	2.02	1.15
Asia	8.07	11.02	.44	1.44
Africa	2.98	1.08	.32	.14
All other	33.56	17.10	17.02	16.68
Total	100.00	100.00	100.00	100.00

[1] Compiled from United States Department of Agriculture data.

TABLE 63.—*Wheat: Monthly and yearly exports from United States, 1909–10 to 1921–22.*[1]

FLOUR NOT INCLUDED.

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Crop year total.
	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.*	*1,000 bush.*
1909–10	2,783	6,157	7,156	8,566	8,427	3,727	1,428	1,166	1,204	2,953	2,487	626	46,680
1910–11	862	2,131	2,226	3,261	2,505	3,409	2,802	1,349	1,883	1,315	1,371	617	23,731
1911–12	3,260	6,253	5,088	3,350	2,299	3,084	2,043	1,244	1,352	1,386	603	199	30,161
1912–13	535	5,800	13,153	15,255	10,584	9,490	8,441	4,357	4,569	6,590	7,159	5,661	91,594
1913–14	9,404	24,346	11,971	7,434	3,851	5,727	4,985	3,947	3,457	3,066	6,810	7,395	92,393
Average, 1909–1913	3,369	8,937	7,919	7,573	5,533	5,087	3,940	2,413	2,493	3,062	3,686	2,900	56,912
1914–15	26,357	24,341	25,867	19,578	19,182	28,876	24,008	24,432	20,541	22,758	14,227	9,396	259,643
1915–16	7,956	16,838	21,526	18,040	13,500	12,624	13,461	15,054	17,294	16,506	14,571	5,905	173,275
1916–17	6,355	11,060	13,108	11,985	14,279	14,473	18,906	10,384	7,885	14,233	11,359	15,804	149,831
1917–18	5,059	5,170	2,613	5,415	4,878	4,491	1,914	1,048	1,688	1,024	353	467	34,120
1918–19	225	15,120	26,848	21,319	16,087	25,084	9,943	5,992	10,208	17,338	14,028	16,390	178,582
1919–20	5,834	12,941	17,090	13,687	15,116	9,520	8,480	4,938	6,939	4,176	10,864	12,846	122,431
1920–21	23,838	27,694	30,771	35,803	26,035	25,903	21,345	18,469	14,601	17,641	25,932	25,235	293,267
Average, 1914–1920	10,803	16,166	19,689	17,975	15,582	17,282	14,020	11,474	11,308	13,382	13,048	12,292	173,021
1921–22[2]	24,842	58,537	30,842	18,206	13,955	10,451	10,038	5,577	7,645	4,856	9,366	14,006	208,321

FLOUR INCLUDED.

1909–10	4,629	8,835	12,472	13,898	12,996	9,126	4,973	3,527	3,737	5,330	4,977	2,864	87,364
1910–11	3,130	4,948	6,186	7,450	6,753	8,044	7,000	5,129	5,618	5,244	5,853	3,960	69,315
1911–12	6,275	10,177	10,700	8,820	6,574	7,980	5,814	5,033	5,852	4,923	4,388	3,146	79,682
1912–13	2,996	8,910	16,987	20,745	16,155	14,490	13,445	9,194	8,799	10,820	11,178	9,148	142,867
1913–14	12,968	28,346	17,510	13,113	9,616	10,623	9,706	7,556	6,954	7,040	10,914	11,247	145,593
Average, 1909–1913	6,000	12,243	12,771	12,805	10,419	10,053	8,187	6,088	6,192	6,671	7,462	6,073	104,964
1914–15	30,173	27,617	31,434	25,662	25,896	37,124	32,026	31,430	28,146	29,224	20,288	13,446	332,466
1915–16	11,556	21,612	25,230	23,768	19,264	20,418	20,895	21,066	24,071	22,424	20,592	12,223	243,119
1916–17	10,585	14,921	18,162	16,130	19,004	18,690	24,004	13,561	12,439	18,504	16,219	21,357	203,576
1917–18	8,420	9,738	7,180	11,522	10,616	15,300	12,448	10,494	12,209	12,364	10,914	11,375	132,580
1918–19	11,156	19,494	28,346	24,532	21,991	33,540	22,102	15,842	20,315	31,130	26,304	32,653	287,405
1919–20	16,324	20,312	25,028	20,977	23,396	15,428	12,274	10,581	16,880	13,720	25,890	21,752	222,562
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, 1914–1920	17,553	20,910	24,339	23,661	21,594	24,384	21,551	18,007	19,261	21,738	21,690	20,714	255,402
1921–22[2]	30,413	66,963	38,950	25,211	19,563	15,014	14,982	10,991	14,371	10,244	14,267	18,200	279,169

[1] Compiled from Monthly Summary of foreign and Domestic Commerce.
[2] Preliminary. Total 279,170,670.

WHEAT—Continued.

TABLE 64.—*Flour, United States: Daily milling capacity, yearly flour output, and wheat production, by States, 5-year averages, 1915–1919.*[1]

States.	Daily capacity.	Output.		Wheat production.	Output is of production.
		Flour.	In terms of wheat.		
	Barrels.	*Barrels.*	*Bushels.*	*Bushels.*	*Per cent.*
Minnesota	178,825	27,628,382	124,327,719	52,082,000	239
Kansas	85,800	11,792,859	53,067,864	102,449,000	52
New York	60,900	7,976,403	35,893,813	9,337,000	384
Missouri	91,275	7,341,182	33,035,320	38,875,000	85
Illinois	55,250	5,134,348	23,104,565	46,993,000	49
Washington	36,475	4,779,687	21,508,593	37,869,000	57
Ohio	64,875	4,621,850	20,798,325	40,935,000	51
Texas	33,950	3,792,320	17,065,441	20,830,000	82
Indiana	48,650	3,337,807	15,020,130	37,926,000	40
California	17,525	2,872,400	12,925,798	8,901,000	145
Oregon	26,100	2,747,230	12,362,533	17,618,000	70
Oklahoma	20,850	2,578,627	11,603,822	40,609,000	29
Tennessee	31,850	2,448,296	11,017,332	7,133,000	154
Nebraska	25,850	2,434,581	10,955,614	51,044,000	21
Michigan	36,775	2,362,543	10,631,441	16,090,000	66
Pennsylvania	37,825	2,180,100	9,810,448	25,132,000	39
Kentucky	28,725	2,103,585	9,466,132	9,740,000	97
Colorado	11,975	1,711,830	7,703,233	14,557,000	53
Wisconsin	26,100	1,662,437	7,480,967	6,194,000	121
Virginia	21,700	1,448,951	6,520,280	14,421,000	45
All other	144,600	17,161,822	77,228,199	238,903,000	32

[1] Compiled from United States Department of Agriculture data.

TABLE 65.—*Wheat: Early statistics, United States and United Kingdom.*

EXPORTS, INCLUDING FLOUR, FROM THE UNITED STATES, 1800, 1840, 1845.

Country.	1800	1840	1845
	Bushels.	*Bushels.*	*Bushels.*
West Indies	2,058,055	2,089,698	2,203,800
Great Britain	885,076	3,712,371	178,785
British American colonies	36,910	3,228,384	1,760,909
Spain	13,452	6,250	1,110
Portugal	26,665	.....	.....
South America	.....	1,492,235	1,262,663

PRODUCTION, EXPORTS, IMPORTS, AND RETAINED IN THE UNITED STATES, 1839, 1849, 1859.

	1839	1849	1859
	Bushels.	*Bushels.*	*Bushels.*
Produced	84,832,272	95,863,268	173,104,924
Imported	1,545	2,913,225	4,492,969
Total available	84,833,817	98,776,493	177,597,893
Exported	11,208,365	7,535,901	17,213,133
Remaining in the country	73,625,452	91,240,592	160,384,760
Total population	17,089,453	23,191,876	31,443,321
Production per capita	4.96	4.13	5.50
Per capita left in country	4.31	3.96	5.10

WHEAT—Continued.

TABLE 65.—*Wheat: Early statistics, United States and United Kingdom*—Con.

SOURCE OF BRITISH SUPPLIES IMPORTED, 1845–1850.

Year.	From United States.	From Canada.	From Germany.	From France.	From Russia.	Total.[1]
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1845	752	1,832	4,632	288	272	9,136
1846	6,464	2,616	3,896	592	1,640	26,752
1847	14,672	3,192	5,184	1,432	6,808	37,720
1848	2,368	1,488	8,488	2,560	4,184	24,656
1849	4,912	1,128	8,904	5,912	4,752	38,416
1850	4,296	640	9,736	9,160	5,112	38,640
	33,464	10,896	40,840	19,944	22,768	175,320

AVERAGE ACREAGE, YIELD, POPULATION, AND CONSUMPTION IN THE UNITED KINGDOM, 1853–1892.

Year ending—	Average acreage.	Average yield.	Average population.	Average per capita consumption.
		Bushels.		*Bushels.*
1853–1860	4,092,160	28⅜	28,000,000	5.19
1861–1868	3,753,011	28⅜	29,700,000	5.60
1869–1876	3,788,132	27⅓	31,900,000	5.69
1877–1884	3,091,000	25½	34,600,000	5.83
1885–1892	2,512,924	29⅞	36,900,000	5.92

[1] Totals include imports from other minor sources.

TABLE 66.—*Wheat: Average exports and imports of countries named, 1901 to 1921.*[1]

Country.	8-year average, 1901–1908.		5-year average, 1909–1914.		7-year average, 1914–1920.		1921.[2]	
	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Argentina	83,027		95,242		75,097			
Australia	25,102		49,732		58,761			
Austria-Hungary	4,276	2,428	906	8,586		[3] 2,215		[3] 17,805
Belgium	17,814	63,180	22,694	73,967	168	6,625	4,054	39,600
British India	35,055		51,510		25,140		15,947	
Bulgaria	12,021		8,953		98			
Canada	37,546		90,870		147,523		179,606	
Chile	1,785		2,593		1,480			
Germany	[4] 8,950	[4] 79,375	21,149	89,755	130	3,510		
Netherlands	40,026	58,489	54,394	76,653	5,945	24,300	3,596	23,605
Rumania	39,915		52,370		3,377			
Russia	124,823		161,766		17,337			
Serbia	2,780		2,489					
United States	151,890		100,310		239,849		355,661	
Brazil		14,283		17,108		18,843		
British South Africa		[5] 9,617		6,708		4,904		
Denmark		4,993		6,711		2,479		
France		10,120		38,698		83,385		
Greece		6,572		7,035		7,701		11,047
Italy		35,206		52,866		75,135		
Japan		5,319		3,495		4,054		
Portugal		2,982		3,229		3,615		
Spain		10,300		4,471		11,691		18,095
Sweden		7,732		7,140		6,198		7,059
Switzerland		17,596		18,885		14,092		15,125
United Kingdom		207,675		219,156		202,246		184,850
All others	14,186	46,587	27,173	80,392	31,814	59,170		

[1] Compiled from United States Department of Agriculture data.
[2] As far as reported.
[3] Austria only.
[4] Not including free parts prior to Mar. 1, 1906.
[5] 1901 to 1905 totals of countries forming British South Africa.

WHEAT—Continued.

TABLE 67.—*Wheat, including flour: International trade, calendar years 1909–1921.*

"Temporary" imports into Italy of wheat to be used for manufacturing products for export are included in the total imports as given in the official Italian return. In the trade returns of Chile the item trigo mote (prepared corn), which might easily be confused with trigo (wheat), is omitted. See "General note," Table 20.

Country.	Average, 1909–1913.		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Argentina	3	95,243	4	137,356	.....	195,492	.....	62,399
Australia	7	49,732	4	106,247	5	87,340	2	116,466
British India	541	51,510	7,730	2,524	152	5,756	8,439	15,947
Bulgaria	39	11,244	1,194	17	(1)	668	(1)	979
Canada	426	90,871	114	113,586	226	144,345	582	179,606
Chile	170	2,593	104	2,648	44	1,368	6	2,150
Rumania	178	52,370	8,956	1	65	50	(1)	3,764
Russia	5,924	161,766	.....	.....	.....	.....	.....	.....
United States	1,537	100,310	7,986	267,111	39,412	307,630	27,633	355,661
PRINCIPAL IMPORTING COUNTRIES.								
Belgium	73,967	22,694	12,323	847	34,053	330	39,600	4,054
Brazil	20,495	.....	22,404	.....	15,879	.....	17,230	.....
British South Africa	6,397	258	2,137	162	8,711	99	1,199	25
Denmark	6,711	523	893	509	1,159	119	2,622	56
Finland	4,912	(1)	2,987	.....	1,660	.....	2,694	.....
France	88,698	1,529	86,666	1,232	87,770	1,172	40,256	1,628
Germany	89,755	21,149	.....	.....	24,572	910	.....	693
Greece	7,034	2	9,024	54	13,216	339	11,344	53
Italy	52,866	3,273	95,503	913	79,875	1,579	103,016	85
Japan	3,495	25	11,543	2	7,086	94	12,725	54
Netherlands	76,653	54,394	18,129	264	20,194	1,095	23,605	3,596
Portugal	3,228	216	4,218	7	.....	.....	.....	.....
Spain	4,471	65	13,426	1,000	18,699	721	18,095	648
Sweden	7,140	20	4,079	60	8,092	30	7,059	287
Switzerland	18,885	109	11,617	3	12,103	1	15,125	(1)
United Kingdom	219,156	4,514	178,612	644	234,475	690	184,850	4,967
Other countries	57,838	20,784	33,536	33,374	70,343	36,663	50,290	30,223
Total	700,526	745,194	533,189	668,561	677,792	786,491	566,372	783,287

[1] Less than 500.

OATS.

TABLE 68.—*Oats: Area and production in undermentioned countries, 1909–1922.*[1]

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922 [2]	Average, 1909–1913.	1920	1921	1922 [2]
NORTHERN HEMISPHERE.								
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
United States [3]	37,357	42,491	44,826	41,822	1,143,407	1,496,281	1,060,737	1,229,774
Canada [3]	9,597	15,850	16,949	16,056	351,690	530,710	426,233	558,358
Mexico	.....	.....	.....	.....	17	.....	.....	.....
Total North American countries marked [3]	46,954	58,341	61,775	57,878	1,495,097	2,026,991	1,486,970	1,788,132
EUROPE.								
United Kingdom:								
England and Wales [3]	2,039	2,266	2,148	2,161	82,024	85,968	80,264	74,800
Scotland	952	1,032	1,012	987	37,670	41,256	38,344	.....
Ireland	1,049	1,332	1,254	.....	63,083	53,648	46,144	.....
Norway	266	342	342	.....	10,245	15,078	12,960	.....
Sweden [3]	1,969	1,752	1,757	1,757	79,115	69,914	76,598	72,498
Denmark [3]	1,028	1,091	1,112	1,118	43,115	50,794	52,158	51,740
Netherlands [3]	346	395	383	392	18,512	20,443	20,001	16,430
Belgium [3]	644	586	603	701	40,905	33,865	35,225	27,558
Luxemburg	77	62	64	66	3,382	1,849	1,243	.....
France [3]	[4] 9,801	8,278	8,421	7,905	[4] 310,020	291,406	244,455	288,250
Spain [3]	1,276	1,588	1,575	1,512	29,110	37,772	35,616	34,926
Italy [3]	[4] 1,253	1,159	1,199	1,212	[4] 36,945	24,223	[5] 38,401	30,589
Switzerland [3]	81	56	52	51	4,784	3,118	3,038	2,466
Germany [3]	[4] 10,750	7,940	7,814	7,905	[4] 591,996	332,490	344,812	284,585
Austria	[4] 4,613	627	662	.....	[4] 143,392	15,974	18,643	.....
Czechoslovakia	.....	1,981	1,963	2,021	.....	59,654	74,087	64,520
Hungary [3]	[4] 2,669	802	806	818	[4] 85,840	22,307	21,964	22,528
Yugoslavia [3]	.....	1,029	1,003	954	.....	22,242	18,906	16,200
Serbia [3]	[4] 266	.....	.....	.....	[4] 5,443	.....	.....	.....
Croatia-Slavonia [3]	[4] 246	.....	.....	.....	[4] 5,216	.....	.....	.....
Bosnia-Herzegovina [3]	225	.....	.....	.....	[4] 4,973	.....	.....	.....
Greece	.....	273	.....	.....	.....	3,996	4,134	.....
Bulgaria [3]	[4] 455	345	407	366	[4] 9,880	7,004	9,301	9,370
Rumania [3]	[4] 1,105	2,173	3,063	3,294	[4] 27,545	60,979	55,350	86,117
Poland [3]	[4] 2,858	4,118	4,753	5,718	[4] 76,590	129,061	150,286	182,960
Lithuania	.....	.....	766	.....	.....	.....	18,154	.....
Latvia	.....	533	622	675	.....	7,784	16,843	17,792
Esthonia	.....	.....	353	.....	.....	.....	8,840	.....
Finland [3]	[6] 987	1,013	1,038	988	[4] 21,989	24,561	28,029	28,647
Russia, including Ukraine and North-Caucasia	[4] 39,203	.....	.....	.....	[4] 904,547	.....	.....	.....
Total European countries marked [3]	37,998	34,591	36,134	36,852	1,474,002	1,216,147	1,214,404	1,229,664
ASIA.								
Cyprus	.....	.....	.....	.....	429	.....	.....	.....
Japan	.....	282	.....	306	.....	11,162	12,086	13,434
Russia (Asiatic)	[4] 4,912	.....	.....	.....	[4] 87,403	.....	.....	.....
Total Asia marked [3]	.....	.....	.....	.....	.....	.....	.....	.....

[1] Official sources unless otherwise stated.
[2] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
[3] Indicates countries reporting for all periods given either as listed or as part of some other country.
[4] Old boundaries.
[5] Includes 627,000 bushels grown in the new territory of Venezia Tridentina and Venezia Giulia.
[6] One year only.

OATS—Continued.

TABLE 68.—*Oats: Area and production in undermentioned countries, 1909–1922*—Con.

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922	Average, 1909–1913.	1920	1921	1922
NORTHERN HEMISPHERE—continued.								
AFRICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
French Morocco	.....	6	.....	.....	.....	228	.....	.....
Algeria [3]	[4] 456	578	558	583	12,950	6,855	10,334	5,570
Tunis [3]	141	150	165	119	4,333	1,481	4,134	964
Total African countries marked [3]	597	728	723	702	17,283	8,336	14,468	6,534
Total Northern Hemisphere countries marked [3]	85,549	93,660	98,632	95,432	2,986,382	3,251,474	2,715,842	3,024,330

Country.	Area.				Production.			
	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22 [2]	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22 [2]
SOUTHERN HEMISPHERE.								
Chile [3]	68	64	60	79	2,934	2,590	3,155	3,144
Uruguay [3]	[7] 46	81	76	107	[7] 830	1,479	1,989	2,069
Argentina [3]	1,999	2,301	2,061	2,105	52,122	57,113	47,619	32,973
Union of South Africa [3]	[5] 809	558	564	530	[6] 7,197	7,519	7,789	8,103
Australia	708	1,068	937	.....	14,851	12,556	18,521	.....
New Zealand [3]	376	180	148	171	13,664	6,968	5,225	6,753
Total southern hemisphere countries marked [3]	3,298	3,184	2,909	2,992	76,747	75,669	65,777	53,042
Total world countries marked [3]	88,847	96,844	101,541	98,424	3,063,129	3,327,143	2,781,619	3,077,372
World total all countries reporting	140,627	104,382	109,516	102,479	4,328,148	3,550,328	3,051,618	3,173,118

[1] Official sources unless otherwise stated.
[2] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
[3] Indicates counties reporting for all periods given either as listed or as part of some other county.
[4] Four-year average.
[5] One year only.

TABLE 69.—*Oats: Total production in countries as far as reported, 1895–1922.*

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
	Bushesl.		*Bushels.*		*Bushels.*		*Bushels.*
1895	3,008,154,000	1902	3,626,303,000	1909	4,312,882,000	1916	[1] 3,484,071,000
1896	2,847,115,000	1903	3,378,034,000	1910	4,182,410,000	1917	[2] 3,006,747,000
1897	2,633,971,000	1904	3,611,302,000	1911	3,808,561,000	1918	[2] 3,112,522,000
1898	2,903,974,000	1905	3,510,167,000	1912	4,617,394,000	1919	[2] 2,857,897,000
1899	3,256,256,000	1906	3,544,961,000	1913	4,697,437,000	1920	[2] 3,550,328,000
1900	3,166,002,000	1907	3,603,896,000	1914	4,034,857,000	1921	[2] 3,051,618,000
1901	2,862,615,000	1908	3,591,012,000	1915	4,306,550,000	1922	[2] 3,173,118,000

[1] Germany not included. In 1915 Germany produced about 10 per cent of the reported world production.
[2] Russia not included. In 1915 Russia produced about 20 per cent of the reported world production.

OATS—Continued.

TABLE 70.—*Oats: Average yield per acre in undermentioned countries, 1890–1922.*

Year.	United States.	Russia (European).	Germany.	Austria.	Hungary proper.	France.	United Kingdom.[1]
Average:	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1890–1899	26.1	17.8	40.0	25.3	.....	29.8	43.6
1900–1909	29.3	20.0	50.7	29.8	30.7	33.0	44.3
1910–1919	32.1	[2] 22.2	47.5	29.3	[3] 34.8	32.8	43.1
1919	29.3	.....	41.9	22.4	.....	24.6	42.9
1920	35.2	.....	41.9	25.5	27.8	35.2	39.1
1921	23.7	.....	44.1	28.2	27.3	29.0	37.3
1922	29.4	.....	36.0	.....	27.5	36.5	.....

[1] Winchester bushels. [2] Seven-year average. [3] Six-year average.

TABLE 71.—*Oats: Acreage, production, value, exports, etc., in the United States, 1849–1922.*

[See headnote of Table 4.]

Year.	Acreage harvested.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Chicago cash price per bushel, contract.[1] December. Low.	December. High.	Following May. Low.	Following May. High.	Domestic exports, including oatmeal, fiscal year beginning July 1.[2]	Imports, during fiscal year beginning July 1.[3]
	1,000 acres.	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*	*Bushels.*
1849	.....	.....	*146,584*	.....	.....	.....	.....	.....	.....	.....	.....
1859	.....	.....	*172,643*	.....	.....	.....	.....	.....	.....	.....	.....
1866–1875	9,680	28.2	272,993	37.5	102,423	38	42	45	52	546,033	732,615
1876–1885	17,143	27.4	469,856	32.5	152,594	29	33	33	38	3,106,723	366,123
1886–1895	27,482	26.1	717,266	29.4	207,143	27	29	28	32½	5,607,237	111,587
1896	29,645	26.3	780,124	18.3	142,772	16½	18¾	16⅞	18¾	37,725,083	131,204
1897	28,353	27.9	791,442	20.8	164,836	21	23⅞	26	32	73,880,307	25,093
1898	28,769	29.3	842,747	25.2	212,482	26	27¾	24	27¾	33,534,362	28,098
1899	*29,540*	31.3	925,555	24.5	226,588	22¼	23	21¼	23¾	45,048,857	54,576
1900	30,290	30.2	913,800	25.4	232,074	21¾	22¾	27⅞	31	42,268,931	32,107
1901	29,894	26.0	778,392	39.7	308,796	42	48¼	41	49½	13,277,612	38,978
1902	30,578	34.5	1,053,489	30.6	322,423	29¼	32	33¾	38¼	8,381,805	150,065
1903	30,866	28.2	869,350	34.0	295,232	34¼	38	39⅝	44¾	1,960,740	183,983
1904	31,353	32.2	1,008,931	31.1	313,488	28¼	32	28⅝	32	8,394,692	55,699
1905	32,072	34.0	1,090,236	28.9	314,868	29½	32¾	32⅛	34¾	48,434,541	40,025
1906	33,353	31.0	1,035,576	31.9	329,853	33	35¾	44½	48½	6,386,334	91,289
1907	33,641	23.9	805,108	44.5	358,421	46½	50⅞	52¾	56½	2,518,855	383,418
1908	34,006	25.0	850,540	47.3	402,010	48⅜	50½	56¼	62½	2,333,817	6,691,700
1909	*35,159*	30.4	1,068,289	40.6	433,869	40	45	36½	43¼	2,548,726	1,034,511
1910[4]	37,548	31.6	1,186,341	34.4	408,388	31	32½	31⅞	36	3,845,850	107,318
1911	37,763	24.4	922,298	45.0	414,663	46¼	47¾	50½	58	2,677,749	2,622,357
1912	37,917	37.4	1,418,337	31.9	452,469	31	31¾	35⅛	43	36,455,474	723,899
1913	38,399	29.2	1,121,768	39.2	439,596	37⅝	40⅛	37	42½	2,748,743	22,273,624
1914	38,442	29.7	1,141,060	43.8	499,431	46⅝	49¾	50½	56	100,609,272	630,722
1915	40,996	37.8	1,549,030	36.1	559,506	40⅞	44	39½	49½	98,960,481	665,314
1916	41,527	30.1	1,251,837	52.4	655,928	46⅜	54	59½	74	95,105,698	761,644
1917	43,553	36.6	1,592,740	66.6	1,061,474	70¼	80⅝	72	79½	125,090,611	2,591,077
1918	44,349	34.7	1,538,124	70.9	1,090,322	68	74½	67⅞	74¼	109,004,734	551,355
1919	40,359	29.3	1,184,030	70.4	833,922	77	89	100⅛	117¼	43,435,994	6,043,834
1920[4]	42,491	35.2	1,496,281	46.0	688,311	47	52	36¾	43¼	9,391,096	3,795,638
1921	45,495	23.7	1,078,341	30.2	325,954	32¼	42	37¼	45	21,016,742	1,733,282
1922[5]	40,693	29.9	1,215,496	39.4	478,548	41½	42½	.....	.....	.....	.....

[1] Quotations are for No. 2 to 1906.
[2] Oatmeal not included until 1882.
[3] Oatmeal not included 1867–1882, and 1909.
[4] Acreage adjusted to census basis.
[5] Preliminary estimate.

OATS—Continued.

TABLE 72.—*Oats: Acreage, production, and total farm value, by States, 1920–1922.*

State.	Thousands of acres.			Production (thousands of bushels).			Total value, basis Dec. 1 price (thousands of dollars).		
	1920	1921	1922 [1]	1920	1921	1922 [1]	1920	1921	1922 [1]
Maine	119	124	130	4,974	4,340	4,940	4,228	2,387	2,322
New Hampshire	18	18	18	702	630	684	526	378	410
Vermont	81	81	87	2,835	2,673	3,132	2,126	1,577	1,754
Massachusetts	9	9	10	306	279	340	245	165	214
Rhode Island	1	1	1	28	28	31	22	17	19
Connecticut	11	11	11	330	330	308	248	198	200
New York	1,059	1,038	1,059	40,772	24,912	31,770	27,317	11,709	16,203
New Jersey	72	72	72	2,304	1,728	2,232	1,728	778	1,228
Pennsylvania	1,210	1,238	1,213	47,190	35,283	41,242	31,145	15,877	19,796
Delaware	7	6	7	231	168	161	162	77	92
Maryland	50	60	58	1,625	1,620	1,740	1,138	729	887
Virginia	148	163	166	3,241	3,342	3,320	2,625	1,872	1,959
West Virginia	200	210	200	5,460	4,620	4,600	4,266	2,402	2,668
North Carolina	154	170	178	3,388	3,060	3,738	3,252	2,142	2,504
South Carolina	307	338	406	7,368	8,112	9,744	7,589	5,922	7,405
Georgia	344	412	474	7,224	8,652	8,532	7,802	5,537	6,399
Florida	41	41	37	697	533	481	418	346	327
Ohio	1,540	1,550	1,472	68,068	35,650	39,744	34,034	11,764	17,885
Indiana	1,875	1,912	1,370	76,875	45,888	28,770	35,362	13,308	11,508
Illinois	4,334	4,594	3,860	171,193	121,741	110,010	73,613	35,305	42,904
Michigan	1,485	1,544	1,498	58,806	28,101	49,434	28,227	10,116	20,268
Wisconsin	2,408	2,632	2,465	107,878	63,958	101,558	52,860	21,106	39,608
Minnesota	3,702	4,145	4,021	138,825	99,480	142,746	49,977	22,880	45,679
Iowa	5,894	6,340	6,023	229,866	164,840	222,851	82,752	37,913	77,998
Missouri	1,918	2,148	1,117	58,499	42,960	17,872	28,665	12,888	7,864
North Dakota	2,518	2,568	2,388	60,432	48,792	78,804	21,151	10,246	20,489
South Dakota	2,219	2,650	2,400	75,446	58,300	74,400	24,897	11,660	23,808
Nebraska	2,400	2,585	2,408	83,040	70,054	56,106	30,725	14,711	19,076
Kansas	2,127	1,894	1,494	65,299	38,827	28,386	25,467	10,483	11,638
Kentucky	280	293	234	6,580	5,567	4,282	4,803	2,672	2,398
Tennessee	250	260	229	4,950	5,330	4,351	3,861	2,558	2,306
Alabama	246	308	277	4,428	6,776	5,540	3,897	4,404	4,155
Mississippi	128	147	140	2,176	2,940	2,660	1,893	1,882	1,756
Louisiana	50	55	56	1,150	1,265	1,249	943	886	862
Texas	1,490	1,865	1,455	32,780	33,570	33,465	21,635	13,092	18,406
Oklahoma	1,650	1,765	1,500	54,450	35,300	30,000	23,958	9,531	13,500
Arkansas	290	300	264	7,250	6,600	6,336	5,655	2,970	3,612
Montana	533	618	600	11,726	14,832	19,200	5,980	5,043	7,104
Wyoming	115	150	158	4,370	4,500	5,056	2,709	1,710	2,022
Colorado	204	217	185	6,426	6,727	4,625	3,856	2,220	2,081
New Mexico	61	61	62	1,671	1,690	930	1,337	811	539
Arizona	13	18	20	351	630	620	337	410	422
Utah	77	79	86	2,603	2,876	3,354	2,082	1,064	1,576
Nevada	3	3	3	112	113	112	134	85	84
Idaho	185	180	162	7,030	7,740	6,156	4,780	2,477	2,832
Washington	210	210	202	9,786	10,500	7,959	7,046	4,410	4,616
Oregon	300	272	267	10,950	8,704	6,675	7,118	3,308	3,805
California	155	140	150	4,650	3,780	5,250	3,720	1,928	3,360
United States	42,491	45,495	40,693	1,496,281	1,078,341	1,215,496	688,311	325,954	478,548

[1] Preliminary estimate.

OATS—Continued.

TABLE 73.—*Oats: Condition of crop, United States, on 1st of months named, 1902–1922.*

Year.	June.	July.	August.	When harvested.	Year.	June.	July.	August.	When harvested.	Year.	June.	July.	August.	When harvested.
1902	90.6	92.1	89.4	87.2	1909	88.7	88.3	85.5	83.8	1916	86.9	86.3	81.5	78.0
1903	85.5	84.3	79.5	75.7	1910	91.0	82.2	81.5	83.3	1917	88.8	89.4	87.2	90.4
1904	89.2	89.8	86.6	85.6	1911	85.7	68.8	65.7	64.5	1918	93.2	85.5	82.8	84.4
1905	92.9	92.1	90.8	90.3	1912	91.1	89.2	90.3	92.3	1919	93.2	87.0	76.5	73.1
1906	85.9	84.0	82.8	81.9	1913	87.0	76.3	73.8	74.0	1920	87.8	84.7	87.2	88.3
1907	81.6	81.0	75.6	65.5	1914	89.5	84.7	79.4	75.8	1921	85.7	77.6	64.5	61.1
1908	92.9	85.7	76.8	69.7	1915	92.2	93.9	91.6	91.1	1922	85.5	74.4	75.6	74.9

TABLE 74.—*Oats: Forecast of production, monthly, with preliminary and final estimates.*

Year.	June.	July.	August.	September.	October production estimate.	Final estimate.
	1,000 bus.	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*
1912	1,109,000	1,139,000	1,207,000	1,290,000	1,417,172	1,418,337
1913	1,104,000	1,031,000	1,028,000	1,066,000	1,122,139	1,121,768
1914	1,216,223	1,199,805	1,153,240	1,115,548	1,139,741	1,141,060
1915	1,287,854	1,398,996	1,402,100	1,407,670	1,517,478	1,549,030
1916	1,254,834	1,316,867	1,274,028	1,231,042	1,229,182	1,251,837
1917	1,380,593	1,452,907	1,456,138	1,533,476	1,580,714	1,592,740
1918	1,500,049	1,436,617	1,427,596	1,477,348	1,535,297	1,538,124
1919	1,439,991	1,396,637	1,260,463	1,218,935	1,219,521	1,184,030
1920	1,315,476	1,322,065	1,402,064	1,441,839	1,444,411	1,496,281
1921	1,404,922	1,328,937	1,137,202	1,090,282	1,078,519	1,078,341
Average	1,301,294	1,302,283	1,274,783	1,287,214	1,328,417	1,337,155
1922	1,304,664	1,186,626	1,251,156	1,255,004	1,229,774	[1] 1,215,496

[1] Preliminary estimate.

TABLE 75.—*Oats: Production and distribution in the United States, 1897–1922.*

Year.	Old stock on farms Aug. 1.	Crop.			Total supplies.	Stock on farms Mar. 1 following.	Shipped out of county where grown.
		Quantity.	Weight per bushel.	Quality.			
	1,000 bushels.	*1,000 bushels.*	*Pounds.*	*Per cent.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1897–1901	62,020	850,387	30.7	86.9	912,407	309,996	238,934
1902–1906	59,577	1,011,516	31.4	87.7	1,071,094	387,728	277,254
1907	73,196	805,108	29.4	77.0	878,304	258,104	221,147
1908	40,528	850,540	29.8	81.3	891,068	294,082	253,929
1909	27,478	1,068,289	32.7	91.4	1,095,767	385,705	343,968
1910	66,666	1,186,341	32.7	93.8	2,253,007	442,665	363,103
1911	67,801	922,298	31.1	84.6	990,099	289,989	265,944
1912	34,875	1,418,337	33.0	91.0	1,453,212	604,249	438,130
1913	103,916	1,121,768	32.1	89.1	1,225,684	419,481	297,365
1914	62,467	1,141,060	31.5	86.5	1,203,527	379,369	335,539
1915	55,607	1,549,030	33.0	87.5	1,604,637	598,148	465,823
1916	113,728	1,251,837	31.2	88.2	1,365,565	394,211	355,092
1917	47,834	1,592,740	33.4	95.1	1,640,574	599,208	514,117
1918	81,424	1,538,124	33.2	93.6	1,619,548	590,251	421,568
1919	93,045	1,184,030	31.1	84.7	1,277,075	409,730	312,364
1920	54,819	1,496,281	33.1	93.3	1,551,100	683,759	431,687
1921	161,108	1,078,341	28.3	74.7	1,239,449	411,934	258,259
1922	74,513	1,215,496	32.0	87.7	1,290,009	421,511	304,558

OATS—Continued.

TABLE 76.—*Oats: Yield per acre, price per bushel December 1, and value per acre, by States.*

State.	Yield per acre (bushels).						Farm price per bushel (cents).											Value per acre (dollars).[1]	
	5-year average, 1918-1922.	1918	1919	1920	1921	1922	10-year average, 1913-1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917-1921.	1922
Maine	37.8	40.0	34.0	41.8	35.0	38.0	68	55	57	45	67	85	90	92	85	55	47	29.34	17.86
New Hampshire	36.6	38.0	33.0	39.0	35.0	38.0	69	56	58	54	69	84	87	85	75	60	60	28.66	22.80
Vermont	34.9	41.0	29.5	35.0	33.0	36.0	68	52	55	53	65	85	90	90	75	59	56	27.95	20.16
Massachusetts	34.4	40.0	33.0	34.0	31.0	34.0	69	54	56	51	66	81	91	90	80	59	63	28.31	21.42
Rhode Island	31.8	42.0	30.0	28.0	28.0	31.0	69	50	58	50	68	75	90	95	80	60	60	25.75	18.60
Connecticut	31.1	38.0	29.5	30.0	30.0	28.0	69	55	55	55	69	79	90	88	75	60	65	25.35	18.20
New York	31.8	41.0	25.5	38.5	24.0	30.0	61	47	51	45	62	75	84	83	67	47	51	23.79	15.30
New Jersey	31.4	40.0	30.0	32.0	24.0	31.0	61	47	54	48	61	70	79	80	75	45	55	22.84	17.05
Pennsylvania	34.3	39.0	31.0	39.0	28.5	34.0	59	46	51	44	57	73	80	80	66	45	48	24.02	16.32
Delaware	28.4	35.0	23.0	33.0	28.0	23.0	64	51	50	51	62	78	87	90	70	46	57	22.42	13.11
Maryland	30.1	33.0	28.0	32.5	27.0	30.0	62	48	52	49	61	75	86	82	70	45	51	21.90	15.30
Virginia	21.5	23.0	22.0	21.9	20.5	20.0	71	52	58	55	63	84	100	100	81	56	59	18.96	11.80
West Virginia	24.0	27.0	21.0	27.0	22.0	23.0	67	51	55	51	64	79	91	91	79	52	58	19.56	13.34
North Carolina	18.9	17.0	16.7	22.0	18.0	21.0	80	61	65	62	74	93	108	106	96	70	67	16.93	14.07
South Carolina	23.4	22.0	23.0	24.0	24.0	24.0	87	71	71	67	80	100	118	110	103	73	76	21.70	18.24
Georgia	20.0	20.0	20.0	21.0	21.0	18.0	88	68	70	66	79	117	119	115	108	64	75	20.33	13.50
Florida	15.2	18.0	15.0	17.0	13.0	13.0	81	70	70	70	71	98	115	120	60	65	68	14.21	8.84
Ohio	34.2	44.0	33.0	44.2	23.0	27.0	51	40	45	36	53	64	70	72	50	33	45	22.48	12.15
Indiana	32.0	42.0	32.0	41.0	24.0	21.0	48	38	43	34	51	63	67	69	46	29	40	20.50	8.40
Illinois	33.7	44.0	30.0	39.5	26.5	28.5	48	38	44	35	51	65	67	70	43	29	39	21.79	11.12
Michigan	31.2	40.0	25.0	39.6	18.2	33.0	50	39	45	35	53	64	69	71	48	36	41	18.79	13.53
Wisconsin	38.1	46.6	33.4	44.8	24.3	41.2	49	37	43	36	51	66	67	70	49	33	39	22.72	16.07
Minnesota	33.2	41.0	28.0	37.5	24.0	35.5	43	32	40	32	47	63	63	64	36	23	32	17.22	11.36
Iowa	35.7	42.0	34.6	39.0	26.0	37.0	44	34	41	32	48	63	64	64	36	23	35	19.73	12.95
Missouri	24.5	29.0	27.0	30.5	20.0	16.0	50	45	44	38	53	61	70	71	49	30	44	16.96	7.04
North Dakota	23.0	23.5	15.5	24.0	19.0	33.0	41	30	37	27	44	62	61	67	35	21	26	9.28	8.58
South Dakota	31.0	39.0	29.0	34.0	22.0	31.0	41	34	38	28	46	61	59	63	33	20	32	15.53	9.92
Nebraska	28.0	22.2	32.8	34.6	27.1	23.3	44	38	40	31	47	61	65	65	37	21	34	15.48	7.92
Kansas	24.1	22.0	28.1	30.7	20.5	19.0	50	45	42	37	55	64	73	73	39	27	41	14.78	7.79
Kentucky	21.5	24.0	22.5	23.5	19.0	18.3	65	52	53	48	60	76	90	91	73	48	56	17.62	10.25
Tennessee	20.6	25.0	18.5	19.8	20.5	19.0	67	53	53	50	62	83	93	93	78	48	53	17.30	10.07
Alabama	19.4	19.0	18.0	18.0	22.0	20.0	82	69	69	63	75	102	107	105	88	65	75	17.55	15.00
Mississippi	18.4	20.0	16.0	17.0	20.0	19.0	78	63	65	60	74	94	107	105	87	64	66	16.73	12.54
Louisiana	23.1	25.0	22.0	23.0	23.0	22.3	76	57	63	55	68	94	99	100	82	70	69	20.53	15.39
Texas	23.9	14.7	42.0	22.0	18.0	23.0	60	51	48	42	61	82	92	64	66	39	55	16.65	12.65
Oklahoma	25.8	24.0	32.0	33.0	20.0	20.0	52	45	41	35	57	75	84	70	44	27	45	15.95	9.00
Arkansas	23.7	25.5	22.0	25.0	22.0	24.0	66	53	53	52	68	75	88	88	78	45	57	18.44	13.68
Montana	22.8	30.0	6.0	22.0	24.0	32.0	52	32	39	32	47	81	80	91	51	34	37	13.01	11.84
Wyoming	30.6	41.0	12.0	38.0	30.0	32.0	60	40	48	43	60	80	80	112	62	38	40	22.00	12.80
Colorado	28.7	30.0	26.2	31.5	31.0	25.0	57	44	45	41	60	76	80	90	60	33	45	21.12	11.25
New Mexico	25.1	28.0	27.4	27.4	27.7	15.0	68	60	45	50	67	84	89	95	80	48	58	22.27	8.70
Arizona	33.6	40.0	35.0	27.0	35.0	31.0	81	50	70	64	80	96	120	100	96	65	68	34.01	21.08
Utah	36.4	45.0	27.9	33.8	36.4	39.0	63	40	43	45	61	85	97	98	80	37	47	29.78	18.33
Nevada	35.1	38.0	25.3	37.2	37.7	37.2	83	65	55	55	75	96	118	100	120	75	75	36.29	27.90
Idaho	37.8	40.0	30.0	38.0	43.0	38.0	57	32	38	34	54	77	94	98	68	32	46	27.17	17.48
Washington	40.6	27.0	40.0	46.6	50.0	39.4	61	40	42	37	51	81	98	93	72	42	58	29.88	22.85
Oregon	30.0	25.0	31.3	36.5	32.0	25.0	59	38	45	37	49	75	96	92	65	38	57	21.49	14.25
California	30.6	32.0	29.0	30.0	27.0	35.0	70	60	53	50	72	85	94	96	80	51	64	25.09	22.40
United States	30.6	34.7	29.3	35.2	23.7	29.9	49.5	39.2	43.8	36.1	52.4	66.6	70.9	70.4	46.0	30.2	39.4	18.60	11.76

[1] Based upon farm price Dec. 1.

OATS—Continued.

TABLE 77.—*Oats: Farm price, cents per bushel on 1st of each month, 1908–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[1]
1908	46.1	47.0	47.9	50.0	50.4	51.8	50.2	49.8	47.2	47.2	46.5	47.2	47.9
1909	48.1	48.1	51.1	53.2	55.3	57.4	56.2	50.0	42.3	41.0	41.0	40.2	46.4
1910	42.8	45.0	46.0	45.6	43.3	43.0	42.1	41.7	38.4	36.2	34.9	34.4	39.9
1911	33.2	33.1	32.8	32.3	33.2	34.7	37.5	40.2	40.4	42.5	43.8	45.0	38.7
1912	45.1	47.5	49.8	52.0	56.0	55.3	52.5	44.3	35.0	33.6	33.6	31.9	41.4
1913	32.2	32.4	33.1	33.1	34.2	36.0	37.7	37.6	39.3	39.6	37.9	39.2	36.8
1914	39.1	39.3	38.9	39.5	39.5	40.0	38.8	36.7	42.3	43.3	42.9	43.8	40.9
1915	45.0	50.1	52.1	53.4	53.4	51.3	46.7	45.4	38.5	34.5	34.9	36.1	42.5
1916	39.1	44.6	42.7	42.0	42.6	42.1	40.4	40.1	43.1	44.5	49.0	52.4	44.0
1917	51.4	55.2	56.9	61.5	71.0	69.9	68.9	73.7	61.7	62.3	61.7	66.6	62.7
1918	73.9	78.7	86.2	88.9	86.0	78.1	76.3	73.0	70.3	71.0	68.2	70.9	74.6
1919	70.8	64.3	62.6	65.8	70.9	71.2	70.9	75.3	71.7	68.4	68.7	70.4	69.4
1920	78.2	82.7	84.5	90.7	98.3	102.9	104.5	81.9	70.2	60.7	54.5	46.0	74.0
1921	45.6	41.8	41.9	39.3	36.8	37.9	35.6	33.8	30.1	31.0	29.2	30.2	34.7
1922	31.0	32.8	36.6	36.5	37.9	38.4	37.3	35.0	32.2	34.5	38.2	39.4	36.3
Average, 1913–1922	50.6	52.2	53.6	55.1	57.1	56.8	55.7	53.2	49.9	49.0	48.5	49.5	51.6

[1] Weighted average.

TABLE 78.—*Oats: Monthly marketings by farmers, 1917–1922.*

Year.	Estimated amount sold monthly by farmers of United States (millions of bushels).												
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Season.
1917–18	24	82	67	56	38	39	42	40	35	33	20	24	500
1918–19	34	82	50	42	30	28	28	19	23	27	29	28	420
1919–20	47	60	33	30	19	27	26	21	16	14	17	15	325
1920–21	36	80	59	41	24	25	28	28	26	20	29	34	430
1921–22	38	41	30	20	13	15	18	17	14	11	18	15	250
Average	36	69	48	38	25	23	28	25	23	21	23	23	382
	Per cent of year's sales.												
1917–18	4.7	16.4	13.5	11.1	7.7	7.8	8.3	8.0	7.1	6.5	4.0	4.9	100.0
1918–19	8.0	19.6	11.9	9.9	7.2	6.7	6.7	4.5	5.5	6.3	7.0	6.7	100.0
1919–20	14.4	18.4	10.1	9.2	5.8	8.3	8.2	6.6	4.9	4.3	5.2	4.6	100.0
1920–21	8.3	18.7	13.8	9.5	5.5	5.8	6.6	6.6	6.0	4.6	6.8	7.8	100.0
1921–22	15.1	16.5	11.8	7.9	5.3	6.1	7.3	6.9	5.6	4.3	7.2	6.0	100.0
Average	10.1	18.0	12.2	9.5	6.3	7.0	7.4	6.5	5.8	5.2	6.0	6.0	100.0

TABLE 79.—*Oats: Extent and causes of yearly crop losses, 1909–1921.*

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.
	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
1909	7.9	5.2	0.6	0.8	1.1	0.9	0.8	17.7	2.4	0.5	0.1	0.4	22.2
1910	17.0	.8	.2	.7	.4	1.7	.3	21.4	.9	.6	.2	.2	24.0
1911	27.6	1.0	(1)	.5	.3	5.1	.1	35.4	.7	1.5	.1	.2	39.5
1912	7.2	3.1	.3	.5	1.0	1.1	.5	14.1	1.6	.7	.1	.2	17.7
1913	22.7	.7	.2	.2	.6	1.8	.2	27.2	.5	1.1	.1	.1	30.3
1914	15.7	2.2	.2	.3	.8	2.6	.4	22.7	2.0	1.7	.1	.1	27.6
1915	1.4	8.5	.9	.4	1.0	.1	.8	13.2	2.1	.3	.1	.2	16.3
1916	10.1	4.0	.4	.6	.8	2.8	.5	19.7	5.1	1.3	(1)	.1	27.2
1917	11.8	1.2	.2	2.7	.8	1.0	.3	18.2	.8	.4	(1)	(1)	19.8
1918	12.9	.5	.2	1.3	.9	1.8	.3	18.1	1.1	.9	(1)	.2	20.7
1919	11.5	5.7	.4	.4	.7	2.8	.4	22.3	4.9	2.2	(1)	.1	29.9
1920	6.4	2.7	.3	.4	.8	.9	.4	12.1	2.3	1.4	.1	.1	16.3
1921	18.3	2.3	.2	2.6	.8	5.9	.6	31.0	5.2	2.1	0	.1	38.9
Average	13.1	2.9	.3	.9	.8	2.2	.4	21.0	2.3	1.1	.1	.2	25.4

[1] Less than 0.05 per cent.

OATS—Continued.

TABLE 80.—*Oats: Monthly and yearly average price per bushel of reported sales of No. 3 white, 1909–10 to 1921–22.*

CHICAGO.[1]

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Weighted average.
1909–10	$0.38	$0.39	$0.40	$0.40	$0.44	$0.48	$0.47	$0.44	$0.42	$0.40	$0.38	$0.41	$0.42
1910–11	.35	.34	.32	.32	.32	.33	.31	.31	.32	.34	.39	.44	.33
1911–12	.41	.45	.47	.48	.47	.50	.52	.53	.57	.55	.53	.49	.50
1912–13	.33	.33	.33	.32	.33	.33	.33	.32	.35	.38	.40	.40	.35
1913–14	.42	.43	.40	.04	.40	.39	.39	.39	.39	.40	.40	.37	.40
Average, 1909–1913	.38	.39	.38	.38	.39	.41	.40	.40	.41	.41	.42	.42	.40
1914–15	.42	.48	.46	.48	.49	.53	.58	.57	.57	.54	.49	.53	.50
1915–16	.41	.34	.36	.36	.42	.48	.45	.42	.44	.43	.39	.41	.41
1916–17	.44	.46	.49	.55	.53	.57	.56	.61	.69	.70	.67	.78	.54
1917–18	.61	.60	.60	.65	.77	.82	.89	.93	.89	.77	.77	.77	.71
1918–19	.70	.72	.69	.72	.72	.65	.58	.63	.70	.69	.70	.78	.70
1919–20	.73	.68	.70	.73	.82	.86	.86	.93	1.01	1.09	1.13	.91	.80
1920–21	.70	.62	.54	.51	.48	.44	.42	.42	.36	.39	.37	.34	.51
Average, 1914–1920	.57	.56	.55	.57	.60	.62	.62	.64	.67	.66	.65	.65	.60
1921–22	.32	.35	.31	.33	.34	.34	.36	.36	.38	.38	.37	.36	.35

MINNEAPOLIS.[2]

1909–10	$0.36	$0.37	$0.36	$0.38	$0.41	$0.46	$0.45	$0.43	$0.40	$0.39	$0.36	$0.42	$0.39
1910–11	.35	.36	.30	.31	.30	.31	.29	.29	.32	.33	.37	.42	.33
1911–12	.41	.44	.46	.46	.46	.48	.50	.52	.54	.54	.50	.47	.47
1912–13	.34	.31	.31	.29	.30	.31	.31	.30	.32	.35	.38	.38	.33
1913–14	.40	.40	.37	.37	.37	.36	.36	.37	.36	.38	.38	.35	.38
Average, 1909–1913	.37	.38	.36	.36	.37	.38	.38	.38	.39	.40	.40	.41	.38
1914–15	.42	.46	.44	.46	.46	.52	.56	.56	.55	.52	.46	.50	.48
1915–16	.37	.33	.34	.35	.40	.46	.45	.41	.42	.42	.38	.38	.38
1916–17	.44	.44	.47	.53	.49	.55	.56	.60	.67	.69	.66	.75	.52
1917–18	.55	.58	.58	.62	.76	.81	.88	.92	.88	.74	.75	.74	.71
1918–19	.68	.69	.65	.69	.69	.64	.56	.60	.68	.66	.66	.74	.66
1919–20	.70	.65	.67	.69	.80	.83	.82	.89	1.08	1.05	1.15	.94	.80
1920–21	.66	.58	.51	.47	.44	.41	.39	.39	.33	.36	.34	.34	.48
Average, 1914–1920	.55	.53	.52	.54	.58	.60	.60	.62	.66	.63	.63	.63	.58
1921–22	.31	.33	.28	.29	.30	.32	.35	.34	.35	.36	.33	.32	.32

[1] Compiled from Chicago Daily Trade Bulletin. [2] Compiled from Minneapolis Daily Market Record.

TABLE 81.—*Oats: Ratio of price of No. 3 yellow corn to No. 3 white oats, Chicago, 1909–10 to 1921–22.*[1]

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
1909–10	.....	.....	.....	1.5	1.3	1.3	1.3	1.4	1.4	1.5	1.6	1.5
1910–11	1.8	1.7	1.6	1.5	1.4	1.4	1.5	1.5	1.6	1.6	1.4	1.4
1911–12	1.6	1.5	1.6	1.4	1.3	1.2	1.2	1.3	1.4	1.4	1.4	1.4
1912–13	2.3	2.2	2.0	1.6	1.4	1.4	1.5	1.5	1.6	1.5	1.5	1.6
1913–14	1.8	1.7	1.8	1.8	1.7	1.6	1.6	1.6	1.7	1.8	1.8	1.9
Average, 1909–1913	1.9	1.8	1.8	1.6	1.4	1.4	1.4	1.5	1.5	1.6	1.5	1.6
1914–15	2.0	1.6	1.6	1.4	1.3	1.3	1.3	1.3	1.3	1.4	1.5	1.5
1915–16	2.0	2.2	1.8	1.8	1.6	1.5	1.6	1.7	1.7	1.7	1.9	2.0
1916–17	1.9	1.9	2.0	1.8	1.7	1.7	1.8	1.8	2.0	2.3	2.5	2.6
1917–18	3.4	3.5	3.4	3.4	2.3	2.2	2.0	1.8	1.9	2.1	2.1	2.2
1918–19	2.5	2.2	2.0	1.8	2.0	2.2	2.3	2.4	2.3	2.5	2.5	2.5
1919–20	2.6	2.2	2.0	2.0	1.8	1.8	1.7	1.7	1.7	1.9	1.7	1.7
1920–21	2.3	2.1	1.7	1.5	1.5	1.5	1.5	1.5	1.6	1.5	1.7	1.8
Average, 1914–1920	2.4	2.2	2.1	2.0	1.7	1.7	1.7	1.7	1.8	1.9	2.0	2.0
1921–22	1.8	1.5	1.5	1.4	1.3	1.4	1.5	1.6	1.5	1.6	1.6	1.8

[1] Compiled from Chicago Daily Trade Bulletin.

OATS—Continued.

TABLE 82.—*Oats: Monthly and yearly receipts and shipments, 11 primary markets, 1909–10 to 1921–22.*[1]

[In thousands of bushels; i. e., 000 omitted.]

	Chicago.	Milwaukee.	Minneapolis.	Duluth.	St. Louis.	Toledo.	Detroit.	Kansas City.	Peoria.	Omaha.	Indianapolis.	Total.
YEAR.												
1909–10:												
Receipts...	85,999	9,496	15,599	7,806	20,048	3,670	2,488	5,165	10,875	(2)	(2)	161,146
Shipments.	72,501	7,433	14,531	7,432	14,765	3,162	383	4,508	11,705	(2)	(2)	136,420
1910–11:												
Receipts...	107,902	14,844	18,419	2,434	20,517	3,709	3,073	6,280	10,130	(2)	(2)	187,308
Shipments.	89,705	14,873	13,845	2,824	15,323	3,435	265	4,066	10,895	(2)	(2)	155,231
1911–12:												
Receipts...	87,623	10,863	10,555	4,529	16,879	2,872	2,752	6,018	6,658	8,868	976	158,593
Shipments.	70,090	8,194	10,043	4,639	11,280	2,611	348	5,071	8,737	9,258	394	130,665
1912–13:												
Receipts...	177,103	16,252	19,031	9,350	23,785	3,637	3,535	7,704	11,447	14,958	8,136	294,938
Shipments.	116,275	20,180	16,397	8,351	16,592	4,365	514	7,523	13,188	14,802	2,876	221,063
1913–14:												
Receipts...	105,738	18,434	22,995	5,795	25,967	3,655	3,807	11,325	12,152	15,977	5,392	231,237
Shipments.	98,141	17,172	24,272	6,761	19,497	2,819	649	11,032	13,804	18,575	1,808	214,530
Average, 1909–1913:												
Receipts...	112,873	13,978	17,320	5,983	21,439	3,509	3,131	7,298	10,252	.....	.....	206,644
Shipments.	89,342	13,570	15,818	6,001	15,491	3,278	432	6,440	11,666	.....	.....	171,582
1914–15:												
Receipts...	143,813	29,962	23,042	9,005	21,419	6,066	4,028	7,338	11,189	13,648	5,828	275,338
Shipments.	130,938	31,179	23,147	8,325	16,240	5,089	1,123	6,107	11,726	13,916	4,349	252,139
1915–16:												
Receipts...	151,168	35,252	45,778	4,844	17,518	4,707	5,173	4,882	11,364	11,421	13,797	305,904
Shipments.	122,280	34,389	45,024	4,528	11,636	3,501	2,292	2,582	11,838	10,961	8,677	257,708
1916–17:												
Receipts...	145,075	32,707	31,322	3,184	24,616	4,926	3,911	10,059	13,562	18,216	14,895	302,473
Shipments.	108,152	28,649	23,075	3,493	18,940	2,642	934	10,130	11,049	17,392	10,891	235,347
1917–18:												
Receipts...	134,310	31,766	42,017	766	37,431	5,303	3,677	18,344	20,170	23,673	19,822	337,279
Shipments.	86,725	20,128	42,181	680	32,129	3,194	607	12,826	17,541	21,945	13,705	251,661
1918–19:												
Receipts...	115,714	34,727	37,031	2,663	30,812	9,010	8,179	16,688	8,535	20,661	14,820	298,840
Shipments.	83,719	30,548	33,019	2,378	23,836	8,820	1,756	11,343	8,212	20,559	4,516	228,706
1919–20:												
Receipts...	82,141	26,572	17,054	1,035	31,391	3,221	2,418	7,615	10,636	13,018	13,969	209,070
Shipments.	60,792	17,766	19,033	1,084	22,772	1,601	551	5,180	13,096	12,110	4,023	158,008
1920–21:												
Receipts...	79,430	19,065	26,003	6,241	30,103	5,848	3,345	7,137	9,176	10,223	16,509	213,080
Shipments.	54,598	13,297	14,600	455	21,387	2,339	750	5,132	7,906	8,423	6,099	134,986
Average, 1914–1920:												
Receipts...	121,665	30,007	31,750	3,963	27,613	5,569	4,390	10,295	12,090	15,837	14,234	277,426
Shipments.	92,458	25,137	28,583	2,992	20,991	3,884	1,145	7,614	11,624	15,044	7,466	216,951
1921–22:												
Receipts...	77,828	23,241	32,307	6,065	25,949	4,604	2,285	7,262	14,210	10,665	13,052	217,468
Shipments.	63,418	17,869	28,260	10,129	20,160	2,348	330	5,043	12,254	9,768	6,247	175,826
MONTH.												
1921–22.												
August:												
Receipts...	17,321	4,315	7,230	1,222	2,690	1,996	332	1,840	1,812	1,458	2,856	43,072
Shipments.	6,505	2,304	1,980	524	2,103	556	66	245	682	570	1,159	16,696
September:												
Receipts...	5,886	1,662	3,936	725	2,329	320	184	885	998	1,002	825	18,752
Shipments.	5,047	2,017	1,597	1,735	1,639	218	10	240	976	792	714	14,985
October:												
Receipts...	5,406	2,537	4,362	515	2,374	190	186	608	1,121	840	1,240	19,379
Shipments.	3,725	1,803	1,646	275	1,750	194	8	602	1,023	692	640	12,358
November:												
Receipts...	4,087	1,566	2,478	207	1,288	136	245	441	1,120	518	1,158	13,244
Shipments.	4,074	1,412	1,984	470	1,012	141	8	502	965	526	598	11,692
December:												
Receipts...	4,107	1,201	2,087	312	1,472	141	188	289	913	440	774	11,924
Shipments.	3,939	748	1,787	147	991	110	24	431	851	290	358	9,676

[1] Compiled from Chicago Daily Trade Bulletin.

[2] No report.

OATS—Continued.

TABLE 82.—*Oats. Monthly and yearly receipts and shipments, 11 primary markets, 1909–10 to 1921–22*—Continued.

[In thousands of bushels; i. e., 000 omitted.]

	Chicago.	Milwaukee.	Minneapolis.	Duluth.	St. Louis.	Toledo.	Detroit.	Kansas City.	Peoria.	Omaha.	Indianapolis.	Total.
MONTH.												
1921–22.												
January:												
Receipts...	5,035	1,686	1,658	424	2,214	197	221	378	1,172	924	966	14,875
Shipments.	4,168	738	1,725	.....	1,561	35	50	307	857	964	424	10,829
February:												
Receipts...	6,798	2,190	2,100	218	2,570	249	195	792	1,099	890	980	18,081
Shipments.	4,423	1,005	1,899	62	1,771	100	18	395	1,055	786	360	11,874
March:												
Receipts...	6,269	2,045	2,362	206	2,332	227	148	467	1,151	744	1,066	17,017
Shipments.	6,635	2,031	3,284	26	2,098	216	38	694	1,321	946	476	17,765
April:												
Receipts...	3,568	707	1,029	2	1,242	146	110	247	678	549	558	8,836
Shipments.	3,208	1,311	2,407	2	1,281	118	48	355	916	758	418	10,822
May:												
Receipts...	7,847	2,605	2,196	896	2,846	569	144	474	1,729	1,232	1,155	21,693
Shipments.	9,652	2,158	4,874	3,170	2,283	384	38	702	1,575	1,390	438	26,664
June:												
Receipts...	5,571	1,329	1,513	979	2,434	148	148	453	1,309	936	830	15,650
Shipments.	6,831	1,242	2,664	3,482	2,016	201	4	328	1,035	1,042	354	19,199
July:												
Receipts...	5,933	1,398	1,356	359	2,158	285	184	388	1,108	1,132	644	14,945
Shipments.	5,211	1,100	2,413	236	1,655	75	18	242	998	1,012	308	13,268

TABLE 83.—*Oats: Visible supply in United States, first of each month, 1909-10 to 1921–22.*[1]

[In thousands of bushels; i. e., 000 omitted.]

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
1909–10	3,800	5,183	12,799	13,264	13,586	11,180	8,759	8,639	9,916	9,223	6,905	4,245
1910–11	2,761	12,551	18,802	17,022	15,505	16,129	15,997	15,769	13,129	10,559	8,125	9,570
1911–12	11,203	20,742	21,044	22,600	20,315	18,754	15,431	14,366	13,429	11,991	8,052	3,690
1912–13	1,031	4,160	9,260	10,552	10,774	8,457	9,646	12,343	13,115	8,704	8,105	14,756
1913–14	17,131	24,662	30,718	31,684	29,664	26,909	24,450	21,489	19,755	13,262	8,144	7,210
Average, 1909–1913	7,185	13,460	18,524	19,024	17,969	16,286	14,857	14,521	13,869	10,748	7,866	7,894
1914–15	6,482	20,124	27,285	31,866	32,471	32,956	33,173	33,258	27,284	23,022	12,623	4,345
1915–16	1,309	2,924	14,381	15,730	20,928	21,081	20,175	20,265	17,892	12,096	16,192	12,452
1916–17	8,537	27,691	38,866	45,580	47,467	48,823	42,675	36,740	34,191	28,933	17,454	9,741
1917–18	6,679	7,277	14,165	17,453	18,595	17,657	13,879	13,947	18,098	21,911	20,822	13,227
1918–19	7,876	19,309	24,689	22,050	29,143	34,828	30,505	27,666	22,882	21,507	15,827	18,094
1919–20	20,481	19,411	19,552	19,196	16,922	13,080	11,550	10,401	9,576	6,813	8,642	3,623
1920–21	3,786	8,149	27,602	34,414	33,961	32,194	33,632	34,142	33,903	30,740	28,426	34,401
Average, 1914–1920	7,879	14,984	23,791	26,612	28,498	28,660	26,513	25,203	23,404	20,717	17,141	13,698
1921–22	37,562	60,455	65,843	69,917	69,198	67,728	67,423	70,470	64,644	55,837	47,950	42,743

[1] Compiled from Chicago Board of Trade Bulletin.

OATS—Continued.

TABLE 84.—*Oats: Summary in per cent of carloads graded by licensed inspectors for yearly periods, all inspection points. Total of all classes and subclasses under each grade.*

1919-20 TO 1921-22.

Crop year.	Receipts.					Shipments.				
	No. 1.	No. 2.	No. 3.	No. 4.	S. G.	No. 1.	No. 2.	No. 3.	No. 4.	S. G.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1919-20	3.3	30.0	54.4	10.2	2.1	2.7	35.1	57.3	4.3	0.6
1920-21	5.4	36.8	44.7	9.0	4.1	4.2	52.7	37.2	3.3	2.6
1921-22	1.4	17.8	59.1	17.9	3.8	1.8	37.7	55.9	3.3	1.3
AUGUST, 1921, TO JULY, 1922, BY CLASSES.										
White	1.3	17.5	60.1	17.5	3.6	1.8	37.6	56.4	3.0	1.2
Red	1.8	24.5	33.8	30.6	9.3	.6	37.0	43.4	17.5	1.5
Gray	50.5	25.0	12.5	6.0	6.0	50.0	0.0	0.0	0.0	50.0
Black	25.0	50.0	25.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0
Mixed	4.8	25.2	42.9	17.7	9.4	4.7	43.3	21.1	7.0	23.9

TABLE 85.—*Oats, including oatmeal: International trade, calendar years 1911-1921.*

Country.	Average, 1911-1913.		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Algeria	93	1,296	2	5,438	3,674	1,891	579	6,042
Argentina	54	52,754	19	22,958	.....	28,259	.....	26,907
Australia	1,302	233	197	491	186	1,205	.....	.....
British South Africa	179	262	210	1,548	485	115	193	231
Bulgaria	[1] 53	278	.....	.....	.....	699	.....	.....
Canada	117	16,583	3,295	16,346	1,347	16,909	138	36,828
Chile	.....	2,499	20	1,835	31	196	7	1,832
China	48	484	1	238	42	435	6	233
Rumania	76	10,012	333	.....	4	2,659	.....	.....
Russia	1,643	65,279	.....	.....	.....	.....	.....	.....
United States	5,557	12,592	609	67,570	6,728	16,540	3,565	8,715
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary	3,426	[2] 237	.....	.....	[3] 340	.....	[3] 811	.....
Belgium	8,845	59	3,948	33	4,568	9	9,583	16
Cuba	1,361	.....	1,192	.....	1,032	.....	.....	.....
Denmark	4,126	151	569	37	91	25	934	134
Finland	1,187	433	1,147	4	265	.....	566	47
France	30,746	122	31,749	65	18,133	4,876	9,418	4,670
Germany	41,320	30,844	.....	.....	243	265	.....	.....
Italy	9,040	104	12,046	184	3,147	1	7,975	9
Netherlands	41,901	33,814	2,870	127	2,080	433	3,591	454
Norway	698	39	([4])	736	59	184	947	9
Philippine Islands	486	.....	106	.....	100	.....	52	.....
Sweden	6,055	2,342	1,605	36	582	605	3,021	1,269
Switzerland	12,484	[1] 15	6,334	3	3,704	16	5,826	4
United Kingdom	64,755	1,411	29,944	3,713	24,862	1,690	33,792	896
Other countries	495	2,656	478	2,437	3,988	2,100	513	4,037
Total	236,047	234,499	96,674	123,799	75,691	79,112	81,517	92,333

[1] One-year average. [2] Two-year average. [3] Austria only. [4] Less than 500.

BARLEY.

TABLE 86.—*Barley: Area and production in undermentioned countries.*[1]

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922 [2]	Average, 1909–1913.	1920	1921	1922 [2]
NORTHERN HEMISPHERE.								
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada [3]	1,574	2,552	2,796	2,732	45,275	63,311	59,709	76,396
United States [3]	7,620	7,600	7,240	7,550	184,812	189,332	151,181	196,431
Mexico	.....	.....	.....	.....	6,666	.....	.....	.....
Total North American countries marked [3]	9,194	10,152	10,036	10,282	230,087	252,643	210,890	272,827
EUROPE.								
United Kingdom:								
England and Wales [3]	1,488	1,637	1,436	1,364	50,164	50,680	42,472	40,480
Scotland	191	204	171	157	7,103	7,784	5,912	.....
Ireland	165	207	175	.....	7,493	7,224	5,712	.....
Norway	[4] 89	156	156	.....	2,867	5,382	4,279	.....
Sweden [3]	451	398	400	427	14,592	11,175	12,326	13,274
Denmark [3]	[4 5] 591	626	628	666	[5] 22,589	24,707	27,548	29,032
Netherlands [3]	68	56	61	62	3,270	2,660	3,302	2,866
Belgium [3]	[6] 85	91	96	86	4,247	4,351	5,117	3,991
Luxemburg	3	5	5	5	82	105	74	.....
France [3]	[5] 1,866	1,641	1,679	1,623	[5] 46,489	38,382	38,318	39,534
Spain [3]	3,509	4,319	4,335	4,217	74,689	90,462	89,320	74,795
Portugal	.....	.....	.....	.....	.....	1,797	[7] 1,913	.....
Italy [3]	[5] 613	[5] 494	[5] 540	574	[5] 10,104	[5] 5,870	[8] 11,119	8,768
Malta	5	8	.....	.....	109	190	.....	.....
Switzerland [3]	13	18	16	16	441	619	551	491
Germany [3]	[5] 3,976	2,949	2,808	2,841	[5] 153,529	82,344	89,056	72,631
Austria [3]	[5] 2,712	238	266	309	[5] 71,988	4,392	5,201	5,190
Czechoslovakia [3]	.....	1,716	1,613	1,670	.....	37,238	47,471	42,144
Hungary [3]	[5] 2,760	1,266	1,187	1,130	[5] 69,812	22,585	21,408	21,449
Yugoslavia [3]	.....	926	909	926	.....	11,699	13,378	13,050
Serbia [3]	[5] 242	.....	.....	.....	[5] 5,072	.....	.....	.....
Bosnia-Herzegovina [3]	[5] 214	.....	.....	.....	[5] 3,455	.....	.....	.....
Croatia-Slavonia [3]	[5] 158	.....	.....	.....	[5] 2,540	.....	.....	.....
Bulgaria [1]	[5] 616	554	551	554	[5] 12,425	9,451	9,094	9,324
Rumania [3]	[5] 1,319	3,392	3,878	4,267	[5] 24,821	65,161	47,619	84,710
Poland [3]	[5] 1,249	1,944	2,451	2,825	[5] 27,150	38,567	56,204	59,581
Lithuania	.....	.....	414	.....	.....	.....	8,972	.....
Latvia	.....	306	362	388	.....	3,054	6,496	6,980
Esthonia	.....	.....	275	.....	.....	.....	4,690	.....
Finland [3]	[5 9] 273	293	297	297	[5] 5,737	4,983	4,939	4,557
Russia, including Ukraine and Northern Caucasia	[5] 26,810	.....	.....	.....	[5] 440,047	.....	.....	.....
Total European countries marked [3]	22,203	22,558	23,151	23,854	603,114	505,326	524,443	525,867
AFRICA.								
Morocco	.....	2,341	1,905	2,150	.....	39,645	29,510	22,506
Algeria [3]	3,353	2,795	2,508	2,868	41,961	29,932	48,226	19,805
Tunis [3]	1,145	927	1,230	603	[6] 7,900	2,618	11,482	1,378
Egypt [3]	[10] 394	340	394	375	[6] 11,843	10,449	11,941	11,306
Total African countries marked [3]	4,892	4,062	4,132	3,846	61,704	42,999	71,649	32,489

[1] Official sources, unless otherwise stated.
[2] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 15, 1922.
[3] Indicates countries reporting for all periods either as listed or as part of some other country.
[4] Three-year average.
[5] Old boundaries.
[6] Four-year average.
[7] Unofficial.
[8] Includes 758,000 bushels grown in Venezia Tridentina and Venezia Giulia.
[9] One year only.
[10] Two-year average.

BARLEY—Continued.

TABLE 86.—*Barley: Area and production in undermentioned countries* [1]—Continued.

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922 [2]	Average, 1909–1913.	1920	1921	1922 [2]
NORTHERN HEMISPHERE—Con.								
ASIA.	*1,000 acres*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Cyprus	.....	105	130	.....	2,151	2,209	2,234	.....
India:								
British India	7,836	7,419	6,203	.....	40,973	149,380	117,040	.....
Native States	917	1,033	.....	.....	.....	.....	.....	.....
Russia, Asiatic	829	.....	.....	.....	11,171	.....	.....	.....
Japanese Empire:								
Japan	3,183	2,987	2,929	.....	89,528	84,909	87,884	85,849
Chosen	843	.....	1,979	.....	19,436	36,539	36,727	32,316
Formosa	[3] 5	.....	.....	.....	53	.....	.....	.....
Total Asiatic countries marked [4]	.....	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere countries marked [4]	36,289	36,772	37,319	37,982	894,905	800,968	806,982	831,183
Country.	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22
SOUTHERN HEMISPHERE.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Chile [4]	[5] 117	126	128	139	[5] 3,924	3,691	5,035	5,376
Uruguay [4]	[5] 4	5	5	3	[5] 61	76	82	42
Argentina	[5] 268	615	667	.....	[5] 3,626	10,279	11,161	.....
Union of South Africa [4]	[6] 109	99	91	87	2,015	[7] 720	1,137	1,282
Australia	137	267	.....	.....	2,819	4,288	.....	.....
New Zealand [4]	39	23	47	33	1,402	816	1,587	1,151
Total Southern Hemisphere countries marked [4]	269	253	271	262	7,402	5,303	7,841	7,851
Total world countries marked [4]	36,558	37,025	37,590	38,244	902,307	806,271	814,823	839,034
Total world, all countries reporting	77,839	52,678	52,961	40,944	1,536,431	1,159,056	1,137,427	986,685

[1] Official sources unless otherwise stated.
[2] Figures for 1922 and 1921–22 compiled from reports received up to November 15, 1922.
[3] Three-year average.
[4] Indicates countries reporting for all periods either as listed or as part of some other country.
[5] Two-year average.
[6] One year only.
[7] Excluding production in native location which amounted to 29,056 bushels in 1918.

TABLE 87.—*Barley: World production so far as reported, 1895–1922.*

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
	Bushels.		*Bushels.*		*Bushels.*		*Bushels.*
1895	915,504,000	1902	1,229,132,000	1909	1,458,263,000	1916	1,189,868,000
1896	932,100,000	1903	1,235,786,000	1910	1,388,734,000	1917	[1] 936,050,000
1897	864,605,000	1904	1,175,784,000	1911	1,373,286,000	1918	[1] 1,074,158,000
1998	1,030,581,000	1905	1,180,053,000	1912	1,466,977,000	1919	[1] 972,937,000
1899	965,720,000	1906	1,296,579,000	1913	1,650,265,000	1920	[1] 1,159,056,000
1900	959,622,000	1907	1,271,237,000	1914	1,463,289,000	1921	[1] 1,137,427,000
1901	1,072,195,000	1908	1,274,897,000	1915	1,439,857,000	1922	[1] 986,685,000

[1] Russia not included. In 1915 Russia produced about 28 per cent of the reported world production.

BARLEY—Continued.

TABLE 88.—*Barley: Average yield per acre in undermentioned countries, 1890–1922.*

Year.	United States.	Russia (European).	Germany.	Austria.	Hungary, proper.	France.	United Kingdom.[1]
Average:	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1890–1899	23.4	13.3	29.4	21.1	.....	[1] 22.6	39.8
1900–1909	25.5	14.3	35.3	26.3	23.4	[1] 23.6	35.0
1910–1919	25.1	[2] 15.6	33.2	26.3	[3] 24.2	23.1	33.6
1919	22.0	.....	27.6	16.4	.....	17.5	30.8
1920	24.9	.....	27.9	18.5	17.8	23.4	32.1
1921	20.9	.....	31.7	19.6	18.0	22.8	30.4
1922	26.0	.....	25.6	16.8	19.0	24.4	.....

[1] Winchester bushels. [2] Seven-year average. [3] Six-year average.

TABLE 89.—*Barley: Acreage, production, value, exports, etc., in the United States, 1849–1922.*

[See headnote of Table 4.]

Year.	Acreage harvested.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Chicago, cash price per bushel, low malting to fancy.[1]				Domestic exports, fiscal year beginning July 1.	Imports, fiscal year beginning July 1.
						December.		Following May.			
						Low.	High.	Low.	High.		
	1,000 acres.	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*	*Bushels.*
1849	.....	.....	*5,167*	.....	.....	.....	.....	.....	.....	.....	.....
1859	.....	.....	*15,826*	.....	.....	.....	.....	.....	.....	.....	.....
1866–1875	1,196	22.6	26,992	79.2	21,382	94	109	102	120	212,563	5,493,794
1876–1885	2,102	22.4	47,029	61.8	28,687	75	82	73	77	1,008,254	7,686,520
1886–1895	3,490	22.7	79,646	48.3	37,464	56	58	54	58	2,597,671	5,782,846
1896	4,172	23.8	99,394	30.0	29,814	22	37	24½	35	20,030,301	1,271,787
1897	4,150	24.9	103,279	35.2	36,346	25½	42	36	53	11,237,077	124,804
1898	4,237	23.5	99,922	38.9	39,003	40	50½	36	42	2,267,403	110,475
1899	*4,470*	26.1	116,552	39.0	45,479	35	45	36	44	23,661,662	189,757
1900	4,545	21.1	96,041	40.5	38,896	37	61	37	57	6,293,207	171,004
1901	4,742	25.7	121,784	45.2	55,068	56	63	64	72	8,714,268	57,406
1902	5,126	29.1	149,389	45.5	67,944	36	70	48	56	8,429,141	56,462
1903	5,568	26.4	146,864	45.4	66,700	42	61½	38	59	10,881,627	90,708
1904	5,912	27.4	162,105	41.6	67,427	38	52	40	50	10,661,655	81,020
1905	6,250	27.2	170,089	39.4	66,959	37	53	42	55½	17,729,360	18,049
1906	6,730	28.6	192,270	41.6	80,069	44	56	66	85	8,238,842	38,319
1907	6,941	24.5	170,008	66.3	112,675	78	102	60	75	4,349,078	199,741
1908	7,294	25.3	184,857	55.2	102,037	57	64½	66	75	6,580,393	2,644
1909	*7,699*	24.4	187,973	54.8	102,947	55	72	50	68	4,311,566	.....
1910[2]	7,743	22.5	173,832	57.8	100,426	72	90	75	115	9,399,346	.....
1911	7,627	21.0	160,240	86.9	139,182	102	130	68	132	1,585,242	.....
1912	7,530	29.7	223,824	50.5	112,957	43	77	45	68	17,536,703	.....
1913	7,499	23.8	178,189	53.7	95,731	50	79	51	66	6,644,747	.....
1914	7,565	25.8	194,953	54.3	105,903	60	75	74½	82	26,754,522	.....
1915	7,148	32.0	228,851	51.6	118,172	62	77	70	83	27,473,160	.....
1916	7,757	23.5	182,309	88.1	160,646	95	125	128	165	16,381,077	.....
1917	8,933	23.7	211,759	113.7	240,758	125	163	105	176	26,285,378	.....
1918	9,740	26.3	256,225	91.7	234,942	88	105	110	130	20,457,781	.....
1919	6,720	22.0	147,608	120.6	178,080	125	168	140	190	26,571,284	.....
1920[2]	7,600	24.9	189,332	71.3	135,083	50	98	56	75	20,457,198	.....
1921	7,414	20.9	154,946	41.9	64,934	48	64	62	75	22,400,393	.....
1922[3]	7,390	25.2	186,118	52.5	97,751	66	75	.....	.....	.....	.....

[1] Prices 1895 to 1908 for No. 3 grade. [2] Acreage adjusted to census basis. [3] Preliminary estimate.

BARLEY—Continued.

TABLE 90.—*Barley: Acreage, production, and total farm value, by States, 1920–1922.*

State.	Thousands of acres.			Production (thousands of bushels).			Total value, basis Dec. 1 price (thousands of dollars).		
	1920	1921	1922 [1]	1920	1921	1922 [1]	1920	1921	1922 [1]
Maine	4	4	4	104	104	112	144	89	112
New Hampshire	1	1	1	26	23	28	38	25	27
Vermont	11	9	10	308	225	290	370	180	281
New York	170	158	158	4,930	3,318	4,108	4,881	2,057	3,040
Pennsylvania	15	13	12	360	280	306	324	174	199
Maryland	4	4	4	110	120	128	121	80	96
Virginia	10	9	9	270	207	248	270	149	198
Ohio	102	97	73	2,825	2,522	1,424	2,316	1,286	926
Indiana	81	65	42	2,187	1,235	714	1,903	593	414
Illinois	182	173	190	5,533	4,550	5,605	4,537	2,093	3,251
Michigan	255	200	140	6,630	3,500	3,500	5,768	1,995	2,275
Wisconsin	502	473	443	15,913	10,642	14,220	13,367	5,427	8,105
Minnesota	895	935	908	22,375	18,700	24,062	13,872	6,358	11,309
Iowa	180	136	150	4,950	3,196	4,260	3,118	1,342	2,087
Missouri	7	7	5	196	154	115	192	100	83
North Dakota	1,085	1,096	1,008	19,530	16,988	25,704	10,937	4,927	10,025
South Dakota	1,028	1,120	952	25,700	19,040	21,896	13,364	5,522	9,196
Nebraska	256	199	242	7,424	4,915	4,356	3,712	1,376	2,047
Kansas	767	728	1,074	19,482	14,560	19,332	8,767	4,222	8,699
Kentucky	5	6	6	140	144	168	161	88	143
Tennessee	6	9	14	138	189	315	152	189	252
Texas	78	78	93	1,794	1,872	1,767	1,346	842	1,149
Oklahoma	116	122	129	2,784	2,684	2,193	2,004	1,208	1,206
Montana	64	75	77	1,152	1,538	1,925	749	923	962
Wyoming	6	9	10	216	261	310	238	170	186
Colorado	216	202	186	5,292	4,444	3,534	3,969	1,644	2,085
New Mexico	11	10	10	260	240	140	195	146	133
Arizona	20	29	25	680	928	825	952	742	701
Utah	19	16	18	593	512	630	593	246	346
Nevada	5	6	6	150	187	176	248	150	176
Idaho	92	87	85	3,220	2,784	2,890	2,415	1,308	1,878
Washington	82	80	74	2,895	2,944	1,813	2,895	1,531	1,342
Oregon	75	70	80	2,415	2,240	2,160	2,415	1,120	1,598
California	1,250	1,188	1,152	28,750	29,700	36,864	28,750	16,632	23,224
United States	7,600	7,414	7,390	189,332	154,946	186,118	135,083	64,934	97,751

[1] Preliminary estimate.

TABLE 91.—*Barley: Condition of crop, United States, on 1st of months named, 1901–1922.*

Year.	June.	July.	August.	When harvested.	Year.	June.	July.	August.	When harvested.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1901	91.0	91.3	86.9	83.8	1912	91.1	88.3	89.1	88.9
1902	93.6	93.7	90.2	89.7	1913	87.1	76.6	74.9	73.4
1903	91.5	86.8	83.4	82.1	1914	95.5	92.6	85.3	82.1
1904	90.5	88.5	88.1	87.4	1915	94.6	94.1	93.8	94.2
1905	93.7	91.5	89.5	87.8	1916	86.3	87.9	80.0	74.6
1906	93.5	92.5	90.3	89.4	1917	89.3	85.4	77.9	76.3
1907	84.9	84.4	84.5	78.5	1918	90.5	84.7	82.0	81.5
1908	89.7	86.2	83.1	81.2	1919	91.7	87.4	73.6	69.2
1909	90.6	90.2	85.4	80.5	1920	87.6	87.6	84.9	82.5
1910	89.6	73.7	70.0	69.8	1921	87.1	81.4	71.4	68.4
1911	90.2	72.1	66.2	65.5	1922	90.1	82.6	82.0	81.2

BARLEY—Continued.

TABLE 92.—*Barley: Forecast of production, monthly, with preliminary and final estimates.*

Year.	June.	July.	August.	September.	October production estimate.	Final estimate.
	1,000 bus.	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*
1912	192,000	194,000	202,000	209,000	224,619	223,824
1913	177,000	165,000	168,000	168,000	173,301	178,189
1914	206,430	211,319	202,660	199,575	196,568	194,953
1915	197,289	208,173	217,441	222,936	236,682	228,851
1916	189,285	205,989	194,842	184,441	183,536	182,309
1917	214,371	213,952	203,393	203,839	201,659	211,759
1918	235,272	229,816	231,815	235,835	236,505	256,225
1919	231,757	230,900	203,525	195,297	198,298	147,608
1920	185,108	193,090	195,925	194,858	191,386	189,332
1921	190,661	184,288	170,511	166,906	163,399	154,946
Average	201,917	203,652	199,011	198,069	200,595	196,800
1922	191,246	181,586	191,507	193,850	196,431	[1] 186,118

[1] Preliminary estimate.

TABLE 93.—*Barley: Yield per acre, price per bushel December 1, and value per acre, by States.*

State.	Yield per acre (bushels).						Farm price per bushel (cents).											Value per acre (dollars).[1]	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
Maine	26.6	25.0	28.0	26.0	26.0	28.0	111	80	81	75	104	130	149	170	138	86	100	34.08	28.00
New Hampshire	26.8	32.0	24.8	26.0	23.0	28.0	120	80	82	79	90	175	150	188	146	110	98	40.33	27.44
Vermont	27.6	31.0	25.0	28.0	25.0	29.0	107	80	75	75	100	140	153	150	120	80	97	35.83	28.13
New York	25.9	31.5	22.0	29.0	21.0	26.0	94	69	71	75	101	130	126	136	99	62	74	29.55	19.24
Pennsylvania	24.7	28.0	24.5	24.0	21.5	25.5	90	71	70	75	75	140	120	128	90	62	65	27.82	16.58
Maryland	30.7	31.0	33.0	27.5	30.0	32.0	90	64	66	70	73	130	120	123	110	67	75	32.13	24.00
Virginia	25.9	27.0	25.0	27.0	23.0	27.5	99	70	80	75	85	139	160	130	100	72	80	32.19	22.00
Ohio	25.5	31.5	23.0	27.7	26.0	19.5	78	58	59	54	80	118	93	125	82	51	65	26.59	12.68
Indiana	25.0	37.0	25.0	27.0	19.0	17.0	78	50	67	65	75	104	104	118	87	48	58	26.46	9.86
Illinois	29.8	36.0	27.0	30.4	26.3	29.5	80	57	61	57	103	121	90	121	82	46	58	29.50	17.11
Michigan	23.1	30.0	17.0	26.0	17.5	25.0	82	60	65	62	91	119	100	118	87	57	65	22.34	16.25
Wisconsin	29.7	35.7	26.5	31.7	22.5	32.1	81	60	62	56	105	124	92	121	84	51	57	28.54	18.30
Minnesota	24.5	31.0	20.0	25.0	20.0	26.5	69	48	53	49	87	111	80	116	62	34	47	20.05	12.46
Iowa	27.3	31.5	25.5	27.5	23.5	28.4	72	55	55	49	91	117	85	112	63	42	49	24.70	13.92
Missouri	25.6	25.0	30.0	28.0	22.0	23.0	86	60	65	63	93	94	115	130	98	65	72	26.60	16.56
North Dakota	18.4	21.5	11.5	18.0	15.5	25.5	61	40	45	44	80	100	73	108	56	29	39	11.04	9.94
South Dakota	23.3	29.5	22.0	25.0	17.0	23.0	65	46	50	46	83	110	78	115	52	29	42	19.19	9.66
Nebraska	22.8	16.5	25.7	29.0	24.7	18.0	62	49	47	42	75	98	85	100	50	28	47	17.42	8.46
Kansas	20.1	10.0	27.0	25.4	20.0	18.0	65	55	47	42	77	115	95	100	45	29	45	12.59	8.10
Kentucky	26.6	28.0	25.0	28.0	24.0	28.0	100	78	77	77	90	115	140	157	115	61	85	31.50	23.80
Tennessee	21.9	23.0	20.0	23.0	21.0	22.5	109	70	82	75	100	144	152	180	110	100	80	27.77	18.00
Texas	23.6	17.0	35.0	23.0	24.0	19.0	86	81	70	68	80	137	130	112	75	45	65	23.35	12.35
Oklahoma	22.0	17.0	30.0	24.0	22.0	17.0	85	80	53	50	100	148	124	122	72	45	55	22.30	9.35
Montana	18.2	22.0	5.6	18.0	20.5	25.0	74	48	53	48	76	103	100	140	65	60	50	13.86	12.50
Wyoming	29.6	37.0	15.0	36.0	29.0	31.0	94	61	64	55	87	130	130	175	110	65	60	35.92	18.60
Colorado	20.5	18.0	19.0	24.5	22.0	19.0	75	56	55	48	82	104	113	120	75	37	59	20.80	11.21
New Mexico	22.7	28.0	23.8	23.6	24.0	14.0	91	72	75	70	100	139	110	110	75	61	95	25.65	13.30
Arizona	33.6	34.0	35.0	34.0	32.0	33.0	102	73	60	56	108	150	130	140	140	80	85	23.78	28.05
Utah	31.2	35.0	22.9	31.2	32.0	35.0	84	55	50	52	76	120	140	141	100	48	55	34.45	19.25
Nevada	30.2	34.0	26.5	30.0	31.1	29.4	109	90	65	70	95	119	154	150	165	80	100	41.63	29.40
Idaho	31.0	28.0	26.0	35.0	32.0	34.0	79	48	50	52	82	105	130	140	75	47	65	28.91	22.10
Washington	28.4	15.2	30.0	35.3	36.8	24.5	84	52	52	56	84	115	115	135	100	52	74	29.15	18.13
Oregon	27.9	25.0	23.1	32.2	32.0	27.0	88	55	61	62	80	115	136	150	100	50	74	30.04	19.98
California	26.6	26.0	27.0	23.0	25.0	32.0	88	68	59	62	95	120	115	141	100	56	63	27.95	20.16
United States	23.9	26.3	22.0	24.9	20.9	25.2	73.9	53.7	54.3	51.6	88.1	113.7	91.7	120.6	71.3	41.9	52.5	20.82	13.23

[1] Based upon farm price Dec. 1.

BARLEY—Continued.

TABLE 94.—*Barley: Farm price, cents per bushel on 1st of each month, 1908–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[1]
1908	70.4	68.0	66.8	66.5	65.4	61.3	58.1	57.1	56.1	55.3	53.7	55.4	59.2
1909	56.5	58.3	59.4	61.2	63.8	67.0	67.0	61.2	54.6	53.4	53.3	54.0	56.5
1910	57.6	59.3	60.2	59.7	56.5	55.7	53.9	54.7	57.2	56.1	55.3	57.8	56.9
1911	59.8	64.1	63.0	69.1	74.0	73.8	70.1	69.3	77.0	81.7	84.9	86.9	75.2
1912	86.4	91.2	91.0	92.3	96.2	91.1	81.9	66.8	53.5	54.8	53.8	50.5	66.9
1913	49.9	51.4	49.0	48.5	48.3	52.7	53.7	50.8	55.2	56.8	54.7	53.7	53.3
1914	52.2	52.4	51.1	51.7	49.3	49.1	47.5	45.1	52.5	51.8	51.7	54.3	51.5
1915	54.3	62.9	67.7	64.7	63.8	62.0	55.8	56.7	51.9	46.8	50.1	51.6	54.1
1916	54.9	61.7	59.6	57.2	59.6	59.6	59.3	59.3	72.9	76.5	83.2	88.1	71.0
1917	87.1	92.7	96.9	102.3	120.1	119.3	106.6	114.5	110.0	113.9	111.3	113.7	107.7
1918	126.5	131.9	161.1	170.2	158.5	135.4	118.4	110.0	100.9	95.5	94.9	91.7	112.6
1919	91.3	86.8	85.4	92.7	103.9	109.2	108.4	118.7	115.6	115.3	117.1	120.6	108.8
1920	130.2	137.1	129.3	140.0	146.4	148.3	142.0	121.0	105.0	91.2	81.7	71.3	106.9
1921	64.4	57.2	56.8	54.4	49.2	51.6	50.6	49.4	47.0	45.4	41.7	41.9	48.9
1922	43.7	44.3	49.6	52.8	56.3	57.7	52.2	49.7	45.7	46.7	51.6	52.5	48.9
Average 1913–1922	75.4	77.8	80.6	83.4	85.5	84.5	79.4	77.5	75.7	74.0	73.8	73.9	76.4

[1] Weighted average.

TABLE 95.—*Barley: Extent and causes of yearly crop losses, 1909–1921.*

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct*
1909	8.9	3.6	0.3	1.0	2.1	2.3	0.8	19.0	1.4	0.4	0.5	0.2	22.8
1910	34.0	.2	.1	.9	.9	4.3	.1	40.7	.4	.8	.5	.1	43.1
1911	30.0	1.2	.....	.8	.4	5.7	.1	38.1	.9	.9	.3	.2	41.3
1912	8.4	1.8	.1	.9	1.9	1.7	.5	15.9	.9	.5	.5	.3	19.6
1913	24.5	.7	.1	.4	1.0	3.2	.3	31.1	.2	1.2	.2	.2	34.3
1914	8.2	2.3	.2	.6	1.5	4.6	.4	18.4	2.3	.6	.2	.1	22.7
1915	1.3	3.2	.3	.7	1.7	.3	.5	8.0	.9	.2	.2	.1	10.0
1916	8.0	3.4	.3	.7	1.5	5.0	.5	20.2	8.5	.7	.1	.1	30.6
1917	26.6	.8	(1)	1.0	1.1	2.3	.2	32.1	.5	.4	.1	.1	33.6
1918	20.7	.4	.1	.7	1.1	2.3	.3	25.9	.6	1.6	.2	(1)	28.8
1919	18.0	3.4	.5	.2	1.8	3.8	.3	28.2	5.3	4.3	.1	.1	38.5
1920	10.4	2.2	.2	.4	1.1	2.0	.2	16.7	3.0	1.3	.2	.1	21.7
1921	20.2	1.4	.1	1.3	1.2	6.6	.1	31.4	2.9	1.3	.1	0	36.0
Average	16.9	1.9	.2	.7	1.3	3.4	.3	25.0	2.1	1.1	.2	.1	29.4

[1] Less than 0.05 per cent.

TABLE 96.—*Barley: Monthly marketings by farmers, 1917–1922.*

Year.	Per cent of year's sales.												
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Season.
1917–18	2.2	15.0	23.4	16.5	8.5	8.6	6.5	7.5	6.1	2.9	1.8	1.0	100.0
1918–19	2.4	9.7	8.4	4.4	7.8	3.3	1.3	.7	2.9	27.5	30.7	.9	100.0
1919–20	18.5	19.2	14.3	9.9	6.4	7.5	5.4	3.1	3.7	3.4	3.0	5.6	100.0
1920–21	7.0	16.5	15.0	9.9	9.9	7.2	6.7	5.5	6.5	4.2	5.7	5.9	100.0
1921–22	35.0	14.0	10.5	7.8	4.4	4.2	3.9	4.3	4.2	3.0	4.4	4.3	100.0
Average	13.0	14.9	14.3	9.7	7.4	6.2	4.8	4.2	4.7	8.2	9.1	3.5	100.0

BARLEY—Continued.

TABLE 97.—*Barley: Monthly and yearly average price per bushel of No. 2 Minneapolis, 1909–10 to 1921–22.*[1]

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Yearly average.
1909–10	$0.45	$0.48	$0.49	$0.52	$0.57	$0.61	$0.60	$0.58	$0.54	$0.54	$0.53	$0.60	$0.54
1910–11	.61	.63	.63	.66	.70	.77	.74	.81	.88	.75	.77	.87	.74
1911–12	.85	.94	.95	.98	.91	1.05	1.00	.95	1.01	.99	.76	.60	.92
1912–13	.46	.49	.50	.47	.45	.49	.48	.46	.46	.50	.52	.48	.48
1913–14	.58	.61	.56	.53	.50	.52	.50	48	.47	.48	.47	.45	.51
Av. 1909–1913	.59	.63	.63	.63	.63	.69	.66	.66	.67	.65	.61	.60	.64
1914–15	.59	.58	.55	.59	.57	.68	.75	.70	.70	.70	.66	.68	.65
1915–16	.59	.48	.51	.56	.61	.70	.66	.65	.68	.70	.68	.69	.63
1916–17	.81	.81	1.03	1.11	1.07	1.17	1.17	1.21	1.36	1.48	1.38	1.49	1.17
1917–18	1.31	1.33	1.28	1.27	1.49	1.56	1.88	2.12	1.82	1.46	1.23	1.18	1.49
1918–19	1.02	.95	.91	.94	.92	.90	.87	.93	1.09	1.13	1.12	1.21	1.00
1919–20	1.33	1.27	1.29	1.33	1.52	1.52	1.37	1.51	1.60	1.74	1.49	1.16	1.43
1920–21	1.02	.99	.92	.82	.74	.69	.65	.67	.61	.59	57	.62	.74
Av. 1914–1920	.95	.92	.93	.95	.99	1.03	1.05	1.11	1.12	1.11	1.02	1.00	1.02
1921–22	.58	.55	.50	.54	.47	.51	56	.58	.61	.62	.56	.56	.55

[1] Compiled from Minneapolis Market Record.

TABLE 98.—*Barley: Monthly and yearly receipts at markets named, 1909–10 to 1921–22.*[1]

[In thousands of bushels, i. e., 000 omitted.]

Year.	Minneapolis.	Duluth.	Chicago.	Winnipeg.	Milwaukee.	Omaha.
1909–10	22,828	12,177	26,658	3,301	15,143	.....
1910–11	1,518	7,157	20,740	1,537	12,915	.....
1911–12	19,134	6,019	20,929	3,483	12,797	.....
1912–13	35,682	14,504	30,083	9,859	19,824	.....
1913–14	29,796	10,895	26,201	10,667	17,499	.....
Average, 1909–1913	21,792	10,150	24,922	5,769	15,492	.....
1914–15	29,465	11,122	25,073	2,884	7,096	.....
1915–16	45,143	15,396	32,085	10,356	19,850	.....
1916–17	26,301	8,633	28,075	7,688	19,619	1,236
1917–18	35,423	7,470	21,473	7,470	14,675	2,089
1918–19	43,172	8,427	26,871	7,741	18,458	3,991
1919–20	13,194	2,322	13,694	8,194	10,208	831
1920–21	17,774	4,043	10,192	12,326	9,813	1,325
Average 1914–1920	30,067	8,202	22,495	8,094	14,246	[2] 1,894
1921–22	11,945	5,154	7,597	11,597	9,341	1,075

Month.	Minneapolis.	Duluth.	Chicago.	Winnipeg. [3]	Milwaukee.	Omaha.
1921–22.						
August	2,220	1,401	552	.....	1,404	241
September	1,331	1,539	790	2,130	921	180
October	1,350	643	695	1,746	1,068	160
November	687	184	566	1,100	447	51
December	696	58	522	1,227	586	56
January	672	13	583	473	565	48
February	598	2	721	418	529	72
March	1,053	175	905	949	929	94
April	648	138	766	670	529	52
May	901	333	327	1,271	905	65
June	1,152	414	557	435	820	34
July	637	254	617	709	637	22
August	.....	.....	.....	469	.....	.....

[1] Compiled from trade journals. [2] Five-year average. [3] Crop year begins September.

BARLEY—Continued.

TABLE 99.—*Barley and malt: International trade, calendar years, 1911–1921.*

Country.	Average, 1911–1913.		1919		1920		1921	
	Imports	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Algeria	298	4,720	47	15,696	4,150	1,715	1,668	5,354
Argentina	1,310	917	1,123	1,871	.....	2,337	2,683	2,230
Austria-Hungary	839	18,271	.....	.....	[1] 1,142	.....	[1] 1,989	[1] 6
British India	.....	17,129	.....	598	.....	251	.....	1,466
Bulgaria	26	1,700	.....	.....	.....	.....	.....	.....
Canada	166	6,670	75	13,172	204	9,954	227	12,552
Chile	155	631	(2)	2,792	3	2,024	3	3,537
China	61	660	42	684	57	288	32	86
Rumania	109	16,692	20	.....	3	19,442	.....	.....
Russia	974	168,461	.....	.....	.....	.....	.....	.....
United States	.....	8,400	.....	46,745	.....	21,718	.....	33,865
PRINCIPAL IMPORTING COUNTRIES.								
Belgium	20,236	3,853	2,581	320	5,148	139	13,318	2,046
Brazil	978	.....	622	(2)	775	.....	537	.....
British South Africa	351	2	73	87	346	3	48	(2)
Cuba	278	.....	443	.....	276	.....	.....	.....
Denmark	2,098	3,561	2,699	177	46	926	1,570	2,475
Egypt	889	38	108	7	710	2	[3] 108	628
France	7,155	639	15,276	353	3,362	4,240	3,385	3,456
Finland	526	1	627	.....	71	.....	81	.....
Germany	153,544	1,225	.....	.....	4,904	57	.....	.....
Italy	815	27	1,306	112	1,608	23	1,922	(2)
Netherlands	41,184	29,611	7,125	44	3,072	1,219	7,581	336
Norway	4,333	(2)	782	.....	1,211	(2)	2,114	.....
Switzerland	4,440	1	1,370	(2)	1,386	1	3,048	(2)
United Kingdom	51,727	932	38,906	220	29,796	364	36,976	1,159
Other countries	1,604	15,500	2,505	8,787	3,268	7,486	1,663	6,735
Total	294,096	299,641	75,730	9,665	6,538	72,535	76,054	75,931

[1] Austria only. [2] Less than 500. [3] Reexports exceed imports.

RYE.

TABLE 100.—*Rye: Area and production in undermentioned countries.*[1]

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922 [2]	Average, 1909–1913.	1920	1921	1922 [2]
NORTHERN HEMISPHERE.								
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada [3]	117	650	1,842	2,410	2,094	11,306	21,455	49,602
United States [3]	2,236	4,409	4,228	5,148	36,093	60,490	57,918	79,623
Mexico	.....	.....	.....	.....	70	.....	.....	.....
Total North American countries marked [3]	2,353	5,059	6,070	7,558	38,187	71,796	79,373	129,225
EUROPE.								
United Kingdom:								
England and Wales	48	96	79	.....	.....	.....	.....	.....
Scotland	6	7	6	6	.....	.....	.....	.....
Ireland	8	6	6	.....	.....	.....	.....	.....
Norway	[4] 37	36	36	.....	974	970	1,043	.....
Sweden [3]	977	914	913	872	23,859	22,434	27,811	23,031
Denmark [3]	[4] 632	560	559	547	18,098	13,242	12,204	12,354
Netherlands [3]	557	492	499	491	16,422	14,795	17,987	13,252
Belgium [3]	644	523	559	531	22,675	18,168	21,273	18,598
Luxemburg	26	20	20	.....	651	340	488	.....
France [3]	[5] 2,960	2,148	2,227	2,087	[5] 48,647	32,130	44,392	37,610
Spain [3]	1,987	1,799	1,786	1,702	27,635	27,830	28,118	27,340
Portugal	.....	762	.....	.....	.....	5,154	.....	.....
Italy [3]	[5] 303	[5] 282	[5] 287	322	[5] 5,328	[5] 4,539	[6] 6,519	5,941
Switzerland [3]	60	52	50	48	1,783	1,622	1,559	1,488
Germany [3]	[5] 15,387	10,588	10,539	10,250	[5] 445,222	194,255	267,648	210,582
Austria [3]	[5] 5,019	711	758	831	[5] 112,752	10,046	12,661	12,990
Czechoslovakia [3]	.....	2,238	2,181	2,178	.....	32,941	53,735	45,798
Hungary [3]	[5] 2,601	1,475	1,370	1,340	[5] 48,716	20,564	23,177	22,361
Yugoslavia [3]	.....	578	562	585	.....	6,507	6,263	7,100
Serbia [3]	[5] 114	.....	.....	.....	[5] 1,533	.....	.....	.....
Bosnia-Herzegovina [3]	[5] 39	.....	.....	.....	[5] 444	.....	.....	.....
Croatia-Slavonia [3]	[5] 185	.....	.....	.....	[5] 2,231	.....	.....	.....
Bulgaria [3]	[5] 530	464	489	482	[5] 8,553	6,056	6,693	7,204
Rumania [3]	[5] 317	777	807	660	4,652	9,676	9,023	7,400
Poland [3]	[5] 5,261	7,236	8,866	11,225	[5] 90,494	73,659	167,558	202,067
Lithuania	.....	.....	1,249	.....	.....	.....	21,047	.....
Latvia	.....	486	560	583	.....	4,686	9,806	7,823
Esthonia	.....	.....	353	.....	.....	.....	5,908	.....
Finland [3]	[5] 592	603	606	578	[5] 11,174	9,173	10,385	7,776
Russia, including Ukraine and Northern Caucasia	[5] 65,122	.....	.....	.....	[5] 798,742	.....	.....	.....
Total European countries marked [3]	38,165	31,440	33,058	34,729	890,218	497,637	717,006	662,892
AFRICA AND ASIA.								
Algeria	(7)	(7)	(7)	(7)	(7)	4	5	4
Russia, Asiatic	2,451	.....	.....	.....	24,663	.....	.....	.....
Total African and Asiatic countries marked [3]	.....	.....	.....	.....	.....	.....	.....	.....
Total Northern Hemisphere countries marked [3]	40,518	36,499	39,128	42,287	928,405	569,433	796,379	792,117

[1] Official sources unless otherwise stated.
[2] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 15, 1922.
[3] Countries reporting for all periods either as listed or as part of some other country.
[4] Three-year average.
[5] Old boundaries.
[6] Includes 886,000 bushels grown in the new territory of Venezia Tridentina and Venezia Giulia.
[7] Less than 500.

RYE—Continued.

TABLE 100.—*Rye: Area and production in undermentioned countries*[1]—Continued.

Country.	Area.				Production.			
	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22[2]	Average, 1908–09 to 1912–13.	1919–20	1920–21	1921–22[2]
SOUTHERN HEMISPHERE.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Chile[3]	[4] 6	4	3	3	[4] 144	53	74	50
Uruguay	(5)	(5)	(5)	(5)	1	(5)	(5)	(5)
Argentina	[4] 68	.....	.....	.....	[4] 949	.....	.....	.....
Union of South Africa	[6] 108	141	.....	.....	[6] 608	596	.....	.....
Australia	9	(7)	.....	.....	108	32	.....	.....
New Zealand	5	.....	.....	.....	97	.....	.....	.....
Total Southern Hemisphere countries marked[3]	6	4	3	3	144	53	74	50
World total, all countries marked[3]	40,524	36,503	39,131	42,290	928,549	569,486	796,453	792,167
World total, all countries reporting	108,412	38,061	41,440	42,879	1,755,412	581,268	834,750	799,994

[1] Official sources unless otherwise stated.
[2] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 15, 1922.
[3] Countries reporting for all periods either as listed or as part of some other country.
[4] Two-year average.
[5] Less than 500.
[6] One year only.

TABLE 101.—*Rye: World production so far as reported, 1895–1922.*

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
	Bushels.		*Bushels.*		*Bushels.*		*Bushels.*
1895	1,468,212,000	1902	1,647,845,000	1909	1,747,123,000	1916	1,432,786,000
1896	1,499,250,000	1903	1,659,961,000	1910	1,673,473,000	1917	[1] 473,152,000
1897	1,300,645,000	1904	1,742,112,000	1911	1,753,933,000	1918	[1] 561,165,000
1898	1,461,171,000	1905	1,495,751,000	1912	1,886,517,000	1919	[1] 638,745,000
1899	1,583,179,000	1906	1,433,395,000	1913	1,880,387,000	1920	[1] 581,268,000
1900	1,557,634,000	1907	1,538,778,000	1914	1,596,882,000	1921	[1] 834,750,000
1901	1,416,022,000	1908	1,590,057,000	1915	1,583,206,000	1922	[1] 799,994,000

[1] Russia not included. In 1915 Russia produced about 57 per cent of the reported world production.

TABLE 102.—*Rye: Average yield per acre in undermentioned countries, 1890–1922.*

Year.	United States.	Russia (European).	Germany.	Austria.	Hungary proper.	France.	Ireland.[1]
Average:	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1890–1899	13.9	10.4	20.9	16.1	.....	[1] 17.6	25.2
1900–1909	15.7	11.5	25.6	19.0	17.6	[1] 17.1	27.5
1910–1919	12.7	[2] 11.8	25.2	18.0	[3] 18.4	15.6	[4] 29.3
1919	12.0	.....	22.1	12.6	.....	15.2	.....
1920	13.7	.....	18.3	14.1	13.9	15.0	.....
1921	13.7	.....	25.4	16.7	16.9	19.9	.....
1922	15.5	.....	20.5	15.6	16.7	18.0	.....

[1] Winchester bushels. [2] Seven-year average. [3] Six-year average. [4] Nine-year average.

RYE—Continued.

TABLE 103.—*Rye: Acreage, production, value, exports, etc., in the United States, 1849–1922.*

[See headnote of Table 4.]

Year.	Acreage harvested.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Chicago cash price per bushel, No. 2.				Domestic exports, including rye flour, fiscal year beginning July 1.
						December.		Following May.		
						Low.	High.	Low.	High.	
	1,000 acres.	*Bush.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Bushels.*
1849	.....	.....	*14,189*	.....	.....	.....	.....	.....	.....	.....
1859	.....	.....	*21,101*	.....	.....	.....	.....	.....	.....	.....
1866–75	1,347	13.6	18,267	79.7	14,559	80	90	97	107	540,342
1876–85	1,892	13.2	24,625	63.7	15,540	64	68	68	75	2,890,991
1886–95	2,188	12.8	27,975	54.4	15,278	52	56	55	60	1,827,551
1896	2,126	13.6	28,913	38.8	11,231	37	42½	32¾	35½	8,575,663
1897	2,077	16.1	33,433	43.2	14,454	45¾	47	48	75	15,562,035
1898	2,071	15.9	32,888	44.5	14,640	52½	55½	56½	62	10,169,822
1899	*2,054*	14.8	30,334	49.6	15,046	49	52	53	56¼	2,382,012
1900	2,042	15.1	30,791	49.8	15,341	45¾	49¾	51½	54	2,345,512
1901	2,033	15.3	31,103	55.4	17,220	59	65¾	54½	58	2,712,077
1902	2,051	17.2	35,255	50.5	17,798	48	49¾	48	50½	5,445,273
1903	2,074	15.4	31,990	54.0	17,272	50½	52½	69¾	78	784,068
1904	2,085	15.3	31,805	68.9	21,923	73	75	70	84	29,749
1905	2,141	16.4	35,168	60.4	21,241	64	68	58	62	1,387,826
1906	2,186	16.7	36,559	58.5	21,381	61	65	69	87½	769,717
1907	2,167	16.4	35,455	72.5	25,709	75	82	79	86	2,444,588
1908	2,175	16.4	35,768	72.8	26,023	75	77¼	83	90	1,295,701
1909	*2,196*	16.1	35,406	72.2	25,548	72	80	74	80	242,262
1910 [1]	2,185	16.0	34,897	71.5	24,953	80	82	90	113	40,123
1911	2,127	15.6	33,119	83.2	27,557	91	94	90	95½	31,384
1912	2,117	16.8	35,664	66.3	23,636	58	64	60	64	1,854,738
1913	2,557	16.2	41,381	63.4	26,220	61	65	62	67	2,272,492
1914	2,541	16.8	42,779	86.5	37,018	107½	112½	115	122	13,026,778
1915	3,129	17.3	54,050	83.4	45,083	94½	98½	96½	99½	15,250,151
1916	3,213	15.2	48,862	122.1	59,676	130	151	200	240	13,703,499
1917	4,317	14.6	62,933	166.0	104,447	176	184	180	260	17,186,417
1918	6,391	14.2	91,041	151.6	138,038	154	164	145½	173	36,467,450
1919	6,307	12.0	75,483	133.2	100,573	149	182	198	229	41,530,961
1920 [1]	4,409	13.7	60,490	126.8	76,693	144	167	135½	167	47,337,466
1921	4,528	13.6	61,675	69.7	43,014	84	89	97½	111	30,163,852
1922 [2]	6,210	15.4	95,497	69.2	66,085	83⅝	84½	.....	.....	.....

[1] Acreage adjusted to census basis.

[2] Preliminary estimate.

RYE—Continued.

TABLE 104.—*Rye: Acreage, production, and total farm value, by States, 1921–1922.*

State.	Thousands of acres.		Production (thousands of bushels).		Total value, basis Dec. 1 price (thousands of dollars).	
	1921	1922 [1]	1921	1922 [1]	1921	1922 [1]
Massachusetts	2	3	30	57	52	80
Connecticut	5	5	95	100	142	150
New York	52	55	806	880	798	854
New Jersey	57	61	998	1,159	1,018	985
Pennsylvania	200	220	3,200	3,740	3,040	3,254
Delaware	4	5	44	70	44	74
Maryland	17	17	238	258	219	284
Virginia	38	40	418	460	397	414
West Virginia	10	10	120	120	114	114
North Carolina	39	40	273	320	341	384
South Carolina	5	6	50	60	125	108
Georgia	12	18	108	171	189	231
Ohio	83	87	1,079	1,235	906	1,025
Indiana	306	318	3,978	3,816	2,904	3,015
Illinois	197	256	3,349	4,096	2,679	3,072
Michigan	642	648	8,346	8,294	5,842	6,303
Wisconsin	371	489	5,046	7,139	3,583	5,140
Minnesota	640	1,154	11,200	21,926	6,944	14,910
Iowa	35	60	564	1,140	412	798
Missouri	30	28	336	336	289	312
North Dakota	930	1,581	10,230	24,506	5,933	14,704
South Dakota	191	439	3,056	7,902	1,772	4,583
Nebraska	151	188	1,918	2,106	1,151	1,369
Kansas	101	71	1,141	852	776	596
Kentucky	18	20	180	230	202	253
Tennessee	19	20	152	180	205	214
Alabama	1	1	12	5	19	8
Texas	13	13	156	117	156	146
Oklahoma	34	31	408	310	269	248
Arkansas	1	1	9	12	12	12
Montana	116	126	1,299	1,827	688	987
Wyoming	24	21	504	294	292	153
Colorado	92	97	1,058	873	635	576
New Mexico	5	2	70	8	49	8
Utah	15	12	140	120	98	72
Idaho	12	11	216	165	151	111
Washington	21	19	294	169	191	161
Oregon	39	37	554	444	377	377
United States	4,528	6,210	61,675	95,497	43,014	66,085

[1] Preliminary estimate.

TABLE 105.—*Rye: Condition of crop, United States, on 1st of months named, 1902–1922.*

Year.	December of previous year.	April.	May.	June.	When harvested.	Year.	December of previous year.	April.	May.	June.	When harvested.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1902	89.9	85.4	83.4	88.1	90.2	1913	93.5	89.3	91.0	90.9	88.6
1903	98.1	97.9	93.3	90.6	89.5	1914	95.3	91.3	93.4	93.6	92.9
1904	92.7	82.3	81.2	86.3	88.9	1915	93.6	89.5	93.3	92.0	92.0
1905	90.5	92.1	93.5	94.0	93.2	1916	91.5	87.8	88.7	86.9	87.0
1906	95.4	90.9	92.9	89.9	91.3	1917	88.8	86.0	88.8	84.3	79.4
1907	96.2	92.0	88.0	88.1	89.7	1918	84.1	85.8	85.8	83.6	80.8
1908	91.4	89.1	90.3	91.3	91.2	1919	89.0	90.6	95.3	93.5	85.7
1909	87.6	87.2	88.1	89.6	91.4	1920	89.8	86.8	85.1	84.4	83.5
1910	94.1	92.3	91.3	90.6	87.5	1921	90.5	90.3	92.5	90.3	83.9
1911	92.6	89.3	90.0	88.6	85.0	1922	92.2	89.0	91.7	92.5	89.9
1912	93.3	87.9	87.5	97.7	88.2	1923	84.3	.....	.....	.....	.....

RYE—Continued.

TABLE 106.—*Rye: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	May.	June.	July.	August production estimate.	Final estimate.
	1,000 bus.	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*	*1,000 bus.*
1916	44,255	43,537	44,001	41,884	48,862
1917	60,735	57,866	56,098	56,044	62,933
1918	82,629	81,046	81,604	76,687	91,041
1919	108,725	107,381	102,689	84,552	75,483
1920	79,789	80,006	81,997	77,893	60,490
1921	72,007	71,011	69,956	64,332	61,675
Average	74,690	73,474	72,724	66,899	66,747
1922	79,152	80,815	81,998	79,623	[1] 95,497

[1] Preliminary estimate.

TABLE 107.—*Rye: Yield per acre, price per bushel December 1, and value per acre, by States.*

State.	Yield per acre (bushels).						Farm price per bushel (cents).										Value per acre (dollars).[1]	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
Mass	19.0	20.0	23.0	18.0	15.0	19.0	154	98	101	102	127	200	227	175	195	175	140	37.00	26.60
Conn	19.8	22.0	20.0	18.0	19.0	20.0	151	92	98	102	125	210	205	200	174	150	150	37.59	30.00
N. Y	16.3	16.5	16.0	17.5	15.5	16.0	124	75	89	93	128	184	172	150	158	99	97	26.07	15.52
N. J	17.7	18.5	16.0	17.5	17.5	19.0	124	80	82	92	117	175	173	160	170	102	85	27.52	16.15
Pa	16.4	17.0	16.0	16.0	16.0	17.0	116	74	83	84	109	170	165	157	140	95	87	23.93	14.79
Del	13.5	14.5	13.0	15.0	11.0	14.1	124	79	92	99	123	178	171	160	136	100	105	21.10	14.80
Md	14.7	15.0	14.0	15.4	14.0	15.2	122	76	86	88	110	168	170	163	156	92	110	22.42	16.72
Va	11.6	12.0	11.5	12.0	11.0	11.5	123	81	90	93	107	175	175	170	155	95	90	19.17	10.35
W. Va	12.3	13.7	13.0	11.0	12.0	12.0	125	87	90	93	119	169	180	165	160	95	95	19.59	11.40
N. C	8.5	9.0	8.9	9.5	7.0	8.0	148	98	105	105	130	200	198	210	190	125	120	16.66	9.60
S. C	10.4	11.2	10.0	11.0	10.0	10.0	224	150	150	151	185	285	295	295	300	250	180	29.81	18.00
Ga	9.2	8.8	8.9	10.0	9.0	9.5	186	135	150	140	160	270	210	272	210	175	135	20.37	12.82
Ohio	14.9	17.0	16.0	14.4	13.0	14.2	111	69	81	83	120	161	150	145	135	84	83	21.61	11.79
Ind	13.9	16.5	14.0	14.0	13.0	12.0	108	62	85	82	119	160	152	140	130	73	79	19.27	9.48
Ill	16.8	19.0	16.5	15.6	17.0	16.0	108	65	85	83	122	165	150	130	130	80	75	22.54	12.00
Mich	13.6	14.3	13.3	14.7	13.0	12.8	109	62	91	85	130	165	150	128	130	70	76	17.96	9.73
Wis	15.5	17.6	15.8	16.0	13.6	14.6	109	57	91	87	132	169	150	133	130	71	72	21.83	10.51
Minn	17.7	20.0	15.0	17.0	17.5	19.0	104	48	89	81	127	167	150	130	122	62	68	22.40	12.92
Iowa	17.4	19.0	15.9	17.0	16.1	19.0	103	66	77	80	115	155	147	132	117	73	70	21.69	13.30
Mo	12.2	14.0	12.0	12.0	11.2	12.0	115	75	87	86	123	165	163	150	125	86	93	17.94	11.16
N. Dak	11.0	10.5	8.0	10.0	11.0	15.5	100	45	84	79	125	164	145	121	119	58	60	11.75	9.30
S. Dak	15.7	18.0	13.0	13.5	16.0	18.0	97	50	78	76	118	155	141	125	109	58	58	18.09	10.44
Nebr	13.4	12.9	16.3	14.1	12.7	11.2	96	60	74	73	116	155	135	115	103	60	65	16.50	7.28
Kans	12.3	14.3	11.0	13.0	11.3	12.0	106	75	80	76	110	167	170	141	100	68	70	16.78	8.40
Ky	11.8	13.6	12.0	12.0	10.0	11.5	129	87	95	94	129	175	161	175	150	112	110	18.80	12.65
Tenn	8.8	10.0	8.0	9.0	8.0	9.0	147	99	98	103	135	195	192	200	190	135	119	16.44	10.71
Ala	9.7	11.0	9.5	10.9	12.0	5.0	191	140	110	135	175	268	261	260	250	160	153	25.06	7.65
Tex	11.9	5.4	17.0	16.0	12.0	9.0	140	101	99	103	120	196	235	167	150	100	125	19.34	11.25
Okla	12.4	11.0	14.0	15.0	12.0	10.0	114	86	95	77	125	170	187	150	100	66	80	16.30	8.00
Ark	10.2	10.5	9.5	10.0	9.0	12.0	142	95	105	106	115	150	210	200	220	130	100	19.00	12.00
Mont	9.7	12.0	3.0	8.0	11.2	14.5	100	55	70	65	96	165	144	185	108	53	54	11.67	7.83
Wyo	16.0	18.0	9.0	18.0	21.0	14.0	106	64	81	90	108	155	152	180	115	58	52	19.63	7.28
Colo	9.6	7.0	8.8	11.8	11.5	9.0	95	60	65	70	105	146	140	130	105	60	66	12.78	5.94
N. Mex	14.6	20.0	20.0	15.0	14.0	4.0	114	83	88	....	140	....	204	....	....	70	100	....	4.00
Utah	9.5	13.0	7.0	8.3	9.3	10.0	110	60	60	65	100	160	180	200	150	70	60	13.83	6.00
Idaho	15.2	15.0	14.0	14.0	18.0	15.0	100	58	67	68	95	135	165	175	100	70	67	19.35	10.05
Wash	10.9	10.0	12.0	9.5	14.0	8.9	121	60	85	75	111	175	200	185	160	65	95	17.74	8.46
Oreg	11.5	11.0	8.4	12.0	14.2	12.0	122	75	100	90	115	170	205	190	125	68	85	16.95	10.20
U. S	13.8	14.2	12.0	13.7	13.6	15.4	107.2	63.4	86.5	83.4	122.1	166.0	151.6	133.2	126.8	69.7	69.2	17.72	10.64

[1] Based upon farm price Dec. 1.

RYE—Continued.

TABLE 108.—*Rye: Farm price, cents per bushel on 1st of each month, 1908–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[1]
1908	73.3	74.0	74.5	75.3	74.7	76.3	75.4	74.2	72.8	74.1	73.7	73.6	73.9
1909	73.4	73.8	75.0	77.3	78.8	81.2	81.7	78.5	72.4	72.8	73.6	71.8	74.2
1910	74.8	76.1	76.5	76.6	74.9	74.8	74.6	74.4	74.1	72.8	71.6	71.5	73.7
1911	73.3	73.1	71.9	75.4	75.8	77.9	76.9	75.5	76.9	79.7	83.1	83.2	78.1
1912	82.7	84.4	84.0	85.1	84.6	86.1	83.6	77.9	70.8	70.1	68.8	66.3	74.9
1913	63.8	68.9	63.2	62.9	62.4	64.1	63.2	60.7	63.0	64.8	63.2	63.4	63.8
1914	62.5	61.7	61.9	63.0	62.9	64.4	63.1	61.0	75.4	79.0	80.1	86.5	72.8
1915	90.2	100.6	105.4	100.4	101.9	98.1	93.7	89.0	85.5	81.7	85.7	83.4	89.2
1916	85.3	88.3	85.6	83.6	83.7	83.8	83.3	83.4	99.7	104.1	115.3	122.1	99.7
1917	118.5	123.5	126.0	135.6	164.1	183.0	177.1	178.1	161.9	169.8	168.8	166.0	156.5
1918	170.3	174.8	201.0	235.1	221.1	187.6	169.9	163.9	159.3	154.0	152.6	151.6	167.4
1919	150.7	140.4	132.2	145.8	155.5	143.7	138.6	149.7	138.3	135.8	129.8	133.2	138.5
1920	152.3	154.5	145.0	156.1	183.1	183.9	189.0	168.6	168.9	162.3	142.1	126.8	155.1
1921	124.7	131.5	126.1	118.7	105.3	112.2	103.8	98.1	89.9	88.6	74.6	69.7	96.4
1922	69.6	70.4	83.5	84.2	87.6	88.0	77.6	70.5	63.3	63.2	67.2	69.2	70.1
Average, 1913–1922	108.8	111.5	113.0	118.5	122.8	120.9	115.9	112.3	110.5	110.3	107.9	107.2	111.0

[1] Weighted average.

TABLE 109.—*Rye: Monthly and yearly average price per bushel of No. 2, Chicago, 1909–10 to 1921–22.*[1]

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Yearly average.
1909–10	$0.79	$0.71	$0.72	$0.73	$0.74	$0.77	$0.81	$0.81	$0.79	$0.79	$0.77	$0.76	$0.76
1910–11	.77	.75	.74	.76	.79	.81	.84	.82	.89	.95	1.02	.90	.84
1911–12	.84	.85	.91	.97	.95	.93	.94	.92	.91	.94	.93	.83	.91
1912–13	.74	.72	.69	.69	.64	.61	.64	62	60	.62	.62	.62	.65
1913–14	.63	.66	.67	.65	.64	.63	.61	62	.61	.62	.65	.63	.64
Av. 1909–1913	.75	.74	.75	.76	.76	.75	.77	.76	.76	.78	.80	.75	.76
1914–15	.64	.84	.95	.92	1.02	1.10	1.19	1.23	1.17	1.17	1.19	1.17	1.05
1915–16	1.08	1.00	.96	1.01	.99	.97	1.01	.97	.93	.96	.98	.98	.99
1916–17	.98	1.13	1.20	1.33	1.47	1.41	1.43	1.46	1.61	1.87	2.20	2.40	1.54
1917–18	2.27	1.90	1.86	1.84	1.78	1.82	2.01	2.39	2.84	2.64	2.20	1.80	2.11
1918–19	1.73	1.67	1.63	1.63	1.68	1.59	1.61	1.38	1.61	1.73	1.59	1.46	1.61
1919–20	1.55	1.54	1.40	1.38	1.42	1.66	1.76	1.56	1.72	1.99	2.13	2.27	1.70
1920–21	2.04	1.90	1.99	1.69	1.59	1.61	1.63	1.47	1.46	1.35	1.47	1.32	1.62
Av., 1914–1920	1.47	1.43	1.43	1.31	1.44	1.45	1.52	1.49	1.65	1.67	1.68	1.63	1.52
1921–22	1.27	1.07	1.04	.86	.79	86	.81	.97	1.02	1.04	1.06	.90	.97

[1] Compiled from Chicago Daily Trade Bulletin.

TABLE 110.—*Rye: Monthly and yearly receipts at markets named, 1909–10 to 1921–22.*[1]

[In thousands of bushels, i. e., 000 omitted.]

Year.	Minneapolis.	Duluth.	Chicago.	Winnipeg.	Milwaukee.	Omaha.
1909–10	2,444	902	1,362	.....	965	.....
1910–11	1,518	134	1,121	.....	1,033	.....
1911–12	2,453	759	2,077	.....	2,582	.....
1912–13	5,943	2,341	3,299	.....	2,336	.....
1913–14	5,538	1,357	3,206	.....	2,836	.....
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	7,118	2,812	5,459	.....	3,050	1,048
1917–18	11,923	3,482	3,766	212	2,947	1,121
1918–19	16,467	16,115	8,467	970	4,472	1,782
1919–20	9,325	17,027	6,119	1,172	4,094	1,630
1920–21	5,428	14,631	4,132	2,832	3,607	1,409
Average, 1914–1920	8,955	8,944	5,267	[2] 1,296	3,658	[3] 1,398
1921–22	4,754	17,446	4,235	5,297	2,282	2,048
1922–23	.....	.....	.....	.....	.....	.....

[1] Compiled from trade journals. [2] Four-year average. [3] Five-year average.

RYE—Continued.

TABLE 110.—*Rye: Monthly and yearly receipts at markets named, 1908–10 to 1921–22*—Continued.

Month.	Minneapolis.	Duluth.	Chicago.	Winnipeg.[1]	Milwaukee.	Omaha.
1921–22.						
July	392	509	944	.....	177	61
August	792	2,956	980	.....	513	364
September	542	3,894	207	632	158	321
October	874	1,414	106	786	110	235
November	258	851	504	621	70	87
December	390	779	128	447	103	174
January	231	539	70	211	85	133
February	277	508	225	119	303	137
March	373	2,109	222	271	218	204
April	145	660	105	176	170	126
May	257	1,926	607	352	275	155
June	223	1,301	137	128	100	51
July	.....	.....	.....	172	.....	.....
August	.....	.....	.....	1,382	.....	.....

[1] Crop year starts in September.

TABLE 111.—*Rye (including flour): International trade, calendar years 1911–1921.*

Country.	Average, 1911–1913.		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Argentina	(1)	443	.....	160	.....	500	.....	669
Bulgaria	1	2,336	.....	.....	.....	17	.....	.....
Canada	86	69	10	1,897	21	3,143	15	3,822
Germany	16,900	44,951	.....	.....	17,396	850	.....	.....
Rumania	49	3,411	102	.....	5	1,632	.....	.....
Russia	5,231	34,921	.....	.....	.....	.....	.....	.....
United States	.....	855	.....	40,494	.....	59,253	.....	30,146
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary	1,224	19	.....	.....	[2] 2,311	.....	[2] 2,347	.....
Belgium	6,157	914	1,724	1	4,097	64	531	222
Denmark	8,587	303	396	748	90	965	434	677
Finland	15,472	47	4,672	(1)	2,518	(1)	3,083	.....
France	4,138	7	660	15	16,351	14	1,664	534
Italy	721	2	379	9	2,391	(1)	2,744	.....
Netherlands	31,023	18,870	1,906	483	602	2,089	1,796	1,626
Norway	10,520	42	6,190	4	8,402	10	4,571	22
Sweden	3,769	40	1	96	4	681	523	3,039
Switzerland	729	1	1,632	(1)	153	2	(1)	(1)
United Kingdom	2,195	4	1,620	3	2,067	192	1,715	648
Other countries	541	352	50	53	692	608	1	49
Total	107,343	107,587	19,342	43,963	57,100	70,020	19,424	41,454

[1] Less than 500. [2] Austria only.

BUCKWHEAT.

TABLE 112.—*Buckwheat: Acreage, production, value, exports, etc., in the United States, 1849–1922.*

[See headnote of Table 4.]

Year.	Acreage.	Average yield per acre.	Production.	Average farm price Dec. 1.	Farm value Dec. 1.	Domestic exports year beginning July 1.	Year.	Acreage.	Average yield per acre.	Production.	Average farm price Dec. 1.	Farm value Dec. 1.	Domestic exports year beginning July 1.
	1,000 acres.	*Bu.*	*1,000 bus.*	*Cents.*	*1,000 dollars.*	*Bushels.*		*1,000 acres.*	*Bu.*	*1,000 bus.*	*Cents.*	*1,000 dollars.*	*Bu.*
1849	.....	.....	*8,957*	.....	.....	.....	1907	838	17.7	14,858	70.0	10,397	116,127
1859	.....	.....	*17,572*	.....	.....	.....	1908	853	19.4	16,541	75.7	12,518	186,702
1866–75	730	18.3	13,369	72.8	9,735	.....	1909	*878*	20.5	17,983	70.2	12,628	158,160
1876–85	799	14.7	11,616	66.2	7,510	.....	1910[1]	860	20.5	17,598	66.1	11,636	223
1886–95	879	14.7	12,854	55.0	7,031	.....	1911	833	21.1	17,549	72.6	12,735	180
1896	853	18.5	15,805	39.3	6,211	1,677,102	1912	841	22.9	19,249	66.1	12,720	1,347
1897	838	20.6	17,260	42.1	7,259	1,370,463	1913	805	17.2	13,833	75.5	10,445	580
1898	811	17.2	13,961	45.0	6,278	1,533,980	1914	792	21.3	16,881	76.4	12,892	413,643
1899	*807*	16.1	13,001	55.9	7,263	426,822	1915	769	19.6	15,056	78.7	11,843	515,304
1900	795	14.9	11,810	55.8	6,588	123,540	1916	828	14.1	11,662	112.7	13,147	260,102
1901	852	18.4	15,693	56.4	8,857	719,615	1917	924	17.3	16,022	160.0	25,631	5,567
1902	856	17.9	15,286	59.6	9,110	117,953	1918	1,027	16.5	16,905	166.5	28,142	119,516
1903	870	17.5	15,248	60.8	9,277	31,006	1919	700	20.6	14,399	146.1	21,032	244,785
1904	876	18.6	16,327	62.5	10,208	316,399	1920[1]	701	18.7	13,142	128.3	16,863	399,437
1905	840	18.8	15,797	58.6	9,261	696,513	1921	680	20.9	14,207	81.2	11,540	[2]484,766
1906	865	18.2	15,734	59.7	9,386	199,429	1922[3]	785	19.2	15,050	88.5	13,312	.....

[1] Acreage adjusted to census basis.
[2] Including buckwheat flour Jan. 1 to June 30, 1922.
[3] Preliminary estimate.

TABLE 113.—*Buckwheat: Acreage, production, and total farm value, by States, 1921–22.*

State.	Thousands of acres.		Production (thousands of bushels).		Total value, basis Dec. 1 price (thousands of dollars).	
	1921	1922[1]	1921	1922[1]	1921	1922[1]
Maine	13	13	351	351	351	386
New Hampshire	1	1	21	25	18	31
Vermont	4	4	88	96	79	88
Massachusetts	1	1	18	25	22	34
Connecticut	2	2	35	36	49	50
New York	193	208	4,150	4,368	3,444	4,368
New Jersey	8	10	168	220	168	253
Pennsylvania	225	248	5,175	5,208	3,881	4,166
Delaware	7	4	98	76	74	61
Maryland	9	9	171	185	145	159
Virginia	17	17	357	332	293	272
West Virginia	31	33	682	693	559	589
North Carolina	5	5	85	100	72	97
Ohio	21	25	525	500	551	400
Indiana	6	6	114	90	114	90
Illinois	4	6	70	84	77	71
Michigan	39	62	624	868	487	694
Wisconsin	40	25	596	360	447	313
Minnesota	28	75	448	1,050	314	840
Iowa	5	5	75	70	60	88
Missouri	1	1	14	13	21	16
South Dakota	8	12	112	96	90	67
Nebraska	1	1	16	16	13	14
Kentucky	8	9	160	144	160	130
Tennessee	3	3	54	44	51	35
United States	680	785	14,207	15,050	11,540	13,312

[1] Preliminary estimate.

BUCKWHEAT—Continued.

TABLE 114.—*Buckwheat: Condition of crop, United States, on first of months named, 1902–1922.*

Year.	Aug.	Sept.	When harvested.	Year.	Aug.	Sept.	When harvested.	Year.	Aug.	Sept.	When harvested.
	P. ct.	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*
1902	91.4	86.4	80.5	1909	86.4	81.0	79.5	1916	87.8	78.5	66.9
1903	93.9	91.0	83.0	1910	87.9	82.3	81.7	1917	92.2	90.2	74.8
1904	92.8	91.5	88.7	1911	82.9	83.8	81.4	1918	88.6	83.3	75.6
1905	92.6	91.8	91.6	1912	88.4	91.6	89.2	1919	88.1	90.1	88.0
1906	93.2	91.2	84.9	1913	85.5	75.4	65.9	1920	90.5	91.1	85.6
1907	91.9	77.4	80.1	1914	88.8	87.1	83.3	1921	87.2	85.6	87.4
1908	89.4	87.8	81.6	1915	92.6	88.6	81.9	1922	89.7	85.7	83.8

TABLE 115.—*Buckwheat: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	August.	September.	October.	November production estimate.	Final estimate.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1912	16,000	18,000	18,000	19,124	19,249
1913	17,000	15,000	14,000	14,455	13,833
1914	16,897	17,106	16,882	17,025	16,881
1915	17,651	17,556	16,738	16,350	15,056
1916	17,114	15,788	13,922	11,447	11,662
1917	19,876	20,226	17,895	16,813	16,022
1918	20,623	20,093	19,473	18,370	16,905
1919	18,002	19,193	20,076	20,120	14,399
1920	14,700	15,528	15,532	14,321	13,142
1921	12,957	13,042	14,263	14,894	14,207
Average	17,091	17,153	16,678	16,292	15,136
1922	13,788	13,511	14,051	13,643	[1] 15,050

[1] Preliminary estimate.

BUCKWHEAT—Continued.

TABLE 116.—*Buckwheat: Yield per acre, price per bushel December 1, and value per acre, by States.*

State.	Yield per acre (bushels).						Farm price per bushel (cents).											Value per acre (dollars).[1]	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
Me	25.0	20.0	24.0	27.0	27.0	27.0	112	56	60	70	95	150	150	175	153	100	110	34.51	29.70
N. H	20.2	17.0	18.0	20.0	21.0	25.0	119	66	70	81	100	183	200	156	122	88	125	26.85	31.25
Vt	22.0	21.0	22.0	21.0	22.0	24.0	115	80	82	82	105	150	160	170	135	90	92	29.83	22.08
Mass	19.6	16.0	20.0	19.0	18.0	25.0	132	80	84	95	140	166	196	160	140	125	138	27.47	34.50
Conn	17.9	19.0	18.0	17.0	17.5	18.0	146	95	95	96	120	200	210	200	160	139	140	32.40	25.20
N. Y	19.9	15.0	22.0	20.0	21.5	21.0	116	81	76	80	122	160	175	145	140	83	100	26.56	21.00
N. J	19.4	18.0	18.0	18.0	21.0	22.0	119	76	83	83	108	158	170	150	150	100	115	26.81	25.30
Pa	20.3	18.0	21.6	18.0	23.0	21.0	108	73	76	78	111	163	160	140	120	75	80	25.45	16.80
Del	17.9	20.5	18.0	18.0	14.0	19.1	106	69	76	75	118	148	143	160	120	75	80	23.96	15.28
Md	20.5	20.0	23.0	20.0	19.0	20.6	113	75	81	72	110	165	165	155	133	85	86	29.21	17.72
Va	20.4	21.0	19.0	21.6	21.0	19.5	111	80	84	80	95	150	163	155	140	82	82	28.56	15.99
W. Va	20.6	19.5	21.0	19.5	22.0	21.0	116	78	83	80	101	170	173	170	140	82	85	29.76	17.85
N. C	18.8	20.0	17.0	20.0	17.0	20.0	104	78	83	82	85	130	150	140	110	85	97	23.25	19.40
Ohio	21.0	16.0	23.2	20.9	25.0	20.0	109	76	76	77	110	153	156	155	105	105	80	27.09	16.00
Ind	17.1	15.0	16.5	20.0	19.0	15.0	113	75	78	80	112	155	160	150	120	100	100	23.00	15.00
Ill	17.0	17.8	18.0	18.0	17.4	14.0	126	80	95	90	130	170	180	180	136	110	85	28.07	11.90
Mich	13.7	10.0	13.8	14.5	16.0	14.0	105	70	71	72	115	147	170	137	109	78	80	15.48	11.20
Wis	15.5	15.9	16.2	16.0	14.9	14.4	112	69	76	83	116	174	165	150	120	75	87	20.43	12.53
Minn	16.4	17.0	19.0	16.0	16.0	14.0	101	64	70	75	112	135	170	130	106	70	80	20.13	11.20
Iowa	15.0	15.0	14.0	17.0	15.0	14.0	125	81	77	80	125	200	180	169	134	80	125	21.89	17.50
Mo	14.2	13.0	15.0	16.0	14.0	13.0	134	85	93	90	133	144	180	184	155	150	125	23.68	16.25
S. Dak	14.8	15.0	19.0	18.0	14.0	8.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	80	70	.....	5.60
Nebr	15.6	14.0	16.0	16.0	16.0	16.0	113	79	84	95	110	150	165	180	100	80	85	20.94	13.60
Ky	15.6	14.0	13.0	15.0	20.0	16.0	.....	.....	.....	.....	.....	.....	.....	104	120	100	90	16.00	14.40
Tenn	16.5	18.0	15.5	16.5	18.0	14.5	107	75	78	76	100	150	140	150	130	95	80	22.50	11.60
U. S	19.2	16.5	20.6	18.7	20.9	19.2	111.4	75.5	76.4	78.7	112.7	160.0	166.5	146.1	128.3	81.2	88.5	25.24	16.96

[1] Based upon farm price Dec. 1.

TABLE 117.—*Buckwheat: Farm price, cents per bushel on 1st of each month, 1908–1922.*

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average.[1]
1908	71.7	72.0	72.4	76.6	77.0	75.8	86.0	80.1	80.0	77.2	77.1	75.6	76.4
1909	74.3	74.2	75.5	76.2	78.8	83.4	86.9	82.9	76.9	75.0	71.6	70.1	75.0
1910	70.0	72.0	70.6	73.4	71.0	73.7	78.0	74.8	72.6	71.3	65.9	66.1	69.8
1911	65.8	64.4	64.1	65.3	65.8	70.1	72.4	76.0	74.0	69.6	73.0	72.6	70.3
1912	73.7	73.6	76.9	76.9	79.9	84.8	86.2	83.6	76.6	69.7	65.5	66.1	72.6
1913	66.8	69.4	67.0	68.3	71.4	70.8	72.9	72.4	70.0	74.1	75.5	75.5	72.4
1914	76.6	75.6	75.1	76.9	77.3	79.0	85.5	81.2	79.8	78.7	78.0	76.4	77.9
1915	77.9	83.7	85.5	85.3	84.6	86.9	92.1	89.2	81.4	73.7	78.5	78.7	81.0
1916	81.5	80.7	83.2	83.1	84.9	87.0	93.1	89.0	86.4	90.4	102.9	112.7	94.7
1917	117.2	114.6	124.8	128.3	150.6	183.7	209.2	189.3	164.3	154.4	154.2	160.0	153.2
1918	162.7	161.9	168.2	170.1	176.0	191.0	200.8	192.7	190.3	180.0	173.0	166.5	174.7
1919	162.9	158.1	148.4	149.6	147.3	165.6	160.8	165.9	159.8	162.0	151.0	146.1	154.7
1920	150.7	154.9	155.7	163.1	168.8	180.2	202.7	181.3	176.3	159.4	131.0	128.3	152.0
1921	125.4	118.7	116.3	109.3	115.9	116.1	115.3	119.7	114.4	106.0	83.9	81.2	102.4
1922	83.5	85.4	85.8	92.6	93.3	97.5	102.6	95.7	86.3	84.1	80.3	88.5	87.5
Average, 1913–1922	110.5	110.3	111.0	112.7	117.0	125.8	133.5	127.6	120.9	116.3	110.8	111.4	115.0

[1] Weighted average.

FLAX.

TABLE 118.—*Flax: Area and production in undermentioned countries, 1909–1922.*

Country.	Area.				Production.							
					Seed.				Fiber.			
	Average, 1909–1913.	1920	1921	1922 [1]	Average, 1909–1913.	1920	1921	1922 [1]	Average, 1909–1913.	1920	1921	1922 [1]
NORTHERN HEMISPHERE.												
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*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 [2]	1,035	1,428	533	519	12,040	7,998	4,112	5,296	.....	[3] [4] 11,160	.....	.....
United States [2]	2,490	1,757	1,165	1,341	19,505	10,774	8,112	11,725	.....	.....	.....	.....
Total North American countries marked [2]	3,525	3,185	1,698	1,860	31,545	18,772	12,224	17,021	.....	.....	.....	.....
EUROPE.												
United Kingdom:												
England and Wales	(5)	22	8	10	.....	.....	.....	.....	.....	.....	.....	.....
Ireland [2]	53	127	40	.....	.....	.....	.....	.....	23,701	38,125	10,725	.....
Sweden	4	7	.....	.....	[6] 14	17	.....	.....	[6] 1,128	1,515	.....	.....
Netherlands [2]	33	60	22	22	374	628	249	.....	17,276	31,418	10,853	7,840
Belgium [2]	50	125	37	41	[7] 472	862	328	315	[7] 51,888	152,831	20,030	15,430
France [2]	[8] 62	86	43	41	[8] 533	446	274	.....	[8] 40,623	57,046	23,333	.....
Spain [2]	.....	3	4	.....	.....	52	46	.....	.....	710	1,160	.....
Italy [2]	[7] 42	50	49	49	329	386	394	394	6,289	5,071	5,510	5,510
Germany	[9] 41	124	111	.....	.....	.....	.....	.....	.....	.....	.....	.....
Austria [2]	[8] 97	8	8	.....	[8] 694	38	45	.....	[8] 53,116	4,904	6,740	.....
Czechoslovakia [2]	.....	54	59	57	.....	313	300	.....	.....	28,830	28,693	.....
Hungary	[8] 25	9	10	.....	[8] 196	.....	.....	.....	[8] 20,547	.....	.....	.....
Yugoslavia [2]	.....	35	36	28	.....	.....	.....	.....	.....	19,430	18,210	.....

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
[2] Indicates countries reporting for all periods except 1922 either as listed or as part of some other country.
[3] Including flax tow.
[4] Grown on 31,000 acres. Almost exclusively in Ontario.
[5] Less than 500.
[6] Four-year average.
[7] Three-year average.
[8] Pre-war boundaries.
[9] One year.

FLAX—Continued.

TABLE 118.—*Flax: Area and production in undermentioned countries, 1909–1922*—Continued.

Country	Area.				Production.							
					Seed.				Fiber.			
	Average, 1909–1913.	1920	1921	1922 [1]	Average, 1909–1913.	1920	1921	1922 [1]	Average, 1909–1913.	1920	1921	1922 [1]
NORTHERN HEMISPHERE—Continued.												
EUROPE—continued.	*1,000 acres.*	*1,000 acres.*	*1,000 acres*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 pounds*	*1,000 pounds.*	*1,000 pounds.*
Serbia, Croatia-Slavonia, and Bosnia-Herzegovina [2]	[3] 21				[3] 21				[3] 10,564			
Bulgaria [2]	[3] 1	1	2	2	[3] 7	7	18	15	[3] [4] 524	350	670	650
Rumania [2]	[3] 52	32	27		[3] 503	183	119		[3] 4,864	1,606		
Poland [2]	(5)	121	175		(5)	794	1,287		(15)	68,282	92,614	
Lithuania [2]			127			[6] 1,412	909			[6] 81,723	41,470	
Latvia [2]		75	85	94		416	626	660		21,137	30,670	36,950
Esthonia [2]		[6] 50	50			[6] 187	275			[6] 11,366	15,910	
Finland	[7] 12	14	14									
Russia, including Ukraine and Northern Caucasia [2]	[3] [5] 3,409	1,538	[6] [8] 1,775		[3] [5] 21,338	[6] [8] 3,226	[6] [8] 2,904		[3] [5] 1,255,973	[9] 100,000	[9] 124,000	[9] 180,000
Total European countries marked [2]	3,820	2,365	2,412		24,271	8,950	7,774		1,459,954	621,223	430,588	
AFRICA.												
Morocco (French, Western)		96	44			229						
Algeria [2]	1	[10] 1	(11)	1	11	[10] 6	[10] 5	6		[12] 220		
Tunis [2]		8	9	4	37	33	59	4				
Egypt		6	6	1		112				3,181		
Kenya			26				84				[13] 9,701	
Total African countries marked [2]					48	39	64					
ASIA.												
India:												
British	2,700	2,245										
Native States	291	467										
Total [14] [2]	3,818	3,103	2,268	2,993	19,870	16,760	10,800	17,360				

Asiatic Russia	[3] 376	213	([8])	.....	[3] 2,123	([8])	([8])	.....	[3] 127,613	.....	.....	.....
Japan	12	103	.....	40	[4] 98	.....	634	276	5,142	.....	24,980	10,770
Total Asiatic countries marked [2]	3,818	3,103	2,268	.....	19,870	16,760	10,800	.....	.....	.....	.....	.....
Total Northern Hemisphere countries marked [2]	11,163	8,653	6,378	.....	75,734	44,521	30,862	.....	1,459,954	621,223	430,588	.....

Country.	Area.				Production.							
					Seed.				Fiber.			
	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22 [1]	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22 [1]	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22 [1]
SOUTHERN HEMISPHERE.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Chile	3	1	.....	1	35	13	.....	8	43	.....	.....	210
Uruguay [2]	106	83	81	61	793	932	1,056	519	.....	.....	.....	.....
Argentina [2]	3,883	3,522	3,484	3,892	31,989	42,038	50,470	32,272	.....	.....	.....	.....
Australia	1	2	.....	.....	10	10	.....	.....	133	119	.....	.....
New Zealand [2]	.....	5	10	6	.....	92	182	121	.....	.....	.....	.....
Total Southern Hemisphere countries marked [2]	3,989	3,610	3,575	.....	32,782	43,062	51,708	.....	.....	.....	.....	.....
Total world countries marked [2]	15,152	12,263	9,953	.....	108,516	87,583	82,570	.....	1,459,954	621,223	430,588	.....
Total world as far as reported	15,627	12,869	10,308	.....	110,992	87,964	83,288	.....	1,619,424	639,024	465,269	.....

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
[2] Indicates countries reporting for all periods except 1922 either as listed or as part of some other country.
[3] Pre-war boundaries.
[4] Four-year average.
[5] Pre-war Poland included in Russia, Austria, and Germany
[6] From an unofficial source.
[7] One year.
[8] Territory uncertain. Probably includes Asiatic Russia.
[9] These figures are rough estimates for the principal regions of European Russia where flax is grown for fiber.
[10] Departments of Algiers and Oran only.
[11] Less than 500.
[12] Department of Oran only.
[13] Including flax tow.
[14] Including flaxseed grown with other crops.

FLAX—Continued.

TABLE 119.—*Flax (seed and fiber): World production as far as reported, 1896–1921.*

Year.	Production.		Year.	Production.	
	Seed.	Fiber.		Seed.	Fiber.
	Bushels.	*Pounds.*		*Bushels.*	*Pounds.*
1896	82,684,000	1,714,205,000	1909	100,820,000	1,384,524,000
1897	57,596,000	1,498,054,000	1910	85,253,000	913,112,000
1898	72,938,000	1,780,693,000	1911	101,339,000	1,011,350,000
1899	66,348,000	1,138,763,000	1912	130,291,000	1,429,967,000
1900	62,432,000	1,315,931,000	1913	132,477,000	1,384,757,000
1901	72,314,000	1,050,260,000	1914	94,559,000	1,044,746,000
1902	83,891,000	1,564,840,000	1915	103,287,000	975,685,000
1903	110,455,000	1,492,383,000	1916	[1] 82,151,000	175,239,000
1904	107,743,000	1,517,922,000	1917	[1] 41,063,000	162,952,000
1905	100,458,000	1,494,229,000	1918	[1] 61,821,000	98,982,000
1906	88,165,000	1,871,723,000	1919	61,692,000	436,329,000
1907	102,960,000	2,042,390,000	1920	87,964,000	639,024,000
1908	100,850,000	1,907,591,000	1921	83,288,000	465,269,000

[1] Russia not included. In 1915 Russia produced about 18 per cent of the reported world production of flax seed and 84 per cent of the fiber.

TABLE 120.—*Flaxseed: Acreage, production, value, exports, etc., in the United States, 1849–1922.*

[See headnote of Table 4.]

Year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Domestic exports, fiscal year beginning July 1.	Imports, fiscal year beginning July 1.
	Acres.	*Bushels.*	*Bushels.*	*Cents.*	*Dollars.*	*Bushels.*	*Bushels.*
1849			*562,000*			2,501	667,369
1859			*567,000*			2,715	[1] 3,000,000
1869			*1,730,000*			35	[1] 5,000,000
1879			*7,171,000*				1,464,195
1889	*1,319,000*	*7.8*	*10,250,000*			14,678	2,391,175
1899	*2,111,000*	*9.5*	*19,979,000*			2,830,991	67,379
1902	3,740,000	7.8	29,285,000	105.2	30,815,000	4,128,130	129,089
1903	3,233,000	8.4	27,301,000	81.7	22,292,000	758,379	213,270
1904	2,264,000	10.3	23,401,000	99.3	23,229,000	1,338	296,184
1905	2,535,000	11.2	28,478,000	84.4	24,049,000	5,988,519	52,240
1906	2,506,000	10.2	25,576,000	101.3	25,899,000	6,336,310	90,356
1907	2,864,000	9.0	25,851,000	95.6	24,713,000	4,277,313	57,419
1908	2,679,000	9.6	25,805,000	118.4	30,577,000	882,899	593,668
1909	*2,083,000*	9.5	19,699,000	152.8	30,093,000	65,193	5,002,496
1910 [2]	2,467,000	5.2	12,718,000	231.7	29,472,000	976	10,499,227
1911	2,757,000	7.0	19,370,000	182.1	35,272,000	4,323	6,841,806
1912	2,851,000	9.8	28,073,000	114.7	32,202,000	16,894	5,294,296
1913	2,291,000	7.8	17,853,000	119.9	21,399,000	305,546	8,653,235
1914	1,645,000	8.4	13,749,000	126.0	17,318,000	4,145	10,666,215
1915	1,387,000	10.1	14,030,000	174.0	24,410,000	2,614	14,679,233
1916	1,474,000	9.7	14,296,000	248.6	35,541,000	1,017	12,393,988
1917	1,984,000	4.6	9,164,000	296.6	27,182,000	21,481	13,366,529
1918	1,910,000	7.0	13,369,000	340.1	45,470,000	15,574	8,426,886
1919	1,503,000	4.8	7,256,000	438.3	31,802,000	24,044	23,391,934
1920 [2]	1,757,000	6.1	10,774,000	176.7	19,039,000	1,481	16,170,415
1921	1,108,000	7.2	8,029,000	145.1	11,648,000	2,267	13,632,073
1922 [3]	1,308,000	9.4	12,238,000	211.4	25,869,000		

[1] Approximate. [2] Acreage adjusted to census basis. [3] Preliminary estimate.

FLAX—Continued.

TABLE 121.—*Flaxseed: Acreage, production, and total farm value, by States, 1921–22.*

State.	Thousands of acres.		Production (thousands of bushels).		Total value, basis Dec. 1 price (thousands of dollars).	
	1921	1922 [1]	1921	1922 [1]	1921	1922 [1]
Wisconsin	6	4	63	52	94	94
Minnesota	314	377	2,983	3,770	4,504	8,219
Iowa	8	8	70	80	107	148
North Dakota	430	575	2,795	5,462	3,997	11,689
South Dakota	216	193	1,404	1,834	1,952	3,686
Nebraska	3	3	24	24	36	46
Kansas	20	20	134	120	181	223
Montana	110	127	550	889	770	1,751
Wyoming	1	1	6	7	7	13
United States	1,108	1,308	8,029	12,238	11,648	25,869

[1] Preliminary estimate.

TABLE 122.—*Flaxseed: Condition of crop, United States, on 1st of months named, 1903–1922.*

Year.	July.	Aug.	Sept.	Oct.	Year.	July.	Aug.	Sept.	Oct.	Year.	July.	Aug.	Sept.	Oct.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1903	86.2	80.3	80.5	74.0	1910	65.0	51.7	48.3	47.2	1917	84.0	60.6	50.2	51.3
1904	86.6	78.9	85.8	87.0	1911	80.9	71.0	68.4	69.6	1918	79.8	70.6	72.6	70.8
1905	92.7	96.7	94.2	91.5	1912	88.9	87.5	86.3	83.8	1919	73.5	52.7	50.5	52.6
1906	93.2	92.2	89.0	87.4	1913	82.0	77.4	74.9	74.7	1920	89.1	80.1	63.8	62.8
1907	91.2	91.9	85.4	78.0	1914	90.5	82.1	72.9	77.4	1921	82.7	70.0	62.3	66.8
1908	92.5	86.1	82.5	81.2	1915	88.5	91.2	87.6	84.5	1922	87.6	84.7	82.7	82.6
1909	95.1	92.7	88.9	84.9	1916	90.3	84.0	84.8	86.2					

TABLE 123.—*Flaxseed: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	July.	August.	September.	October.	November production estimate.	Final estimate.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1912	28,000	28,000	29,000	29,000	29,755	28,073
1913	21,000	20,000	20,000	21,000	19,234	17,853
1914	17,665	16,820	15,426	16,826	15,973	13,749
1915	16,399	17,924	18,171	17,655	18,446	14,030
1916	14,467	14,118	14,895	15,411	15,300	14,296
1917	16,964	12,788	10,957	11,335	9,648	9,164
1918	15,792	14,834	15,905	15,606	14,646	13,369
1919	13,232	10,239	10,195	10,652	9,450	7,256
1920	14,398	14,260	11,821	11,704	10,736	10,774
1921	9,671	8,911	8,252	8,878	9,360	8,029
Average	16,759	15,789	15,462	15,807	15,255	13,659
1922	10,722	11,444	11,729	11,725	12,101	[1] 12,238

[1] Preliminary estimate.

FLAX—Continued.

TABLE 124.—*Flaxseed: Yield per acre, price per bushel December 1, and value per acre, by States.*

State.	Yield per acre (bushels).						Farm price per bushel (cents).											Value per acre (dollars).[1]	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
Wis..	11.2	11.0	10.5	11.0	10.5	13.0	219	123	125	180	240	.....	330	430	212	150	180	30.13	23.40
Minn..	9.5	10.4	8.0	9.5	9.5	10.0	230	123	128	176	240	295	341	445	183	151	218	26.16	21.80
Iowa..	11.5	11.0	16.0	12.0	8.7	10.0	214	123	120	150	215	275	320	420	180	153	185	33.51	18.50
N.Dak.	6.7	7.8	4.6	5.3	6.5	9.5	230	121	128	178	252	300	345	441	178	143	214	15.53	20.33
S.Dak.	8.5	9.5	7.0	10.0	6.5	9.5	221	120	123	167	247	299	325	425	165	139	201	21.42	19.10
Nebr..	7.9	9.5	5.0	9.0	8.0	8.0	208	110	119	147	230	250	330	400	155	150	190	18.01	15.20
Kans..	6.2	5.0	6.3	6.9	6.7	6.0	212	116	125	145	234	290	330	380	180	135	186	16.44	11.16
Mont..	3.8	3.0	1.3	2.6	5.0	7.0	224	115	120	170	248	295	338	440	175	140	197	7.25	13.79
Wyo..	6.8	9.0	4.0	8.2	5.7	7.0	219	.....	.....	145	225	261	325	350	135	118	190	15.60	13.30
U.S.	6.9	7.0	4.8	6.1	7.2	9.4	227.7	119.9	126.0	174.0	248.6	296.6	340.1	438.3	176.7	145.1	211.4	16.00	19.78

[1] Based upon farm price Dec. 1.

TABLE 125.—*Flaxseed: Farm price, cents per bushel on 1st of each month, 1908–1922.*

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November.	December.	Average.[1]
1908	99.3	101.0	102.9	103.0	104.8	109.2	108.1	107.4	109.6	107.0	108.3	118.4	108.7
1909	123.2	129.8	141.3	145.6	148.7	153.4	153.2	137.0	123.1	122.8	139.8	152.9	138.5
1910	171.2	192.9	193.1	193.9	209.5	195.5	183.5	209.7	220.0	234.3	229.4	231.7	217.9
1911	221.1	233.9	240.7	234.6	241.9	225.0	205.6	199.2	203.6	205.0	210.6	182.1	207.8
1912	187.1	190.8	183.9	191.3	181.0	205.0	198.4	175.2	162.6	147.7	133.4	114.7	148.6
1913	106.2	109.3	119.0	113.6	114.3	115.8	113.4	118.6	127.8	122.6	118.7	119.9	117.7
1914	124.2	127.8	132.5	132.8	134.7	136.8	136.0	150.7	139.3	127.4	118.7	126.0	125.6
1915	134.8	163.7	157.9	167.7	169.6	169.5	152.5	144.6	143.5	148.1	162.9	174.0	159.5
1916	185.9	210.9	202.5	202.1	191.8	176.5	163.2	178.1	190.2	199.2	234.7	248.6	218.4
1917	250.7	253.7	253.1	266.1	300.6	298.8	278.0	271.6	302.8	308.5	295.9	296.6	288.7
1918	310.8	326.7	349.8	379.7	373.3	363.6	349.3	410.5	381.2	380.9	333.8	340.1	345.5
1919	327.7	310.1	327.4	348.7	361.4	389.3	444.1	540.6	517.5	438.2	382.3	438.3	398.5
1920	433.6	456.5	472.7	455.7	448.2	421.1	359.6	303.7	290.3	279.7	240.1	176.7	289.2
1921	163.7	156.3	150.4	142.6	125.7	145.7	145.8	162.1	164.8	162.9	145.0	145.1	150.6
1922	151.1	173.1	216.2	218.7	230.6	236.9	223.0	211.4	190.1	188.1	210.7	211.4	209.7
Average, 1913–1922	218.9	228.8	238.2	242.8	245.0	245.4	236.5	249.2	244.8	235.6	224.3	227.7	229.4

[1] Weighted average.

FLAX—Continued.

TABLE 126.—*Flaxseed: Monthly marketings by farmers, 1917–1922.*

Year.	Estimated amount sold monthly by farmers of United States (millions of bushels).												
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Season.
1917–18	0.1	0.3	1.6	2.1	1.3	0.6	0.3	0.3	0.4	0.1	0.1	0.2	7.4
1918–19	.2	.4	1.8	2.7	1.9	1.4	.6	.6	.7	.5	.6	1.0	12.4
1919–20	.3	.6	1.4	1.6	.8	.5	.3	.4	.2	.2	.2	.5	7.0
1920–21	.2	.5	2.4	2.9	1.3	.6	.5	.3	.3	.2	.3	.5	10.0
1921–22	.6	1.0	1.8	2.2	1.0	.6	.4	.2	.3	.2	.2	.2	8.7
Average	.3	.6	1.8	2.3	1.3	.7	.4	.4	.4	.2	.3	.5	9.2
	Per cent of years' sales.												
1917–18	1.8	3.6	21.5	28.1	17.6	7.6	4.7	4.0	4.8	1.8	1.6	2.9	100.0
1918–19	1.8	2.9	14.8	21.5	15.0	10.9	5.2	4.4	5.8	4.3	5.0	8.4	100.0
1919–20	3.6	8.0	20.6	22.2	11.1	7.4	5.0	6.3	3.1	3.1	2.6	7.0	100.0
1920–21	2.1	4.7	23.6	28.6	13.0	6.2	5.0	3.3	3.1	2.1	3.4	4.9	100.0
1921–22	6.4	10.9	20.7	25.7	12.0	6.9	4.3	2.8	3.0	2.4	2.1	2.8	100.0
Average	3.2	6.0	20.2	25.2	13.8	7.8	4.8	4.2	4.0	2.7	2.9	5.2	100.0

TABLE 127.—*Flaxseed: Extent and causes of yearly crop losses, 1910–1921.*

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost and freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1910	49.4	(1)	.....	2.5	0.9	6.2	0.1	59.3	1.3	1.7	(1)	0.1	63.1
1911	16.4	1.1	.....	8.4	.9	2.8	.1	30.5	2.2	1.7	(1)	.2	36.3
1912	5.1	2.9	0.2	5.9	2.8	1.1	.8	19.0	3.7	.4	0.4	1.4	26.6
1913	24.3	.7	.1	1.0	1.7	2.2	.2	30.6	1.6	.2	.....	.4	34.5
1914	11.4	1.7	.2	2.0	1.9	6.6	.3	24.1	2.2	.5	.2	.4	29.1
1915	2.1	2.0	.3	8.5	2.1	.4	.2	16.1	2.6	.1	(1)	(1)	20.0
1916	3.3	2.3	.3	1.4	1.7	2.8	.3	12.4	3.9	.1	(1)	.1	17.2
1917	51.3	.3	(1)	2.9	1.2	2.9	(1)	59.3	1.2	1.2	(1)	.1	62.3
1918	26.2	.2	.1	3.3	2.3	2.5	.2	34.8	1.0	2.6	(1)	.1	39.3
1919	38.0	.7	.1	.5	2.0	4.1	(1)	45.5	3.7	10.6	.1	(1)	60.2
1920	23.2	1.2	.3	.6	1.7	4.2	.2	31.7	4.5	3.7	0	.1	41.4
1921	25.2	.9	.2	.4	1.9	6.6	.1	35.3	4.3	3.1	0	.1	43.5
Average	23.0	1.1	.1	3.1	1.8	3.5	.2	33.2	2.7	2.1	.1	.2	39.4

[1] Less than 0.05 per cent.

FLAX—Continued.

TABLE 128.—*Flaxseed: Monthly and yearly average closing price per bushel, Minneapolis, 1910–11 to 1922–23.*[1]

Crop year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Average.
1910–11	$2.66	$2.62	$2.61	$2.42	$2.60	$2.68	$2.60	$2.56	$2.47	$2.24	$2.10	$2.34	$2.49
1911–12	2.47	2.35	2.04	2.06	2.15	2.06	2.06	2.15	2.23	2.25	1.97	1.86	2.14
1912–13	1.76	1.60	1.35	1.25	1.29	1.34	1.26	1.29	1.30	1.31	1.38	1.47	1.38
1913–14	1.45	1.38	1.35	1.44	1.49	1.53	1.58	1.54	1.56	1.59	1.68	1.64	1.52
Av., 1910–11 to 1913–14	2.08	1.99	1.84	1.79	1.88	1.90	1.88	1.88	1.89	1.85	1.78	1.83	1.88
1914–15	1.51	1.33	1.45	1.54	1.83	1.86	1.91	1.93	1.95	1.76	1.67	1.67	1.70
1915–16	1.70	1.86	1.99	2.07	2.31	2.32	2.27	2.13	1.96	1.80	1.96	2.15	2.04
1916–17	2.11	2.54	2.78	2.84	2.89	2.81	2.90	3.18	3.33	3.11	3.01	3.46	2.91
1917–18	3.38	3.16	3.29	3.40	3.60	3.74	4.08	4.09	3.93	3.86	4.40	4.39	3.78
1918–19	4.09	3.59	3.77	3.54	3.41	3.45	3.75	3.88	4.12	4.86	5.94	5.87	4.19
1919–20	4.92	4.32	4.83	4.99	5.12	5.09	5.02	4.68	4.53	3.92	3.48	3.28	4.52
1920–21	3.23	2.83	2.27	2.06	1.96	1.82	1.78	1.58	1.84	1.86	1.89	2.01	2.09
Av., 1914–15 to 1920–21	2.99	2.80	2.91	2.92	3.02	3.01	3.10	3.07	3.09	3.02	3.19	3.26	3.03
1921–22	2.03	1.81	1.81	1.89	2.66	2.46	2.57	2.67	2.79	2.52	2.59	2.29	2.34
1922–23	2.28	2.38	2.48	2.62	.....	.....	.....	.....	.....	.....	.....	.....	.....

[1] From Annual Reports of Minneapolis Chamber of Commerce and the Daily Market Record.

TABLE 129.—*Linseed oil: Monthly and yearly average price per gallon at New York, 1910–11 to 1922–23.*[1]

Crop year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Average.
1910–11	$0.90	$0.90	$0.95	$0.95	$0.95	$0.96	$0.96	$0.91	$0.91	$0.89	$0.87	$0.80	$0.91
1911–12	.87	.88	.84	.71	.74	.71	.70	.73	.73	.76	.77	.66	.76
1912–13	.66	.62	.56	.43	.42	.46	.45	.44	.46	.45	.47	.49	.49
1913–14	.50	.47	.46	.48	.48	.48	.50	.51	.50	.50	.52	.59	.50
Av., 1910–11 to 1913–14	.73	.72	.70	.64	.65	.65	.65	.65	.65	.65	.66	.64	.67
1914–15	.57	.49	.44	.45	.48	.56	.55	.58	.62	.63	.54	.50	.53
1915–16	.52	.55	.60	.61	.66	.72	.77	.76	.75	.67	.63	.71	.66
1916–17	.70	.82	.90	.92	.94	.95	.94	1.07	1.21	1.21	1.12	1.18	1.00
1917–18	1.25	1.18	1.15	1.21	1.29	1.29	1.41	1.57	1.57	1.57	1.64	1.88	1.42
1918–19	1.90	1.83	1.55	1.58	1.50	1.45	1.48	1.54	1.61	1.81	2.10	2.22	1.71
1919–20	2.04	1.79	1.75	1.82	1.77	1.77	1.80	1.83	1.69	1.65	1.52	1.41	1.74
1920–21	1.22	1.20	.98	.82	.78	.66	.66	.61	.70	.75	.75	.74	.82
Av., 1914–15 to 1920–21	1.17	1.12	1.05	1.06	1.06	1.06	1.09	1.14	1.16	1.18	1.19	1.23	1.13
1921–22	.74	.68	.67	.67	.72	.82	.82	.84	.90	.84	.89	.87	.79
1922–23	.88	.89	.88	.89	.....	.....	.....	.....	.....	.....	.....	.....	.....

[1] Figures for 1910–1915 from Monthly Labor Review; 1916–1918 from War Industries Board Price Bulletin; 1919–1922 from Oil, Paint, and Drug Reporter.

FLAX—Continued.

TABLE 130.—*Flaxseed: Monthly and yearly receipts at Minneapolis, 1910–11 to 1922–23.*[1]

Crop year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Total.
	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.*	*1,000 bush.*
1910–11	854	1,530	1,292	535	338	300	232	112	118	122	133	191	5,757
1911–12	563	1,212	1,570	1,716	531	459	397	468	571	440	487	160	8,574
1912–13	700	1,657	1,520	2,245	1,450	1,246	1,057	742	518	514	432	281	12,362
1913–14	756	1,686	1,505	1,131	711	478	592	270	139	165	233	117	7,783
Av., 1910–11 to 1913–14	718	1,521	1,472	1,407	758	621	570	398	336	310	321	187	8,619
1914–15	901	1,890	1,247	1,016	599	443	384	142	77	146	239	115	7,199
1915–16	347	1,038	1,506	1,113	319	399	810	486	440	363	441	199	7,461
1916–17	316	2,380	1,694	1,045	544	442	441	384	263	565	325	92	8,491
1917–18	265	980	1,112	614	533	553	527	283	349	648	208	94	6,166
1918–19	536	915	857	788	558	473	829	439	436	942	642	196	7,611
1919–20	753	570	568	492	344	368	409	159	295	522	554	297	5,331
1920–21	580	1,444	861	699	298	269	364	434	578	572	338	289	6,726
Av., 1914–15 to 1920–21	528	1,317	1,121	824	457	421	538	332	348	537	392	183	6,998
1921–22	500	1,144	375	354	308	200	254	196	300	220	157	288	4,296
1922–23	909	1,121	580	577	.....	.....	.....	.....	.....	.....	.....	.....	.....

[1] Compiled from Minneapolis Chamber of Commerce Reports and Daily Market Record.

TABLE 131.—*Flaxseed: International trade, calendar years 1911–1921.*

Country.	Average, 1911–1913.		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL IMPORTING COUNTRIES.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Australia	103	(1)	369	.....	552	(1)	.....	.....
Austria-Hungary	1,913	41	.....	.....	[2] 24	(1)	.....	.....
Belgium	9,313	5,965	1,009	38	1,586	111	6,273	2,516
Finland	110	(1)	85	.....	105	.....	139	.....
France	6,304	60	4,001	22	1,284	67	3,992	12
Germany	15,312	210	.....	.....	2,089	13	.....	.....
Italy	1,698	1	519	(1)	871	(1)	749	(1)
Japan	[3] 27	[3] 27	347	344	114	74	162	103
Norway	445	.....	351	.....	332	.....	426	.....
Netherlands	8,741	2,488	3,808	90	3,826	179	10,788	210
Sweden	911	7	695	(1)	1,085	(1)	1,061	.....
United Kingdom	15,908	.....	21,977	.....	15,520	.....	18,528	.....
United States	7,298	101	14,036	17	24,641	16	12,326	(1)
PRINCIPAL EXPORTING COUNTRIES.								
Argentina	1	25,562	(1)	33,677	.....	41,352	.....	53,549
British India	[4] 323	[4] 14,409	243	13,341	280	7,839	283	4,264
China	.....	648	27	555	3	242	.....	184
Canada	89	10,645	27	1,173	617	1,519	270	3,728
Morocco (French)	.....	338	.....	.....	.....	706	.....	.....
Russia	80	5,739	.....	.....	.....	.....	.....	.....
Rumania	19	120	6	.....	.....	.....	.....	.....
Tunis	(1)	39	3	38	1	36	(1)	79
Uruguay	.....	994	.....	541	.....	784	.....	887
Other countries	576	139	737	89	1,080	56	1,111	25
Total	69,171	67,533	48,240	49,925	54,009	52,994	56,108	65,557

[1] Less than 500. [2] Austria only. [3] One year only. [4] Two-year average.

FLAX—Continued.

TABLE 132.—*Flaxseed: United States imports by countries, 1911–1921.*[1]

Imported from—	Year ending June 30—							Calendar year—			
	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
	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.*
Argentina	5,021	1,211	429	.....	3,928	11,468	5,009	9,668	12,354	22,778	8,885
Canada	2,251	3,511	4,732	8,647	6,630	3,095	7,015	3,240	1,279	1,638	3,095
China	.....	14	(2)	.....	40	20	119	54	7	63	134
England	693	183	2	6	.....	(2)	.....	(2)	.....	.....	.....
British India	2,334	1,525	129	(2)	40	.....	123	11	.....	.....	.....
Japan	(2)	4	(2)	.....	1	61	110	1	21	32	18
Uruguay	.....	.....	.....	.....	27	13	17	.....	131	23	.....
All other	200	394	2	.....	.....	22	1	.....	244	107	194
Total	10,499	6,842	5,294	8,653	10,666	14,679	12,394	12,974	14,036	24,641	12,326

[1] Commerce and Navigation, published by the Bureau of Domestic and Foreign Commerce.
[2] Less than 500 bushels.

TABLE 133.—*Production, imports, exports, and net supply of flaxseed in the United States, 1911–1921.*[1]

[Including linseed oil expressed as seed equivalent.]

Year beginning July 1—	Production.	Imports of seed.	Imports of oil.[2]	Exports of seed (domestic and foreign).	Exports of oil (domestic and foreign).[2]	Net supply.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1911	19,370,000	6,841,806	294,902	26,242	99,085	26,381,381
1912	28,073,000	5,294,296	69,476	17,062	693,579	32,726,131
1913	17,853,000	8,653,235	76,913	305,546	95,775	26,181,827
1914	13,749,000	10,666,215	214,116	67,353	484,857	24,077,121
1915	14,030,000	14,679,233	20,059	2,631	285,648	28,441,013
1916	14,296,000	12,393,988	44,323	1,017	480,622	26,252,672
1917	9,164,000	13,366,529	20,331	22,332	476,216	22,052,312
1918	13,369,000	8,426,886	395,925	15,618	439,173	21,737,020
1919	7,256,000	23,391,934	1,820,156	48,980	456,806	31,962,304
1920	10,774,000	16,170,415	798,634	1,486	224,551	27,517,012
1921	8,029,000	13,632,073	8,997,620	2,281	148,578	30,507,834

[1] Weather, Crops, and Markets. [2] Seed equivalent, 2½ gallons of oil equal 1 bushel of seed.

RICE.

TABLE 134.—*Rice: Area and production in undermentioned countries, 1909–1922.*

[Expressed in terms of cleaned rice.]

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922 [1]	Average, 1909–1913.	1920	1921	1922 [1]
NORTHERN HEMISPHERE.								
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
United States [2]	[3] 749	1,336	911	1,009	681,166	1,446,278	1,014,306	1,087,750
Mexico	162	.....	.....	.....	[3] 164,299	.....	[4] 15,869	.....
Hawaii	[5] 9	.....	.....	.....	[5] 25,820	.....	.....	.....
CENTRAL AMERICA, SOUTH AMERICA, AND WEST INDIES.								
Guatemala	.....	6	8	11	2,680	2,235	2,648	.....
Honduras	.....	.....	.....	.....	[6] 8,100	.....	.....	.....
Porto Rico	[6] 16	.....	.....	.....	[6] 4,298	.....	.....	.....
British Guiana [2]	38	54	56	.....	69,078	61,815	67,072	.....
Dutch Guiana	.....	.....	.....	.....	2,754	.....	.....	.....
EUROPE.								
France	[3] [7] 1	.....	([8])	.....	[7] 2,017	.....	41	.....
Italy [2]	[3] 361	277	286	296	646,470	614,022	641,375	639,617
Spain [2]	[3] 95	120	113	.....	297,468	393,643	355,969	.....
Bulgaria [2]	[3] [7] 7	6	7	8	[7] 7,767	6,806	10,104	5,543
Russia (Northern Caucasia)	[7] [9] 2	.....	.....	.....	[7] [9] 1,049	.....	.....	.....
ASIA.								
India:								
British [2]	[3] 70,591	78,969	81,234	73,466	72,949,786	62,077,120	73,906,560	.....
Native States	[9] 2,498	3,490	.....	.....	[3] 2,634,720	.....	.....	.....
Ceylon	[3] 706	.....	600	800	343,614	.....	382,722	497,531
Federated Malay States	[9] 125	197	200	.....	[9] 80,398	123,818	.....	.....
Japanese Empire:								
Japan [2]	[3] 7,357	7,661	7,679	.....	14,008,517	19,849,201	17,335,434	19,678,527
Chosen [2]	[3] 2,416	3,843	3,753	3,336	2,455,522	4,638,620	4,500,200	4,745,250
Formosa [2]	[3] 1,198	1,256	1,229	.....	1,186,174	1,546,663	1,559,760	.....
Indo China [2]	[9] 8,550	11,762	11,985	.....	[9] 7,332,336	6,283,361	7,931,222	.....
Philippine Islands [2]	[3] 2,288	3,669	4,135	4,083	1,123,805	2,243,588	2,427,241	2,385,630
Russia, Transcaucasia, and Turkestan	[3] [7] 614	.....	.....	.....	[7] 378,401	.....	.....	.....
Straits Settlements	[3] 92	.....	.....	.....	[3] 123,204	.....	.....	.....
Siam [2]	[6] 5,286	6,125	6,046	.....	[10] 6,510,985	3,031,140	3,261,542	.....
AFRICA.								
Egypt (lower) [2]	[3] 241	165	324	.....	552,833	282,667	471,858	.....
Madagascar	.....	.....	.....	.....	[9] 953,000	.....	.....	.....
Nyassaland	.....	.....	.....	.....	2,212	.....	.....	.....

Country.	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22 [1]	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22 [1]
SOUTHERN HEMISPHERE.								
SOUTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Argentina	20	17	30	30	24,057	.....	.....	.....
Brazil (Sao Paulo)	228	.....	.....	.....	99,514	369,375	.....	.....
Peru	138	.....	.....	.....	100,976	.....	.....	.....
OCEANIA.								
Australia	([8])	([8])	.....	.....	[6] 75	16	.....	.....
Fiji	12	15	10	.....	5,916	.....	7,969	.....
Java and Madura [2]	[3] 6,021	8,860	8,060	7,590	7,349,417	7,348,288	6,480,197	.....
Total countries marked [2]	105,198	124,103	125,818	.....	115,171,324	109,823,212	119,962,840	.....
Total all countries reporting	109,821	127,828	126,666	.....	120,128,428	110,318,656	120,372,089	.....

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 15, 1922.
[2] Indicates countries reporting for all periods except 1922 either as listed or as part of some other country.
[3] Three-year average.
[4] Unofficial.
[5] Census.
[6] One year.
[7] Old boundaries.
[8] Less than 500.
[9] Two-year average.
[10] Four-year average.

RICE—Continued.

TABLE 135.—*Rice (cleaned): World production so far as reported, 1900–1921.*

Year.	Production.	Year.	Production.	Year.	Production.
	Pounds.		*Pounds.*		*Pounds.*
1900	100,400,000,000	1908	102,900,000,000	1916	112,300,000,000
1901	94,400,000,000	1909	127,700,000,000	1917	122,000,000,000
1902	101,600,000,000	1910	126,100,000,000	1918	97,400,000,000
1903	101,800,000,000	1911	102,100,000,000	1919	117,200,000,000
1904	110,700,000,000	1912	97,300,000,000	1920	110,318,656,000
1905	102,400,000,000	1913	100,700,000,000	1921	120,372,089,000
1906	105,800,000,000	1914	103,000,000,000		
1907	100,300,000,000	1915	114,500,000,000		

TABLE 136.—*Rice: Acreage, production, value, exports, etc., in the United States, 1904–1922.*

[See headnote of Table 4.]

Year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Domestic exports, year beginning July 1.[1]	Net imports, year beginning July 1.[1]
	Acres.	*Bushels.*	*Bushels.*	*Cents.*	*Dollars.*	*Bushels.*	*Bushels.*
1904	662,000	31.9	21,096,000	65.8	13,892,000	5,964,814	3,501,337
1905	482,000	28.2	13,607,000	95.2	12,956,000	3,612,289	5,593,750
1906	575,000	31.1	17,855,000	90.3	16,121,000	3,790,080	7,264,859
1907	627,000	29.9	18,738,000	85.8	16,081,000	3,033,788	7,333,910
1908	655,000	33.4	21,890,000	81.2	17,771,000	3,406,070	7,760,164
1909	*610,100*	33.8	20,607,000	79.5	16,392,000	4,487,287	7,820,643
1910[2]	723,000	33.9	24,510,000	67.8	16,624,000	5,134,355	7,292,960
1911	696,000	32.9	22,934,000	79.7	18,274,000	5,824,598	6,467,505
1912	723,000	34.7	25,054,000	93.5	23,423,000	5,672,996	7,539,206
1913	827,000	31.1	25,744,000	85.8	22,090,000	5,871,289	9,806,684
1914	694,000	34.1	23,649,000	92.4	21,849,000	7,334,389	7,848,181
1915	803,000	36.1	28,947,000	90.6	26,212,000	9,506,099	6,931,061
1916	869,000	47.0	40,861,000	88.9	36,311,000	12,315,486	6,180,934
1917	981,000	35.4	34,739,000	189.6	65,879,000	11,885,265	13,095,243
1918	1,119,000	34.5	38,606,000	191.8	74,042,000	12,892,196	5,309,014
1919	1,063,000	39.5	41,985,000	266.6	111,913,000	22,899,774	3,001,362
1920[2]	1,336,000	39.0	52,066,000	119.1	62,036,000	22,449,930	1,267,391
1921	921,000	40.8	37,612,000	95.2	35,802,000	26,634,617	725,366
1922[3]	1,055,000	39.8	41,965,000	93.4	39,178,000	.....	.....

[1] 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 27⅞ pounds of cleaned rice.
[2] Acreage adjusted to census basis.
[3] Preliminary estimate.

TABLE 137.—*Rice: Acreage, production, and farm value, by States, 1921 and 1922.*

State.	Thousands of acres.		Production (thousands of bushels).		Total value, basis Dec. 1 price (thousands of dollars).	
	1921	1922	1921	1922	1921	1922
South Carolina	7	8	175	208	170	239
Georgia	3	3	78	72	72	84
Florida	4	3	88	75	85	98
Mississippi	1	1	20	19	24	21
Louisiana	480	555	17,280	19,980	14,861	17,782
Texas	166	191	5,993	5,959	6,053	5,363
Arkansas	125	154	6,688	7,392	6,153	6,505
California	135	140	7,290	8,260	8,384	9,086
United States	921	1,055	37,612	41,965	35,802	39,178

RICE—Continued.

TABLE 138.—*Rice: Condition of crop, United States, on 1st of months named, 1905–1922.*

Year.	July.	August.	September.	When harvested.	Year.	July.	August.	September.	When harvested.	Year.	July.	August.	September.	When harvested.
1905	88.0	92.9	92.2	89.3	1911	87.7	88.3	87.2	85.4	1917	85.1	85.0	78.4	79.7
1906	82.9	83.1	86.8	87.2	1912	86.3	86.3	88.8	89.2	1918	91.1	85.7	83.7	85.4
1907	88.7	88.6	87.0	88.7	1913	88.4	88.7	88.0	80.3	1919	89.5	90.4	91.9	91.3
1908	92.9	94.1	93.5	87.7	1914	86.5	87.6	88.9	88.0	1920	90.0	88.7	88.3	88.1
1909	90.7	84.5	84.7	81.2	1915	90.5	90.0	82.3	80.9	1921	88.0	86.5	83.8	84.6
1910	86.3	87.6	88.8	88.1	1916	92.7	92.2	91.2	91.5	1922	88.6	86.9	85.5	85.3

TABLE 139.—*Rice: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	July.	August.	September.	October.	Final estimate.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1912	23,000	23,000	23,000	24,000	25,054
1913	27,000	27,000	27,000	25,000	25,744
1914	23,619	23,925	24,437	24,453	23,649
1915	29,921	29,762	26,261	26,251	28,947
1916	34,182	34,193	32,823	33,160	40,861
1917	34,372	34,566	32,237	33,256	34,739
1918	43,373	41,593	40,879	41,918	38,606
1919	42,487	43,427	44,383	44,261	41,985
1920	52,055	52,000	52,152	52,298	52,066
1921	33,603	33,480	32,661	33,020	37,612
Average	34,361	34,295	33,583	33,762	34,926
1922	39,085	38,749	38,810	39,159	[1] 39,178

[1] Preliminary.

TABLE 140.—*Rice: Yield per acre, price per bushel December 1, and value per acre, by States.*

State.	Yield per acre (bushels).						Farm price per bushel (cents)											Value per acre (dollars).[1]	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
S. C.	24.6	23.0	24.0	25.0	25.0	26.0	155	90	92	90	90	195	195	300	290	97	115	52.47	29.90
Ga.	25.2	26.0	24.0	26.0	26.0	24.1	143	83	89	88	87	195	175	275	225	92	117	50.48	28.20
Fla.	24.2	24.0	26.0	24.0	22.0	25.0	128	60	70	75	75	195	140	263	175	97	130	43.20	32.50
Miss.	24.4	23.0	29.1	31.0	20.0	19.0	128	70	85	88	80	190	150	190	200	118	110	46.48	20.90
La.	34.4	28.8	35.2	36.0	36.0	36.0	130	84	93	90	90	190	195	271	110	86	89	56.20	32.04
Texas	33.1	32.0	32.0	34.0	36.1	31.2	141	86	92	89	86	200	197	280	125	101	90	58.32	28.08
Ark.	46.9	37.9	46.0	49.0	53.5	48.0	128	90	90	95	96	190	180	240	131	92	88	73.99	42.24
Calif.	57.9	65.5	60.0	51.0	54.0	59.0	135	100	100	90	78	175	190	267	121	115	110	105.57	64.90
U. S.	38.7	34.5	39.5	39.0	40.8	39.8	132.0	85.8	92.4	90.6	88.9	189.6	191.8	266.6	119.1	95.2	93.4	64.79	37.14

[1] Based upon farm price Dec. 1.

RICE—Continued.

TABLE 141.—*Rice: Extent and causes of yearly crop losses, 1909–1921.*

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost and freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	4.6	0.1	.....	.....	.....	1.1	6.6	12.4	2.7	0.9	0.2	0.1	17.0
1910	7.2	1.7	.....	0.1	.....	.1	1.0	10.1	3.4	.4	1.2	.3	17.3
1911	6.5	3.2	.....	.2	.....	.7	.....	10.6	.7	.6	.5	.1	14.5
1912	3.1	1.1	6.2	.....	.....	.6	.5	11.6	2.5	2.0	.5	.6	19.6
1913	3.9	14.3	5.8	.....	.....	(1)	.....	24.1	.1	.7	.....	.....	28.5
1914	5.3	2.3	.1	.....	(1)	.6	.6	10.1	.1	1.3	(1)	.3	17.5
1915	7.0	.6	.1	.3	.....	.4	8.1	16.7	.4	.2	.....	(1)	19.4
1916	4.8	.2	.....	.4	.....	.3	.2	6.2	1.1	.3	.....	.2	9.5
1917	17.3	.7	.1	1.5	0.1	.1	.1	20.0	.5	.2	.5	.1	25.4
1918	7.2	7.2	2.5	.2	.....	.4	1.5	18.8	.3	1.0	(1)	.....	21.7
1919	1.0	12.8	1.1	.3	.....	.1	2.6	18.4	.3	.5	.7	.1	20.0
1920	.5	8.0	.4	1.2	.2	.....	.....	10.3	3.2	1.6	.....	.....	16.7
1921	4.5	.2	0	.3	0	.2	.1	5.3	1.6	2.7	.....	.1	11.8
Average	5.6	4.0	1.3	.3	0	.4	1.6	13.4	1.3	1.0	.3	.2	18.4

[1] Less than 0.05 per cent.

TABLE 142.—*Rice: Wholesale price per pound, 1900–1901 to 1922–23.*

NEW YORK (DOMESTIC, FANCY HEAD).

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1900–1901	4.8	4.8	4.8	4.9	5.0	5.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9
1901–2	5.0	5.0	5.0	4.9	4.8	4.8	4.8	4.8	4.8	4.9	5.1	5.1	4.9
1902–3	4.9	4.9	4.9	4.9	5.0	4.9	5.0	5.2	5.2	5.2	5.2	5.2	5.0
1903–4	5.2	5.0	4.7	4.4	4.2	4.2	4.0	4.0	4.0	3.9	3.7	3.6	4.2
Av. 1900–1901 to 1903–4	5.0	4.9	4.8	4.8	4.8	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.8
1904–5	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.6	3.8	3.5
1905–6	3.8	3.9	4.1	4.1	4.5	5.1	5.1	5.0	4.9	4.9	5.1	5.4	4.7
1906–7	5.2	5.2	5.4	5.3	5.1	5.1	5.1	5.1	5.2	5.4	5.6	5.9	5.3
1907–8	5.9	5.9	5.6	5.4	5.1	5.1	5.4	5.7	5.8	5.8	6.1	6.2	5.7
1908–9	6.4	5.9	5.4	5.1	5.1	5.2	5.6	5.8	5.8	5.8	5.8	5.6	5.6
Av. 1904–5 to 1908–9	5.0	4.9	4.8	4.7	4.6	4.8	4.9	5.0	5.0	5.1	5.2	5.4	5.0
1909–10	5.9	5.2	5.1	4.9	4.8	5.0	4.8	4.6	4.1	4.4	4.4	4.4	4.8
1910–11	4.4	4.6	4.4	4.1	4.1	4.2	4.0	3.9	3.8	3.8	3.7	3.8	4.1
1911–12	3.9	4.2	4.3	4.2	4.2	4.4	4.7	4.9	4.9	5.1	5.1	5.1	4.6
1912–13	5.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.0	4.9
1913–14	5.1	5.1	5.1	5.1	5.0	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.0
Av. 1909–10 to 1913–14	4.9	4.8	4.8	4.6	4.6	4.7	4.7	4.6	4.5	4.6	4.6	4.6	4.7
1914–15	5.3	5.7	5.6	5.6	5.4	5.2	5.4	5.4	5.4	5.4	5.4	5.4	5.4
1915–16	5.2	4.9	4.9	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
1916–17	5.2	5.2	5.2	5.2	5.4	5.4	5.4	5.6	7.1	8.8	8.6	8.4	6.3
1917–18	7.9	7.8	8.2	9.0	8.9	8.9	8.9	9.4	9.6	9.9	10.0	10.1	9.0
1918–19	10.1	10.1	10.2	10.5	10.5	10.4	10.4	10.4	10.4	10.7	11.7	13.7	10.8
1919–20	14.3	14.1	13.6	13.8	14.2	14.8	14.8	14.8	14.8	14.8	14.8	14.4	14.4
1920–21	14.0	13.2	11.1	7.4	8.5	7.5	6.9	6.9	6.5	6.1	6.5	6.5	8.4
Av. 1914–15 to 1920–21	8.9	8.7	8.4	8.1	8.3	8.2	8.1	8.2	8.4	8.7	8.9	9.1	8.5
1921–22	6.7	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.1	7.5	7.5	7.1
1922–23	7.5	7.5	7.6	7.4	7.4	.....	.....	.....	.....	.....	.....	.....	.....

RICE—Continued.

TABLE 142.—*Rice: Wholesale price per pound, 1900–1901 to 1922–23*—Continued.

NEW ORLEANS (HONDURAS, CLEAN, FANCY).

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1900–1901	5.4	5.2	5.1	5.1	5.1	4.1	4.1	4.4	4.1	4.5	4.4	4.8	4.7
1901–2	4.4	4.3	4.0	3.9	3.9	4.0	4.0	4.0	3.9	3.9	3.8	4.2	4.0
1902–3	3.8	3.8	3.7	3.8	3.8	3.9	4.0	4.1	4.2	4.1	4.2	4.5	4.0
1903–4	4.1	4.0	3.6	3.3	3.1	3.2	3.1	2.9	2.7	2.9	2.8	3.0	3.2
Av. 1900–1901 to 1903–4	4.4	4.3	4.1	4.0	4.0	3.8	3.8	3.8	3.7	3.8	3.8	4.1	4.0
1904–5	3.4	3.0	3.1	3.1	3.2	3.1	2.9	2.9	2.6	2.9	3.6	3.4	3.1
1905–6	3.5	3.7	3.9	3.9	3.6	4.0	3.9	3.8	4.1	3.6	3.9	3.9	3.8
1906–7	4.2	4.0	3.9	3.8	3.8	3.9	3.9	3.5	3.6	3.8	4.1	4.3	3.9
1907–8	4.2	4.2	4.1	3.9	3.9	4.0	4.1	4.2	4.4	4.4	4.2	5.1	4.2
1908–9	4.8	3.9	3.9	3.8	3.8	3.6	4.0	4.1	4.1	4.2	4.0	4.2	4.0
Av. 1904–5 to 1908–9	4.0	3.8	3.8	3.7	3.7	3.7	3.8	3.7	3.8	3.8	4.0	4.2	3.8
1909–10	4.1	3.6	3.8	3.7	3.7	3.8	3.8	3.4	3.2	3.6	3.5	3.7	3.7
1910–11	3.8	3.6	3.4	3.1	3.2	2.9	3.1	2.9	3.0	2.9	2.9	3.6	3.2
1911–12	3.6	3.5	3.3	3.4	3.4	3.8	3.9	4.0	3.9	4.6	4.2	4.6	3.8
1912–13	4.1	4.1	3.5	3.8	4.1	4.1	4.0	3.9	4.0	4.1	4.1	4.4	4.0
1913–14	4.4	3.8	3.8	3.6	3.7	3.9	3.8	3.7	3.6	3.9	3.8	3.7	3.8
Av. 1909–10 to 1913–14	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	4.1	4.2	3.6	3.4	3.6	3.9	4.1	4.1	4.0	4.1	4.2	4.2	4.0
1915–16	3.6	3.3	3.8	3.8	3.8	3.5	3.6	3.9	3.8	4.0	4.2	3.9	3.9
1916–17	3.8	3.5	3.8	3.9	3.9	3.9	3.9	4.1	5.2	5.9	6.3	6.3	4.5
1917–18	6.1	6.4	6.7	6.6	6.8	6.8	7.0	7.6	8.2	8.3	8.3	8.4	7.3
1918–19	7.6	7.6	7.5	7.3	7.5	7.8	7.7	8.0	7.9	7.0	9.2	10.1	7.9
1919–20	10.9	12.2	11.8	11.9	12.3	12.7	12.8	12.5	12.3	12.2	12.3	12.5	12.2
1920–21	10.6	9.6	7.9	6.9	6.6	4.6	4.7	5.4	5.3	5.5	5.8	5.6	6.5
Av. 1914–15 to 1920–21	6.7	6.7	6.4	6.3	6.4	6.2	6.3	6.5	6.7	6.7	7.2	7.3	6.6
1921–22	5.7	5.4	5.3	5.4	5.7	5.7	5.7	5.9	6.4	6.4	6.4	6.4	5.9
1922–23	6.6	6.6	6.5	6.5	6.5	.....	.....	.....	.....	.....	.....	.....	.....

HOUSTON (HEAD, CLEANED).

1900–1901	.....	.....	.....	.....	.....	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
1901–2	4.0	4.0	4.0	4.0	4.0	4.4	4.5	4.8	4.8	4.8	4.8	4.8	4.4
1902–3	4.8	5.1	5.1	5.1	5.1	5.2	5.2	5.2	5.1	5.1	5.2	5.4	5.1
1903–4	5.4	5.5	5.5	4.9	4.5	4.1	4.1	4.0	3.8	3.6	3.6	3.5	4.4
Av. 1900–1901 to 1903–4	[1] 4.7	[1] 4.9	[1] 4.9	[1] 4.7	[1] 4.5	4.4	4.4	4.5	4.4	4.4	4.4	4.4	4.5
1904–5	3.5	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.2	3.2	3.4	3.5	3.4
1905–6	3.6	3.8	3.9	4.0	4.2	4.8	4.8	4.8	4.2	4.2	4.5	4.5	4.3
1906–7	4.5	4.5	5.0	5.1	4.6	5.1	5.2	5.2	5.2	5.7	6.0	6.2	5.2
1907–8	6.2	5.7	5.4	5.0	5.0	5.0	5.2	5.2	5.4	5.6	5.7	5.9	5.4
1908–9	5.8	5.5	5.2	5.0	5.0	4.9	5.1	5.1	5.2	5.3	5.5	5.8	5.3
Av. 1904–5 to 1908–9	4.7	4.6	4.8	4.5	4.4	4.6	4.7	4.7	4.6	4.8	5.0	5.2	4.7
1909–10	5.6	5.4	5.2	4.9	4.9	4.1	4.4	3.9	3.8	4.0	3.9	4.0	4.5
1910–11	5.2	4.1	4.2	3.9	3.5	3.8	3.5	3.2	3.4	3.5	3.4	3.3	3.8
1911–12	4.1	4.1	4.1	4.1	4.1	4.4	4.7	4.8	5.0	5.0	4.8	5.0	4.5
1912–13	5.1	4.9	4.2	4.6	4.9	4.8	4.8	4.8	4.8	4.8	5.0	5.2	4.8
1913–14	5.5	5.2	4.9	4.8	4.7	4.9	4.9	4.8	4.1	4.5	4.4	3.5	4.7
Av. 1909–10 to 1913–14	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	4.7	4.9	5.0	4.6	4.8	4.6	4.6	4.6	4.7	4.8	4.9	5.0	4.8
1915–16	5.1	5.0	4.9	4.9	4.9	4.2	4.4	4.4	4.2	4.0	4.0	4.0	4.5
1916–17	4.0	4.1	4.5	4.6	4.6	4.9	4.9	5.2	6.5	7.9	7.6	7.5	5.5
1917–18	7.2	7.1	7.8	8.0	8.0	.....	.....	.....	.....	.....	.....	.....	[2] 7.6
1918–19	.....	.....	.....	.....	.....	9.1	9.1	9.1	9.1	9.1	11.1	13.2	[3] 10.0
1919–20	13.0	13.1	10.6	10.5	11.2	12.8	12.5	12.8	12.5	12.0	11.6	11.2	12.0
1920–21	10.0	7.8	6.9	6.2	6.1	4.6	4.2	3.5	3.2	3.4	3.5	3.8	5.3
Av. 1914–15 to 1920–21	[4] 7.3	[4] 7.0	[4] 6.6	[4] 6.5	[4] 6.6	[4] 6.7	[4] 6.6	[4] 6.6	[4] 6.7	[4] 6.9	[4] 7.1	[4] 7.4	6.8
1921–22	4.2	4.6	4.8	4.8	4.4	4.2	4.4	4.5	4.9	4.8	4.5	4.5	4.6
1922–23	4.6	4.5	4.1	4.1	4.1	.....	.....	.....	.....	.....	.....	.....	.....

[1] Average for 3 years. [2] Average for 5 months. [3] Average for 7 months. [4] Average for 6 years.

RICE—Continued.

TABLE 143.—*Rice: Wholesale price per 162 pounds, 1900–1901 to 1922–23.*

LAKE CHARLES (ROUGH).

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1900–1901	.....	.....	.....	.....	.....	$2.48	$2.48	.....	.....	.....	.....	.....	.....
1901–2	.....	$2.75	$2.75	$2.75	$2.50	2.38	2.38	.....	.....	.....	.....	.....	.....
1902–3	.....	2.70	2.58	2.60	2.52	2.58	2.58	$2.58	.....	.....	.....	.....	[1] 2.59
1903–4	.....	2.80	2.68	2.42	2.25	2.25	2.12	1.88	$1.75	$1.62	$1.62	$1.62	[2] 2.09
Av., 1900–1901 to 1903–4	.....	[3] 2.75	[3] 2.67	[3] 2.59	[3] 2.42	2.42	2.39	.....	.....	.....	.....	.....	.....
1904–5	$1.62	1.62	1.55	1.55	1.50	1.50	1.50	1.68	1.62	1.75	1.75	1.75	1.62
1905–6	2.12	2.62	2.62	2.88	2.92	3.05	3.05	3.05	.....	.....	.....	.....	[4] 2.79
1906–7	3.18	3.18	3.05	2.88	2.62	2.75	2.75	2.88	2.38	.....	.....	.....	[5] 2.85
1907–8	.....	2.98	3.22	3.25	2.95	3.00	3.12	3.29	.....	.....	.....	.....	[1] 3.12
1908–9	3.00	2.80	2.75	2.92	2.58	2.75	2.82	2.94	2.92	2.70	2.38	.....	[2] 2.78
Av., 1904–5 to 1908–9	[6] 2.48	2.64	2.64	2.70	2.51	2.61	2.65	2.77	[3] 2.31	.....	.....	.....	.....
1909–10	.....	2.38	2.75	2.50	2.40	2.50	2.50	2.30	2.10	2.05	2.18	2.12	[2] 2.34
1910–11	2.22	2.42	2.28	2.45	2.25	2.25	2.18	2.18	2.25	2.25	.....	.....	[7] 2.27
1911–12	2.45	2.45	2.58	2.62	2.82	.....	.....	.....	.....	.....	.....	.....	.....
1912–13	.....	.....	.....	.....	.....	3.16	3.10	.....	.....	.....	.....	.....	.....
1913–14	.....	2.65	2.98	2.88	2.82	2.90	2.40	2.50	2.75	3.02	3.22	3.28	[2] 2.85
Av., 1909–10 to 1913–14	.....	[6] 2.48	[6] 2.65	[6] 2.61	[6] 2.57	[6] 2.70	[6] 2.54	[3] 2.33	[3] 2.37	[3] 2.44	.....	.....	.....
1914–15	3.78	4.02	3.50	3.00	2.78	3.48	3.75	3.81	.....	.....	.....	.....	[4] 3.52
1915–16	3.26	3.26	3.08	3.41	3.32	3.00	3.28	3.32	3.51	3.64	4.00	.....	[2] 3.37
1916–17	.....	2.99	3.02	3.50	3.42	3.05	3.38	3.72	4.90	5.55	.....	5.75	[7] 3.93
1917–18	6.09	6.00	6.72	6.52	6.27	.....	.....	.....	.....	.....	.....	.....	.....
1918–19	.....	.....	.....	.....	.....	7.00	6.75	.....	6.50	6.50	6.75	7.50	.....
1919–20	13.00	11.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1920–21	.....	.....	.....	.....	.....	.....	2.00	1.75	1.50	2.50	2.00	2.50	.....
Av., 1914–15 to 1920–21	[6] 6.53	[8] 5.45	[6] 4.08	[6] 4.11	[6] 3.95	[6] 4.13	[8] 3.83	[6] 3.15	[6] 4.10	[6] 4.55	.....	.....	.....
1921–22	2.75	4.00	4.25	2.75	3.50	3.05	3.50	3.90	4.00	3.75	3.85	4.00	3.61
1922–23	4.25	3.30	3.30	3.25	3.25	.....	.....	.....	.....	.....	.....	.....	.....

[1] Average for 7 months.
[2] Average for 11 months.
[3] Average for 3 years.
[4] Average for 8 months.
[5] Average for 9 months.
[6] Average for 4 years.
[7] Average for 10 months.
[8] Average for 5 years.

RICE—Continued.

TABLE 144.—*Rice: International trade, calendar years 1909–1921.*

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. See "General note," Table 21.

Country.	Average, 1909–1913.		1919		1920		1921	
	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.*
British India	278,272	5,337,516	285,928	1,581,737	176,082	2,390,397	280,354	2,740,708
French Indo-China	41	2,288,040	.....	2,130,135	.....	2,604,906	.....	.....
Siam	.....	1,928,507	2	987,873	5	621,398	186	2,799,953
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary	183,411	461	.....	.....	[1] 28,912	[1] 483	[1] 55,616	[1] 309
Belgium	180,830	99,948	27,527	8,233	116,777	6,227	166,289	60,069
Brazil	24,753	[2] 102	2	62,671	14	296,758	16	124,790
Ceylon	821,654	.....	650,324	.....	678,555	.....	719,017	([3])
China	704,992	.....	241,300	163,692	153,567	41,578	874,835	2,857
Cuba	262,207	.....	324,412	.....	482,279	.....	.....	.....
Dutch East Indies	1,178,111	132,400	610,582	9,031	491,783	4,066	1,685,518	4,961
Egypt	98,690	53,700	53	51,610	272	10,067	59,923	43,977
France	517,861	79,087	349,763	23,407	197,119	36,991	349,272	62,920
Germany	913,772	396,628	.....	.....	172,865	1,362	.....	.....
Japan	655,676	61,936	1,547,461	19,813	157,028	25,682	531,793	31,414
Mauritius	132,543	[4] 1,446	96,619	.....	142,047	.....	101,044	.....
Netherlands	778,682	476,276	44,830	223	49,618	2,490	189,948	27,889
Penang	511,035	357,548	287,647	130,348	300,978	164,691	.....	.....
Perak	179,187	[5] 43,312	.....	2,891	101,165	26,605	.....	.....
Philippine Islands	412,781	[5] 4	118,023	110	170,491	69	131,235	715
Russia	250,461	5,746	.....	.....	2,219	.....	.....	.....
Selangor	159,178	[5] 173	.....	540	189,938	7	.....	.....
Singapore	975,095	758,875	736,857	498,796	443,981	198,133	.....	.....
United Kingdom	768,853	90,564	445,828	89,074	422,231	32,263	759,058	18,606
United States	209,814	16,215	163,308	376,876	131,647	392,613	76,237	600,059
Other countries	1,242,051	592,361	816,761	204,473	510,025	240,183	1,382,075	685,911
Total	11,439,950	12,720,845	6,747,227	6,341,533	5,119,598	7,096,969	7,362,416	7,205,138

[1] Austria only.
[2] Three-year average.
[3] Less than 500.
[4] Two-year average.
[5] One year only.

GRAIN SORGHUMS.[1]

TABLE 145.—*Grain sorghums: Acreage, production, and value, by States, 1921 and 1922, and totals, 1915–1922.*

[Leading producing States.]

State and year.	Thousands of acres.		Average yield in bushels per acre.		Production (thousands of bushels).		Average farm price, cents per bushel, Nov. 15.		Farm value (thousands of dollars).	
	1921	1922 [2]	1921	1922	1921	1922 [2]	1921	1922	1921	1922 [2]
Iowa	9	6	25.0	24.0	225	144	70	55	158	79
Missouri	12	15	23.0	20.0	276	300	80	85	221	255
Nebraska	15	19	22.0	18.0	330	342	40	74	132	253
Kansas	858	1,039	21.4	19.5	18,361	20,260	34	74	6,243	14,992
Texas	1,950	1,970	29.0	20.0	56,550	39,400	41	100	23,186	39,400
Oklahoma	1,240	1,450	21.0	13.5	26,040	19,575	30	80	7,812	15,660
Colorado	237	247	14.0	15.0	3,318	3,705	52	70	1,725	2,594
New Mexico	134	145	25.0	11.0	3,350	1,595	40	80	1,340	1,276
Arizona	40	30	30.0	30.0	1,200	900	60	80	720	720
California	140	130	31.0	32.0	4,340	4,160	70	100	3,038	4,160
Total	4,635	5,051	24.6	17.9	113,990	90,381	39.1	87.8	44,575	79.389
1920	5,120		26.8		137,408		92.9		127,629	
1919	5,060		25.8		130,734		127.4		166,510	
1918	6,036		12.1		73,241		150.0		109,881	
1917	5,153		11.9		61,409		161.9		99,433	
1916	3,944		13.7		53,858		105.9		57,027	
1915	4,153		27.6		114,460		44.7		51,157	

[1] Kafirs, milo maize, feterita.
[2] Preliminary estimate.

GRAIN SORGHUMS—Continued.

TABLE 146.—*Grain sorghums: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	July.	August.	September.	October.	November production estimate.	Final estimate.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1916	.....	89,474	74,662	78,135	61,024	53,858
1917	94,516	83,198	102,938	98,609	73,380	61,409
1918	110,005	95,441	74,211	72,650	61,182	73,241
1919	123,504	130,153	129,509	127,053	123,343	130,734
1920	122,750	125,924	133,964	139,503	148,747	137,408
1921	124,733	129,602	126,967	127,930	125,724	113,990
1922	121,183	113,693	96,036	95,840	81,488	[1] 90,381

[1] Preliminary estimate.

TABLE 147.—*Grain sorghums: Farm price, cents per bushel, on 15th of month, 1916–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1916	.....	.....	.....	53.6	58.2	60.0	62.8	72.4	83.8	80.8	102.4	101.5
1917	119.1	129.0	147.0	152.0	188.0	206.3	214.0	243.3	187.7	174.1	160.6	166.7
1918	170.8	185.7	193.5	204.0	211.0	179.6	165.6	177.2	181.0	175.9	150.5	154.8
1919	153.7	156.9	150.9	162.1	173.6	174.1	175.9	176.9	153.7	139.7	133.6	144.3
1920	137.3	138.7	129.8	145.4	154.5	153.9	135.2	150.0	124.8	95.5	91.5	81.7
1921	65.6	57.8	67.3	53.8	51.5	62.0	51.0	58.0	54.9	48.3	35.8	33.8
1922	41.4	48.0	60.5	63.2	61.2	63.8	68.7	87.7	77.1	85.6	87.8	89.3

TABLE 148.—*Grain sorghums: Monthly and yearly average price per 100 pounds, No. 2 White Kafir, Kansas City, 1909–10 to 1921–22.*[1]

Crop year.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Average.
1909–10	$1.20	$1.31	$1.53	$1.42	$1.37	$1.32	$1.46	$1.50	$1.53	$1.81	$1.78	$1.19	$1.45
1910–11	1.12	.96	.96	.93	.94	.94	1.06	1.24	1.42	1.34	1.27	1.21	1.12
1911–12	1.06	.99	1.19	(2)	1.29	1.43	1.44	1.25	1.63	1.68	1.36	1.13	1.31
1912–13	.98	.86	.85	.83	81	.82	.88	1.11	1.09	1.41	1.53	1.51	1.06
1913–14	1.57	1.63	1.72	1.72	1.76	(2)	2.00	(2)	(2)	(2)	(2)	(2)	1.74
Average, 1909–1913	1.19	1.15	1.25	1.23	1.23	1.13	1.37	1.28	1.42	1.56	1.49	1.26	1.34
1914–15	1.04	1.14	1.33	1.38	1.28	1.18	1.14	1.20	1.16	1.09	1.04	1.06	1.17
1915–16	.91	.99	.99	.96	.93	1.06	1.05	1.11	1.22	1.58	1.71	1.84	1 19
1916–17	2.34	2.11	2.43	2.48	2.66	3.17	3.79	3.36	4.00	4.48	4.34	3.69	3.24
1917–18	3.40	3.25	3.33	3.69	3.84	3.37	2.93	2.65	3.03	3.40	3.40	3.27	3.28
1918–19	2.96	2.61	2.60	2.70	2.56	2.67	2.97	3.42	3.51	3.61	2.41	2.34	2.86
1919–20	2.67	2.93	2.49	2.17	2.31	2.38	2.65	2.52	2.36	2.43	2.24	1.81	2.41
1920–21	1.39	1.17	.98	.91	.85	.80	1.03	1.12	1.21	1.13	1.13	1.02	1.06
Average, 1914–1920	2.10	2.03	2.02	2.04	2.06	2.09	2.22	2.20	2.36	2.53	2.32	2.15	2.17
1921–22	.85	.90	.90	1.29	1.32	1.20	1.28	1.38	1.66	1.72	1.98	1.83	1.36

[1] Compiled from Kansas City Price Current and Market Review.
[2] No quotations.

TABLE 149.—*Kafir: Monthly and yearly receipts at Kansas City, 1909–10 to 1921–22.*[1]

[100 pounds.]

Year.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	Yearly total.
1909–10	59,400	28,200	70,200	84,000	90,000	25,200	18,000	11,400	6,600	4,200	3,000	2,000	402,200
1910–11	60,000	160,500	125,500	100,500	48,000	29,000	40,000	31,500	17,000	23,500	10,500	34,500	680,500
1911–12	113,000	181,000	142,910	229,450	107,180	110,880	104,100	67,760	41,890	25,870	34,500	57,900	1,216,440
1912–13	249,480	360,980	341,880	186,650	62,220	84,390	72,070	125,050	50,510	6,160	18,480	14,780	1,572,650
1913–14	12,320	29,570	74,540	40,040	14,170	8,620	9,240	8,620	1,850	620	4,930	23,410	227,930
Average, 1909–10 to 1913–14	98,840	152,050	151,010	128,130	64,310	51,620	48,680	48,870	23,570	12,070	14,280	26,520	819,940
1914–15 [2]	174,330	402,860	370,220	346,190	105,950	272,270	141,060	104,100	115,190	113,960	62,830	72,690	2,281,650
1915–16	205,740	625,240	320,880	324,240	356,160	333,760	303,520	338,800	215,040	95,760	56,000	20,160	3,195,300
1916–17	15,120	54,320	107,800	153,380	40,040	25,260	21,560	4,930	4,310	4,310	3,080	3,080	437,190
1917–18	49,280	155,850	259,950	215,600	283,360	180,490	54,820	59,750	22,180	16,020	4,930	3,700	1,305,930
1918–19	28,340	91,170	85,620	94,250	214,980	184,180	210,060	52,980	89,320	36,340	48,660	44,970	1,180,870
1919–20	12,320	130,590	417,030	404,100	515,190	251,330	302,460	457,690	429,970	131,820	89,320	68,990	3,210,810
1920–21	62,830	366,520	548,860	259,340	318,470	160,780	168,780	360,360	131,210	163,860	67,140	117,040	2,725,190
Average, 1914–15 to 1920–21	78,280	260,940	301,480	256,730	262,020	201,150	171,750	196,940	143,890	80,300	47,420	47,230	2,048,130
1921–22 [3]	147,220	195,890	299,600	341,600	264,600	198,800	126,700	135,100	95,200	53,200	22,400	77,000	1,957,310

[1] Compiled from Kansas City Annual Statistical Report Board of Trade and Minneapolis Daily Market Record.
[2] Kafir, milo maize, and feterita included from January, 1915, to December, 1921.
[3] January to October, 1922, estimates.

STATISTICS OF CROPS OTHER THAN GRAIN CROPS.

POTATOES.

TABLE 150.—*Potatoes: Area and production in undermentioned countries.*

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922 [1]	Average, 1909–1913.	1920	1921	1922 [1]
NORTHERN HEMISPHERE.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
NORTH AMERICA.								
Canada [2]	483	785	702	694	77,873	133,831	107,346	102,686
United States [2]	3,677	3,657	3,815	4,228	357,699	403,296	346,823	433,905
Mexico	.....	.....	.....	.....	924	.....	1,552	.....
Guatemala	.....	2	4	4	.....	96	73	.....
Total North America [2]	4,160	4,442	4,517	.....	435,572	537,127	454,169	.....
EUROPE. [3]								
United Kingdom:								
England and Wales [2]	434	545	558	561	99,890	117,637	110,432	144,110
Scotland [2]	145	162	154	157	34,674	46,181	38,827	.....
Ireland [2]	590	584	568	.....	119,874	74,141	95,427	.....
Norway [2]	102	130	130	.....	24,821	31,076	26,219	.....
Sweden [2]	379	367	365	.....	60,327	61,639	68,525	.....
Denmark [2]	[4] 145	228	208	204	[4] 30,864	45,316	50,173	44,240
Netherlands [2]	414	427	441	454	110,153	121,514	107,346	124,523
Belgium [2]	390	366	419	442	107,021	82,912	71,534	79,367
Luxemburg [2]	36	33	33	36	6,439	5,284	2,644	.....
France [2]	[4] 3,841	3,560	3,595	3,566	[4] 489,377	427,610	305,324	.....
Spain [2]	687	841	789	806	93,413	107,834	102,225	.....
Portugal	.....	63	.....	.....	.....	6,218	.....	.....
Malta [2]	4	3	2	.....	672	632	554	.....
Italy [2]	658	744	763	741	60,813	52,260	58,359	.....
Switzerland [2]	186	123	113	112	40,537	28,256	25,373	24,820
Germany [2] [3]	[4] 8,260	5,986	6,541	6,723	[4] 1,681,959	1,024,301	960,889	1,442,180
Austria [2]	[4] 3,105	290	313	.....	[4] 456,485	24,600	26,207	.....
Czechoslovakia	.....	1,494	1,574	1,607	.....	183,810	159,068	290,469
Hungary	[4] 1,521	626	665	466	[4] 180,103	75,967	45,899	33,951
Yugoslavia [2]	.....	349	532	.....	.....	38,452	28,387	.....
Serbia, Croatia-Slavonia, and Bosnia-Herzegovina [2]	[4] 292	.....	.....	.....	[4] 27,814	.....	.....	.....
Bulgaria [2]	[4] 8	20	19	20	454	977	1,650	1,360
Rumania [2]	[4] [5] 86	241	409	362	[4] [6] 4,778	22,363	49,607	.....
Poland [2]	[4] 2,628	4,061	4,796	5,303	[4] 373,917	664,920	617,272	1,034,557
Lithuania	.....	.....	326	.....	.....	.....	50,945	.....
Latvia	.....	122	146	170	.....	13,761	24,759	24,598
Esthonia	.....	156	.....	.....	.....	25,240	.....	.....
Finland [2]	184	208	198	185	20,975	17,865	18,245	16,009
Russia, including Ukraine and northern Caucasia	[4] 8,499	.....	.....	.....	[4] 878,461	.....	.....	.....
Total Europe [2]	24,095	21,388	23,185	.....	4,025,360	3,255,547	2,970,186	.....
AFRICA.								
Algeria [2]	45	42	46	46	1,783	985	653	1,925
Tunis	.....	3	2	3	.....	147	147	165
Total Africa [2]	45	42	46	46	1,783	985	653	.....
ASIA.								
Russia, Asiatic	399	.....	.....	.....	33,151	.....	.....	.....
Japanese Empire:								
Japan	174	296	.....	.....	24,738	39,736	.....	.....
Chosen [2]	[7] 65	186	187	.....	[7] 6,960	18,470	18,371	.....
Total Asia [2]	65	186	187	.....	6,960	18,470	18,371	.....
Total Northern Hemisphere [2]	28,365	26,058	27,935	.....	4,469,675	3,812,129	3,433,379	.....

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
[2] Indicates countries reporting for all periods except 1922 either as listed or as part of some other country.
[3] In Germany and some other European countries a considerable portion of the crop is for nonfood purposes.
[4] Old boundaries.
[5] Includes 58,000 acres grown with corn.
[6] Includes 1,144,000 bushels grown with corn.
[7] Two-year average.

POTATOES—Continued.

TABLE 150.—*Potatoes: Area and production in undermentioned countries*—Continued.

Country.	Area.				Production.			
	Average, 1908–9 to 1912–13.	1919–20	1920–21	1921–22[1]	Average, 1908–9 to 1912–13.	1919–20	1921–21	1921–22[1]
SOUTHERN HEMISPHERE.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Chile[2]	66	76	83	73	8,023	10,377	12,168	13,877
Uruguay	.....	6	9	.....	.....	138	150	.....
Agentina	235	370	.....	.....	40,216	.....	.....	.....
Union of South Africa	[3] 62	100	.....	.....	[3] 3,071	3,367	3,734	.....
Rhodesia, southern	.....	2	2	2	.....	118	119	50
Australia	137	114	.....	.....	14,077	10,984	.....	.....
New Zealand[2]	28	25	22	19	6,047	5,402	4,728	4,185
Total Southern Hemisphere[2]	94	101	105	.....	14,070	15,779	16,896	.....
Total all countries[2]	28,459	26,159	28,040	.....	4,483,745	3,827,908	3,460,275	.....
Total all countries reporting	37,965	27,393	28,529	.....	5,478,383	3,927,713	3,541,754	.....

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
[2] Indicates countries reporting for all periods except 1922 either as listed or as part of some other country.
[3] 1911 census.

TABLE 151.—*Potatoes: World production so far as reported, 1900–1921.*

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
	Bushels.		*Bushels.*		*Bushels.*		*Bushels.*
1900	4,382,031,000	1906	4,789,112,000	1912	5,872,953,000	1918	[1] 2,744,444,000
1901	4,669,958,000	1907	5,122,078,000	1913	5,802,910,000	1919	[1] 2,963,720,000
1902	4,674,000,000	1908	5,295,043,000	1914	5,016,291,000	1920	[1] 3,927,713,000
1903	4,409,793,000	1909	5,595,567,000	1915	4,848,726,000	1921	[1] 3,541,754,000
1904	4,298,049,000	1910	5,242,278,000	1916	[1] 3,197,224,000		
1905	5,254,598,000	1911	4,842,109,000	1917	[1] 3,103,876,000		

[1] Russia not included. In 1915 Russia produced about 17 per cent of the reported world production.

TABLE 152.—*Potatoes: Average yield per acre of undermentioned countries, 1900–1922.*

Year.	United States.	Russia (European).	Germany.	Austria.	Hungary proper.	France.	United Kingdom.
Average:	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1900–1909	91.4	99.9	200.0	151.1	118.7	133.8	193.8
1910–1919	95.3	[1] 107.9	187.9	123.2	[1] 122.2	108.0	217.1
1919	91.2	.....	146.4	83.8	.....	94.8	193.3
1920	110.3	.....	171.1	84.8	121.4	120.1	184.3
1921	90.9	.....	146.9	83.7	69.0	84.9	191.2
1922	102.6	.....	214.5	.....	72.9	.....	[2] 256.9

[1] 7-year average. [2] England and Wales.

POTATOES—Continued.

TABLE 153.—*Potatoes: Acreage, production, value, exports, etc., in the United States, 1849–1922.*

NOTE.—Figures in *italics* are census returns; figures in roman are estimates of the Department of Agriculture. Estimates of acres are obtained by applying estimated percentages of increase or decrease to the published acreage of the preceding year, except that a revised base is used for applying percentage estimates whenever new census data are available. Acreages have been revised for years 1890–1908 so as to be consistent with the following as well as the preceding census acreage, and total production and farm values are adjusted accordingly.

Year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Chicago cash price per bushel, fair to fancy.[1]				Domestic exports fiscal year beginning July 1.	Imports during fiscal year beginning July 1.
						December.		Following May.			
						Low.	High.	Low.	High.		
	1,000 acres.	*Bushels.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Bushels.*	*Bushels.*
1849	.....	.....	*65,798*	.....	.....	.....	.....	.....	.....	.....	.....
1859	.....	.....	*111,149*	.....	.....	.....	.....	.....	.....	.....	.....
1866–1875	1,261	93.0	117,266	53.5	62,754	.....	.....	.....	.....	549,755	235,346
1876–1885	1,998	81.2	162,228	50.6	82,085	.....	.....	.....	.....	551,248	2,342,421
1886–1895	2,653	73.8	197,285	50.4	92,938	46	56	49	72	551,736	2,841,614
1896	2,975	91.4	271,769	29.0	78,783	18	26	19	26	926,646	246,178
1897	2,813	67.9	191,025	54.2	103,442	50	62	60	87	605,187	1,171,378
1898	2,841	77.0	218,772	41.5	90,897	30	36	33	52	579,833	530,420
1899	*2,939*	88.6	260,257	39.7	103,365	35	46	27	39	809,472	155,861
1900	2,987	82.9	247,759	42.3	104,764	40	48	35	60	741,483	371,911
1901	2,996	66.3	198,626	76.3	151,602	75	82	58	100	528,484	7,656,162
1902	3,078	95.5	293,918	46.9	137,730	42	48	42	60	843,075	358,505
1903	3,080	85.1	262,053	60.9	159,620	60	66	95	116	484,042	3,161,581
1904	3,172	111.1	352,268	44.8	157,646	32	38	20	25	1,163,270	186,199
1905	3,195	87.3	278,885	61.1	170,340	55	66	48	73	1,000,326	1,948,160
1906	3,244	102.2	331,685	50.6	167,795	40	43	55	75	1,530,461	176,917
1907	3,375	95.7	322,954	61.3	197,863	46	58	50	80	1,203,894	403,952
1908	3,503	86.2	302,000	69.7	210,618	60	77	70	150	763,651	8,383,966
1909	*3,669*	107.5	394,553	54.2	213,679	20	58	16	34	999,476	353,208
1910[2]	3,720	93.8	349,032	55.7	194,566	30	48	35	75	2,383,887	218,984
1911	3,619	80.9	292,737	79.9	233,778	70	100	90	200	1,237,276	13,734,695
1912	3,711	113.4	420,647	50.5	212,550	40	65	33	70	2,028,261	337,230
1913	3,668	90.4	331,525	68.7	227,903	50	70	60	90	1,794,073	3,645,993
1914	3,711	110.5	409,921	48.7	199,460	30	66	34	150	3,135,474	270,942
1915	3,734	96.3	359,721	61.7	221,992	53	95	80	110	4,017,760	209,532
1916	3,565	80.5	286,953	146.1	419,333	125	190	200	375	2,489,001	3,679,025
1917	4,384	100.8	442,108	122.8	542,774	93	135	[3] 80	[3] 250	3,453,307	1,180,480
1918	4,295	95.9	411,860	119.3	491,527	[3] 90	[3] 225	[3] 125	[3] 250	3,688,840	3,534,076
1919	3,542	91.2	322,867	159.5	514,855	[3] 280	[3] 360	[3] 685	[3] 925	3,723,434	6,940,930
1920[2]	3,657	110.3	403,296	114.5	461,778	[3] 120	[3] 225	[3] 40	[3] 500	4,803,159	3,423,189
1921	3,941	91.8	361,659	110.1	398,362	[3] 100	[3] 245	[3] 190	[3] 235	2,327,147	2,109,537
1922[4]	4,331	104.2	451,185	58.2	262,608	[3] 75	[3] 175	.....	.....	.....	.....

[1] Burbank to 1910.
[2] Figures adjusted to census basis.
[3] Per 100 pounds.
[4] Preliminary estimate.

POTATOES—Continued.

TABLE 154.—*Potatoes: Acreage, production, and total farm value, by States, 1921–22.*

State.	Thousands of acres.		Production (thousands of bushels).		Total value, basis Dec. 1 price (thousands of dollars).	
	1921	1922 [1]	1921	1922 [1]	1921	1922 [1]
Maine	129	135	38,442	21,600	32,676	9,720
New Hampshire	14	14	2,240	1,400	3,024	1,470
Vermont	25	25	3,750	3,000	3,900	2,790
Massachusetts	29	29	3,335	2,610	5,069	2,480
Rhode Island	3	3	345	270	552	243
Connecticut	23	24	2,369	3,360	3,554	3,360
New York	330	340	33,990	37,400	36,709	22,440
New Jersey	95	95	9,025	16,435	12,816	11,833
Pennsylvania	251	264	21,586	28,512	28,709	21,384
Delaware	10	10	500	960	550	672
Maryland	49	51	3,185	5,151	3,504	3,091
Virginia	149	155	16,092	16,585	17,701	10,780
West Virginia	48	49	4,080	4,851	6,650	4,220
North Carolina	46	48	4,048	4,512	5,789	4,557
South Carolina	30	33	2,550	2,508	3,825	3,210
Georgia	23	25	1,725	1,700	2,846	2,380
Florida	17	26	1,564	2,600	2,972	4,550
Ohio	120	126	6,960	11,214	10,788	10,093
Indiana	70	74	3,570	5,624	5,176	4,724
Illinois	121	119	6,413	7,497	8,978	6,747
Michigan	340	357	27,200	37,842	25,840	12,866
Wisconsin	315	328	21,420	40,672	20,349	13,422
Minnesota	430	486	32,250	43,740	29,025	15,309
Iowa	96	94	4,128	8,460	5,779	5,668
Missouri	82	90	4,756	5,400	6,421	4,968
North Dakota	124	198	11,904	17,820	8,333	5,524
South Dakota	90	110	5,490	8,580	5,874	3,775
Nebraska	102	139	8,160	11,676	9,792	5,488
Kansas	65	65	4,160	4,160	5,616	3,827
Kentucky	58	59	3,770	4,720	6,220	4,720
Tennessee	35	32	1,820	2,560	3,003	2,816
Alabama	32	48	2,400	3,840	4,080	5,760
Mississippi	16	16	1,088	1,360	2,176	2,176
Louisiana	27	27	1,809	1,755	3,256	2,632
Texas	37	39	2,072	2,418	3,937	3,869
Oklahoma	36	40	2,088	2,720	3,863	3,346
Arkansas	33	35	1,815	2,380	3,267	3,094
Montana	41	46	4,715	5,796	3,772	2,318
Wyoming	19	23	2,052	2,530	2,421	1,265
Colorado	113	142	14,916	18,460	10,889	6,830
New Mexico	4	4	240	200	432	290
Arizona	4	6	460	510	644	459
Utah	15	21	2,415	4,137	2,053	1,655
Nevada	4	5	592	920	710	552
Idaho	64	86	11,840	15,910	9,117	4,932
Washington	60	65	8,100	9,425	8,019	4,241
Oregon	43	49	3,870	5,145	4,218	2,675
California	74	76	10,360	10,260	13,468	7,387
United States	3,941	4,331	361,659	451,185	398,362	262,608

[1] Preliminary estimate.

POTATOES—Continued.

TABLE 155.—*Potatoes: Condition of crop, United States, on 1st of months named, 1901–1922.*

Year.	July.	Aug.	Sept.	Oct.	Year.	July.	Aug.	Sept.	Oct.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1901	87.4	62.3	52.2	54.0	1912	88.9	87.8	87.2	85.1
1902	92.9	94.8	89.1	82.5	1913	86.2	78.0	69.9	67.7
1903	88.1	87.2	84.3	74.6	1914	83.6	79.0	75.8	78.3
1904	93.9	94.1	91.6	89.5	1915	91.1	92.0	82.7	74.2
1905	91.2	87.2	80.9	74.3	1916	87.8	80.8	67.4	62.6
1906	91.5	89.0	85.3	82.2	1917	90.1	87.9	82.7	79.0
1907	90.2	88.5	80.2	77.0	1918	87.6	79.9	74.5	73.7
1908	89.6	82.9	73.7	68.7	1919	87.6	75.1	69.5	67.9
1909	93.0	85.8	80.9	78.8	1920	89.3	87.0	84.3	82.7
1910	86.3	75.8	70.5	71.8	1921	83.4	65.8	63.7	66.5
1911	76.0	62.3	59.8	62.3	1922	87.3	84.3	79.9	77.3

TABLE 156.—*Potatoes: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	July.	August.	September.	October.	November production estimate.	Final estimate.
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
1912	352,000	371,000	398,000	401,000	414,289	420,647
1913	343,000	339,000	325,000	310,000	328,550	331,525
1914	360,614	369,634	370,963	383,619	406,288	409,921
1915	393,358	430,808	405,909	368,151	359,253	359,721
1916	368,810	364,271	318,492	300,563	288,964	286,953
1917	451,716	467,289	461,908	452,923	439,686	442,108
1918	405,507	390,907	384,529	391,279	390,101	411,860
1919	390,748	357,120	349,194	350,070	352,025	322,867
1920	387,586	401,903	412,933	414,986	421,252	403,296
1921	376,997	315,918	322,985	345,844	356,076	361,659
Average	383,034	380,785	374,991	372,744	375,648	375,056
1922	428,607	439,900	438,398	433,015	433,905	[1] 262,608

[1] Preliminary estimate.

TABLE 157.—*Potatoes: Yield per acre, price per bushel December 1, and value per acre, by States.*

State.	Yield per acre (bushels).						Farm price per bushel (cents).										Value per acre (dollars).[1]	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
Me.	213	200	230	177	298	160	94	53	33	70	142	130	120	140	125	85	45	239.81	72.00
N. H.	126	140	102	127	160	100	129	83	60	95	166	167	145	175	155	135	105	194.61	105.00
Vt.	126	130	100	130	150	120	110	72	47	81	139	140	138	157	125	104	93	158.98	111.60
Mass.	111	133	90	125	115	90	136	85	71	94	175	175	170	190	150	152	95	192.13	85.50
R. I.	109	130	100	110	115	90	138	90	70	92	185	175	173	180	160	160	90	200.23	81.00
Conn.	106	95	75	115	103	140	135	87	65	96	175	164	165	195	150	150	100	162.08	140.00
N. Y.	109	98	109	125	103	110	105	80	44	82	158	130	122	145	118	108	60	131.97	66.00
N. J.	122	92	96	156	95	173	119	82	61	75	155	141	170	169	125	142	72	161.86	124.56
Pa.	98	80	100	115	86	108	113	80	58	75	148	135	151	154	124	133	75	131.20	81.00
Del.	84	87	83	106	50	96	102	75	70	75	125	130	140	125	100	110	70	102.01	67.20

[1] Based upon farm price Dec. 1.

POTATOES—Continued.

TABLE 157.—*Potatoes: Yield per acre, price per bushel December 1, and value per acre, by States*—Continued.

State.	Yield per acre (bushels).						Farm price per bushel (cents).											Value per acre (dollars).	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
Md....	88	80	94	102	65	101	96	67	60	62	133	119	120	130	95	110	60	101.12	60.60
Va.....	109	94	114	120	108	107	103	80	77	61	137	125	120	157	95	110	65	129.67	69.55
W. Va.	96	87	90	120	85	99	125	90	81	65	158	132	160	175	135	163	87	149.81	86.13
N. C...	90	95	80	91	88	94	121	82	92	73	140	143	135	163	142	143	101	128.48	94.94
S. C...	90	102	85	100	85	76	161	130	125	115	175	210	193	200	180	150	128	175.19	97.28
Ga.....	71	70	70	74	75	68	159	105	105	99	175	195	185	217	208	165	140	144.57	95.20
Fla....	95	100	76	105	92	100	172	117	113	115	200	205	200	210	200	190	175	186.19	175.00
Ohio..	75	69	61	100	58	89	126	85	53	70	182	143	150	192	135	155	90	117.0	80.10
Ind....	69	80	44	96	51	76	120	84	56	56	177	139	135	195	133	145	84	104.66	63.84
Ill.....	61	72	52	65	53	63	126	89	61	59	179	152	148	196	145	140	90	102.75	56.70
Mich..	93	84	90	105	80	106	85	53	30	56	160	105	89	135	92	95	34	93.72	36.04
Wis...	101	110	94	108	68	124	80	54	30	45	147	90	80	140	86	95	33	95.94	40.92
Minn..	91	105	87	99	75	90	78	52	32	39	130	91	75	153	80	90	35	92.10	31.50
Iowa..	72	72	46	110	43	90	116	82	59	54	175	131	133	192	122	140	67	100.59	60.30
Mo....	67	61	75	82	58	60	126	93	73	60	180	137	153	184	151	135	92	110.53	55.20
N. D..	85	99	63	79	96	90	82	56	42	41	115	130	73	160	98	70	31	74.72	27.90
S. D...	77	91	50	106	61	78	92	63	47	35	137	111	93	190	97	107	44	89.52	34.32
Nebr..	81	86	55	99	80	84	103	78	54	42	150	107	118	190	120	120	47	102.35	39.48
Kans..	68	53	76	85	64	64	127	91	77	74	165	152	144	190	150	135	92	104.25	58.88
Ky....	78	75	70	99	65	80	131	102	84	55	142	140	165	210	150	165	100	132.18	80.00
Tenn..	70	70	67	83	52	80	130	97	91	63	149	126	165	172	160	165	110	113.56	88.00
Ala....	76	80	80	67	75	80	156	105	101	90	169	182	181	215	200	170	150	141.87	120.00
Miss...	81	80	85	87	68	85	152	100	95	84	160	168	165	185	200	200	160	146.06	136.00
La.....	68	79	64	65	67	65	154	96	97	95	167	184	150	226	203	180	150	125.92	97.50
Tex...	60	55	73	52	56	62	170	112	104	105	190	210	200	210	220	190	160	122.02	99.20
Okla..	62	34	75	74	58	68	154	105	90	84	195	180	195	205	180	185	123	116.95	83.64
Ark...	65	50	73	78	55	68	149	100	97	76	190	157	184	205	175	180	130	120.55	88.40
Mont..	109	135	60	110	115	126	87	67	64	50	120	102	80	160	105	80	40	101.68	50.40
Wyo..	115	150	80	125	108	110	99	65	70	60	128	104	85	190	120	118	50	143.63	55.00
Colo...	133	160	115	130	132	130	86	65	50	55	135	91	99	170	80	73	37	139.97	48.10
N. Mex	69	100	58	75	60	50	156	140	95	95	175	165	160	190	210	180	145	145.42	72.50
Ariz...	89	85	70	90	115	85	150	135	120	100	180	150	205	195	190	140	90	160.05	76.50
Utah..	173	180	136	189	161	197	83	58	60	63	130	78	97	137	80	85	40	159.28	78.80
Nev...	155	171	135	135	148	184	107	68	70	70	130	120	123	150	156	120	60	209.89	110.40
Idaho .	178	185	155	180	185	185	77	50	48	56	127	79	81	151	68	77	31	154.40	57.35
Wash .	138	132	125	155	135	145	84	60	55	53	98	92	101	145	95	99	45	142.09	65.25
Oreg...	106	110	94	130	90	105	84	58	60	60	90	80	100	150	80	109	52	107.90	54.60
Calif...	138	143	130	140	140	135	115	70	70	75	140	150	120	171	150	130	72	200.68	97.20
U. S.	98.7	95.9	91.2	110.3	91.8	104.2	101.0	68.7	48.7	61.7	146.1	122.8	119.3	159.5	114.5	110.1	58.2	122.19	60.63

POTATOES—Continued.

TABLE 158.—*Potatoes: Farm price, cents per bushel on 1st of each month, 1908–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[1]
1908	63.4	66.0	69.0	70.4	73.3	71.3	77.8	83.6	78.0	74.8	69.2	70.6	72.1
1909	72.0	73.3	80.0	86.3	97.3	97.7	91.0	85.1	71.5	64.3	57.8	54.1	70.8
1910	56.0	56.2	54.6	47.4	38.4	37.4	40.1	64.9	72.9	67.8	55.7	55.7	56.4
1911	54.1	55.1	55.3	55.5	62.5	63.3	96.3	136.0	113.7	88.3	76.3	79.9	80.6
1912	84.5	94.4	102.0	117.1	127.3	119.7	103.6	86.5	65.0	51.1	45.5	50.5	72.5
1913	50.6	53.1	52.0	50.3	48.2	55.2	49.8	69.2	75.3	73.9	69.6	68.7	64.3
1914	68.4	69.7	70.7	70.0	71.4	71.3	81.5	87.1	74.9	64.7	52.8	48.7	64.4
1915	49.7	50.4	50.4	47.8	50.5	50.8	52.1	56.3	50.5	48.8	60.8	61.7	54.4
1916	70.6	88.0	94.4	97.6	94.8	98.8	102.3	95.4	109.3	112.0	135.7	146.1	114.1
1917	147.3	172.4	240.7	234.7	279.6	274.0	247.9	170.8	139.1	122.1	127.8	122.8	164.9
1918	121.0	122.9	120.3	92.6	80.1	75.5	94.9	141.6	148.8	143.6	127.2	119.3	121.8
1919	116.1	114.4	109.4	105.4	118.9	121.4	128.4	192.8	187.5	164.2	152.8	159.5	148.2
1920	178.6	217.6	243.5	295.6	393.6	421.3	386.0	302.9	184.9	134.8	118.3	114.5	202.2
1921	105.6	95.6	84.0	77.8	68.0	67.1	69.9	136.9	168.6	137.6	123.5	110.1	114.1
1922	108.6	115.5	117.8	113.6	104.3	104.1	103.3	114.8	88.0	69.6	62.8	58.2	84.4
Average 1913–1922	101.6	110.0	118.3	118.5	130.9	134.0	131.6	136.8	122.7	107.1	103.1	101.0	113.3

[1] Weighted average.

TABLE 159.—*Potatoes: Extent and causes of yearly losses, 1909–1921.*

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	11.3	2.8	0.3	1.8	0.2	0.2	(1)	16.7	1.7	1.7	0.1	0.2	21.3
1910	15.4	1.7	.2	1.1	.1	.3	(1)	19.2	3.9	5.0	.1	.4	29.8
1911	25.8	2.0	(1)	1.9	.1	3.2	(1)	33.5	2.7	2.6	.1	.6	42.4
1912	5.3	3.3	.4	.6	.1	.2	0.1	10.5	5.8	3.9	.2	.3	21.7
1913	20.8	1.6	.2	2.0	.1	.7	(1)	26.0	1.7	3.9	.1	.5	34.5
1914	10.2	2.1	.1	.8	.1	.4	(1)	14.0	1.7	3.3	(1)	.3	21.2
1915	2.2	8.7	.5	2.2	.1	.1	.1	14.0	13.0	2.4	(1)	.1	30.4
1916	19.7	6.5	.4	1.9	.2	1.4	.1	31.5	5.6	4.5	(1)	.2	43.6
1917	8.8	3.5	.2	3.0	.2	.3	(1)	16.3	4.1	2.4	(1)	.1	23.8
1918	14.7	1.0	.2	1.5	.1	.6	(1)	18.4	5.3	3.3	(1)	.2	28.3
1919	16.3	5.0	.4	.7	.1	.7	.1	23.6	8.8	4.7	(1)	.3	38.1
1920	6.7	2.2	.3	.6	.2	.2	0	10.2	8.1	2.8	.1	.2	21.8
1921	21.7	1.0	.1	1.2	.2	1.8	0	26.1	5.7	3.5	.1	.3	36.2
Average	13.8	3.2	.3	1.5	.1	.8	0	20.0	5.2	3.4	.1	.3	30.2

[1] Less than 0.05 per cent.

POTATOES—Continued.

TABLE 160.—*Potato stocks, January 1 (new basis).*

State and year.	Total production.	Merchantable stocks Jan. 1.		Per cent held by—		Price per bushel.	
		Per cent of crop.	Quantity.	Growers.	Dealers.	Dec. 1.	Mar. 1.
	1,000 bushels.		*1,000 bushels.*			*Cents.*	*Cents.*
19 surplus late-potato States: [1]							
1915–16	221,712	32.6	72,195	82.4	17.6	58.7	88.2
1916–17	187,386	26.1	48,893	73.7	26.3	141.3	233.1
1917–18	286,438	32.2	92,210	85.4	14.6	109.8	101.3
1918–19	273,404	29.9	81,727	83.8	16.2	103	88.8
1919–20	225,248	26	58,530	79.4	20.6	151	234.2
1920–21	269,222	35.3	95,061	85.2	14.8	103.1	65.6
1921–22	263,052	31.4	82,657	80	20	99.9	105.2
1922–23	323,425	35.3	114,078	85.8	14.2	46.2	.....
16 deficient late-potato States: [2]							
1915–16	115,493	10.6	12,238	76.8	23.2	66.1	101.6
1916–17	79,270	7.5	5,967	70.6	29.4	164.6	264.9
1917–18	124,149	13.3	16,568	82.4	17.6	140.6	142.1
1918–19	101,245	11.4	1,531	79.2	20.8	146.4	133.8
1919–20	73,291	9.4	6,875	74.4	25.6	181.1	254.7
1920–21	107,644	12	12,930	81.7	18.3	139.5	105.2
1921–22	74,928	9.8	7,366	76.9	23.1	139.5	141.3
1922–23	98,697	11.4	11,212	77.2	22.8	81.6	.....
Total, 35 States:							
1915–16	337,205	25	84,433	81.1	18	60.6	91.7
1916–17	266,656	20.6	54,860	73.2	26.8	147.3	241.3
1917–18	410,587	26.5	108,778	84.6	15.4	117.7	111.8
1918–19	374,649	24.9	93,258	82.8	17.2	114.2	100.4
1919–20	298,539	21.9	65,405	78.8	21.2	158.8	239.5
1920–21	376,866	28.7	107,991	84.6	15.4	110.2	75.9
1921–22	337,980	26.6	90,023	79.6	20.4	110.1	114.5
1922–23	422,122	29.7	125,290	84.8	15.2	55.4	.....
Leading surplus States:							
Maine—							
1915–16	25,418	40.5	10,295	82	18	70	105
1916–17	25,500	38	9,708	72	28	142	260
1917–18	18,750	44.5	8,353	84	16	130	135
1918–19	22,400	43.7	9,798	81	19	120	85
1919–20	25,530	44.5	11,373	78	22	140	200
1920–21	21,771	44.6	9,699	88	12	125	55
1921–22	38,442	43.7	16,814	81	19	85	96
1922–23	21,600	41.3	8,922	84	16	45	.....
New York—							
1915–16	22,010	36.5	8,042	95	5	82	108
1916–17	22,400	25.8	5,786	85	15	158	275
1917–18	38,000	36.5	13,885	95	3	130	120
1918–19	37,240	31.5	11,730	92	8	122	105
1919–20	33,790	30.2	10,218	90	10	145	220
1920–21	40,625	40.3	16,380	91	9	118	63
1921–22	33,990	29	9,850	92	8	108	116
1922–23	37,400	32.8	12,252	92	8	60	.....
Pennsylvania—							
1915–16	20,160	22.0	4,435	83	17	75	109
1916–17	19,040	17.6	3,351	81	19	148	264
1917–18	29,532	23.1	6,822	86	14	135	131
1918–19	22,000	23.1	5,082	88	12	151	126
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	28,512	23.1	6,586	80	20	75	.....
Michigan—							
1915–16	20,945	34.2	7,163	82	18	56	86
1916–17	15,360	21.6	3,318	78	22	160	235
1917–18	35,910	34.8	12,497	88	12	105	85
1918–19	28,560	30.6	8,739	82	18	89	77
1919–20	27,000	21.0	5,670	77	23	135	228
1920–21	36,225	38.4	13,910	83	17	92	52
1921–22	27,200	30.0	8,160	81	19	95	96
1922–23	37,842	34.8	13,169	88	12	34	.....

[1] Maine, Vermont, New York, Pennsylvania, Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Montana, Wyoming, Colorado, Utah, Nevada, Idaho, Washington, Oregon and California.

[2] New Hampshire, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virgina, West Virginia, Ohio, Indiana, Illinois, Iowa, Missouri, Kansas, and Kentucky.

POTATOES—Continued.

TABLE 160.—*Potato stocks, January 1 (new basis)*—Continued.

State and year.	Total production.	Merchantable stocks Jan. 1.		Per cent held by—		Price per bushel.	
		Per cent of crop.	Quantity.	Growers.	Dealers.	Dec. 1.	Mar. 1.
Leading surplus States—Contd.	*1,000 bushels.*		*1,000 bushels.*			*Cents.*	*Cents.*
Wisconsin—							
1915-16	25,923	35.4	9,178	78	22	45	75
1916-17	13,630	33.6	4,580	79	21	147	227
1917-18	34,998	36.0	12,599	80	20	90	83
1918-19	33,440	30.6	10,233	80	20	80	76
1919-20	28,388	21.6	6,132	78	22	140	227
1920-21	33,264	37.2	12,374	88	12	86	62
1921-22	21,420	39.6	8,482	74	26	95	109
1922-23	40,672	39.6	16,106	88	12	33	.....
Minnesota—							
1915-16	30,210	29.9	9,033	72	28	39	67
1916-17	16,800	24.0	4,040	62	38	130	210
1917-18	33,600	32.5	10,920	80	20	91	75
1918-19	32,760	27.3	8,943	76	24	75	63
1919-20	28,884	21.5	6,196	76	24	153	237
1920-21	31,581	32.5	10,264	80	20	80	54
1921-22	32,250	30.1	9,707	73	27	90	94
1922-23	43,740	41.1	17,912	74	26	35	.....
North Dakota—							
1915-16	7,200	20.5	1,476	74	26	41	74
1916-17	6,975	11.0	767	64	36	115	173
1917-18	3,870	14.5	561	86	14	130	140
1918-19	9,108	21.0	1,913	86	14	73	83
1919-20	5,229	10.5	549	86	14	160	243
1920-21	6,557	16.5	1,082	62	38	98	91
1921-22	11,904	13.7	1,625	63	37	70	93
1922-23	17,820	30.0	5,346	83	17	31	.....
South Dakota—							
1915-16	7,820	19.3	1,513	77	23	35	59
1916-17	4,290	12.6	540	50	50	137	209
1917-18	7,200	19.8	1,426	70	30	111	132
1918-19	8,645	19.4	1,673	84	16	93	91
1919-20	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	.....
Nebraska—							
1915-16	11,550	20.5	2,368	74	26	42	88
1916-17	7,665	14.5	1,111	69	31	150	228
1917-18	12,495	24.0	2,999	79	21	107	126
1918-19	10,406	18.5	1,925	76	24	118	135
1919-20	5,720	25.0	1,430	78	22	190	275
1920-21	8,415	20.0	1,683	85	15	120	106
1921-22	8,160	26.4	2,154	73	27	120	137
1922-23	11,676	25.0	2,919	88	12	47	.....
Colorado—							
1915-16	7,155	41.2	2,951	87	13	55	71
1916-17	6,900	31.5	2,174	86	14	135	238
1917-18	12,800	45.0	5,760	90	10	91	91
1918-19	15,840	42.0	6,653	89	11	99	66
1919-20	8,855	28.5	2,524	89	11	170	245
1920-21	9,490	36.8	3,488	92	8	80	53
1921-22	14,916	44.2	6,600	90	10	73	65
1922-23	18,460	43.5	8,030	95	5	37	.....
Idaho—							
1915-16	3,500	26.6	931	92	8	56	73
1916-17	4,050	30.8	1,247	84	16	127	175
1917-18	6,084	30.8	1,874	86	14	79	65
1918-19	6,290	40.6	2,554	86	14	81	59
1919-20	6,665	28.7	1,913	63	37	151	253
1920-21	8,100	49.0	3,969	90	10	68	48
1921-22	11,840	40.2	4,757	82	18	77	89
1922-23	15,910	42.0	6,682	98	2	31	.....

POTATOES—Continued.

TABLE 161.—*Potatoes: International trade; calendar years 1911–1921.*

GENERAL NOTE.—Substantially the international trade of the world. It should not be expected that the world export and import totals for any year will agree. Among sources of disagreement are these: (1) Different periods of time covered in the "year" of the various countries; (2) imports received in year subsequent to year of export; (3) want of uniformity in classification of goods among countries; (4) different practices and varying degrees of failure in recording countries of origin and ultimate destination; (5) different practices of recording reexported goods; (6) opposite methods of treating free ports; (7) clerical errors, which, it may be assumed, are not infrequent.

The exports given are domestic exports, and the imports given are imports for consumption as far as it is feasible and consistent so to express the facts. While there are some inevitable omissions, on the other hand, there are some duplications because of reshipments that do not appear as such in official reports. For the United Kingdom, import figures refer to imports for consumption, when available, otherwise total imports, less exports, of "foreign and colonial merchandise." Figures for the United States include Alaska, Porto Rico, and Hawaii.

Country.	Average 1911–1913.		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.								
	1,000 bu.	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*	*1,000 bu.*
Belgium	4,921	8,692	136	3,833	1,520	2,371	11,286	678
Canada	525	1,207	616	6,151	923	5,583	466	3,258
China	36	288	.....	205	.....	192	.....	272
Denmark	40	928	(1)	4,610	30	7,954	57	2,319
France	7,143	8,683	11,712	1,316	2,465	7,903	5,639	8,570
Italy	242	3,975	30	505	1	3,074	706	4,260
Japan	.....	440	.....	370	.....	328	.....	240
Netherlands	1,952	16,451	108	13,549	44	14,424	350	18,321
Portugal	273	500	578	18	.....	.....	.....	.....
Russia	309	7,762	.....	.....	.....	.....	.....	.....
Spain	.....	1,835	.....	275	.....	326	.....	899
PRINCIPAL IMPORTING COUNTRIES.								
Algeria	1,218	931	539	209	1,631	473	991	720
Argentina	1,337	543	81	1,024	.....	.....	.....	.....
Austria-Hungary	4,070	1,451	.....	.....	[2] 6,037	(1)	[2] 4,148	[2] 24
Brazil	939	(1)	43	14	276	(1)	80	18
Cuba	2,001	2	3,266	.....	2,802	.....	.....	.....
Egypt	599	[3] 28	163	6	785	4	624	13
Finland	479	15	1,237	.....	172	.....	138	.....
Germany	29,180	12,412	.....	.....	26,852	2,109	.....	.....
Norway	215	60	245	46	97	568	499	21
Philippine Islands	334	.....	289	.....	291	.....	352	.....
Sweden	700	64	732	623	208	1,535	657	.....
Switzerland	3,172	42	94	774	456	584	1,082	51
United Kingdom	11,382	6,246	1,846	13,276	9,719	690	5,678	2,825
United States	5,707	1,814	5,544	3,642	6,062	4,154	2,018	3,500
Other countries	1,993	782	826	520	1,676	627	1,455	380
Total	78,767	75,151	28,085	51,046	62,047	52,899	36,226	46,369

[1] Less than 500. [2] Austria only. [3] One year only.

POTATOES—Continued.

TABLE 162.—*Potatoes, white: Monthly average jobbing prices, per 100 pounds, at 10 markets for 1920–21 to 1922–23.*[1]

Market and year.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
New York:												
1920–21	.....	$9.03	$6.93	$5.54	$2.56	$1.83	$1.93	$1.96	$1.82	$1.80	$1.31	$1.51
1921–22	$4.41	4.18	1.90	2.23	2.90	2.11	2.09	1.92	2.07	2.33	2.18	2.03
1922–23	4.07	3.27	3.03	1.81	1.04	.95	.96	1.22	1.36	.....	.....	.....
Chicago:												
1920–21	.....	9.14	8.38	[2] 6.44	[2] 3.42	[2] 2.40	[2] 1.84	[2] 2.14	[2] 1.57	[2] 1.29	[2] 1.15	[2] 1.25
1921–22	4.83	4.50	[2] 2.42	[2] 2.33	[2] 3.11	[2] 2.65	[2] 2.00	[2] 1.75	[2] 1.83	[2] 1.98	[2] 1.96	[2] 1.80
1922–23	4.16	3.57	[2] 3.03	[2] 2.29	[2] 1.63	[2] 1.17	[2] 1.00	[2] 1.05	[2] .96	.....	.....	.....
Philadelphia:												
1920–21	.....	8.39	6.87	5.58	2.59	1.89	1.87	2.09	1.48	1.65	1.20	1.07
1921–22	3.96	4.14	1.93	2.11	3.07	2.41	2.19	2.01	2.00	2.29	2.23	1.98
1922–23	3.76	3.13	2.89	1.77	1.10	1.00	1.09	1.25	1.32	.....	.....	.....
Pittsburgh:												
1920–21	.....	9.54	7.48	5.98	3.01	2.31	2.33	2.48	1.84	1.60	1.36	1.48
1921–22	4.50	4.37	2.28	2.73	3.43	2.71	2.30	2.10	2.01	2.26	2.13	2.01
1922–23	4.36	3.47	3.19	2.20	1.43	1.39	1.33	1.30	1.11	.....	.....	.....
St. Louis:												
1920–21	.....	10.75	8.35	6.60	3.69	2.71	2.25	2.33	1.87	1.58	1.39	1.48
1921–22	5.76	3.49	2.77	2.84	3.16	2.83	2.28	1.89	1.93	2.27	2.14	1.98
1922–23	5.87	3.81	2.96	2.49	1.73	1.53	1.26	1.20	1.10	.....	.....	.....
Cincinnati:												
1920–21	.....	8.65	7.59	6.49	3.41	2.57	2.19	2.60	1.92	1.68	1.58	1.77
1921–22	4.12	4.10	2.49	2.65	3.52	2.96	2.46	1.93	1.97	2.30	2.16	2.06
1922–23	3.96	3.28	3.01	2.44	1.74	1.48	1.30	1.17	1.15	.....	.....	.....
St. Paul:												
1920–21	.....	.....	8.80	8.44	.....	.....	.....	.....	.....	.....	.....	.....
1921–22	.....	.....	3.06	3.05	3.49	.....	.....	.....	.....	.....	.....	.....
1922–23	.....	.....	3.46	[2] 1.60	.....	.....	.....	.....	.....	.....	.....	.....
Minneapolis:												
1920–21	.....	.....	9.02	8.29	.....	.....	.....	.....	.....	.....	.....	.....
1921–22	.....	.....	3.05	2.90	3.43	.....	.....	.....	.....	.....	.....	.....
1922–23	.....	.....	3.36	2.86	.....	.....	.....	.....	.....	.....	.....	.....
Kansas City:												
1920–21	.....	.....	8.77	.....	2.81	2.69	2.06	2.27	.....	.....	.....	.....
1921–22	6.36	3.93	3.06	.....	3.09	2.63	1.97	1.51	1.65	2.04	1.99	1.88
1922–23	5.62	3.93	2.87	.....	.....	[2] 1.23	[2] 1.12	[2] 1.07	[2] 1.03	.....	.....	.....
Washington:[3]												
1920–21	.....	9.05	6.81	5.82	3.26	2.23	2.22	2.52	2.32	2.12	1.69	1.71
1921–22	4.73	4.32	2.11	2.39	3.27	2.83	2.61	2.43	2.28	2.62	2.58	2.44
1922–23	4.48	3.60	2.91	2.21	1.49	1.37	1.39	1.49	1.48	.....	.....	.....

[1] 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.
[2] Carlot sales.
[3] Sales direct to retailers.

TABLE 163.—*Potatoes, white ("Maine" and "State and Western"): Monthly average wholesale prices per bushel at New York market, 1900–01 to 1922–23.*[1]

Year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.
1900–1901	$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
1906–7	.55	.58	.51	.48	.48	.57	.60	.56	.74
1907–8	.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
1910–11	.55	.55	.51	.49	.52	.49	.47	.62	.57
1911–12	.81	.79	.90	.95	1.12	1.14	1.28	1.38	1.25
1912–13	.60	.59	.64	.68	.63	.67	.62	.66	.77
1913–14	.74	.69	.71	.70	.80	.83	.81	.85	.85
1914–15	.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	1.20	1.62	1.37	1.39	1.66	1.47	1.14	1.11	.82
1918–19	1.58	1.44	1.37	1.50	1.42	1.26	1.11	1.43	1.49
1919–20	1.51	1.37	1.57	1.79	2.31	2.64	3.33	4.28	4.17
1920–21 [2]	.....	1.26	1.38	1.27	1.16	.88	.88	.78	.66
1921–22	1.37	1.16	1.25	1.23	1.43	1.35	1.25	1.12	.90
1922–23	.86	.78	.82	.86	.....	.....	.....	.....	.....

[1] Compiled from New York Producer's Price Current.
[2] First two weeks of October, 1920, include quotations on Jerseys.

POTATOES—Continued.

TABLE 164.—*Potatoes, white: Carlot shipments, by States of origin, 1917–18 to 1921–22.*[1]

State.	1917–18	1918–19	1919–20	1920–21	1921–22.					
					Apr.–June.	July–Sept.	Oct.–Dec.	Jan.–Mar.	Apr.–June.[2]	Total, 1921–22.
Maine	14,794	19,026	23,444	17,817	.....	5,031	10,331	11,363	[3] 11,274	37,999
New York, Long Island	4,939	4,350	3,701	5,501	.....	2,434	1,556	808	161	4,959
New York, other	5,171	5,739	9,116	11,001	.....	1,250	6,660	4,612	[4] 1,448	13,970
New Jersey	11,709	5,889	10,409	17,147	.....	9,595	710	152	18	10,475
Pennsylvania	3,727	2,119	3,742	6,489	.....	495	2,001	924	[5] 155	3,575
Maryland, Eastern Shore, 1st	2,286	703	1,434	2,259	228	1,895	.....	.....	.....	2,123
Maryland, Eastern Shore, 2d	625	233	667	799	.....	.....	147	226	161	534
Maryland, other	22	10	58	47	.....	2	24	1	.....	27
Virginia, Eastern Shore, 1st	14,123	8,385	9,235	11,948	6,500	6,581	.....	.....	.....	13,081
Virginia, Eastern Shore, 2d	214	203	398	973	.....	.....	231	105	23	359
Virginia, Norfolk, 1st	5,003	2,485	2,285	2,995	3,442	1,750	.....	.....	.....	5,192
Virginia, Norfolk, 2d	328	591	174	446	.....	.....	282	123	121	526
Virginia, other	772	265	102	268	186	189	31	1	.....	407
North Carolina	4,713	5,605	3,306	3,513	2,919	651	9	12	8	3,599
South Carolina	2,440	2,812	1,217	3,070	2,486	14	.....	10	.....	2,510
Florida	4,294	4,839	2,275	3,351	[6] 2,342	.....	.....	2	.....	2,344
Michigan	9,431	11,062	12,237	17,119	.....	792	5,976	4,736	[4] 3,669	15,173
Wisconsin	13,852	20,655	21,975	18,661	.....	830	3,470	4,522	[7] 2,159	10,981
Minnesota	16,477	23,515	22,058	23,214	.....	5,829	12,118	7,800	3,912	29,659
Iowa	462	943	251	922	.....	37	35	12	7	91
North Dakota	353	2,530	2,229	1,846	.....	2,171	6,342	1,481	502	10,496
South Dakota	963	1,291	689	1,926	.....	1,175	2,013	60	100	3,348
Nebraska	2,026	3,823	1,661	3,071	1	1,651	1,949	1,288	433	5,322
Kansas	844	824	1,132	1,982	19	2,302	54	4	.....	2,379
Kentucky	805	758	866	1,132	8	467	15	135	15	640
Alabama	641	579	90	308	691	3	.....	2	.....	696
Louisiana	1,076	4,032	559	887	1,075	60	22	6	.....	1,163
Texas	1,693	2,312	808	738	[8] 1,096	3	4	5	.....	1,108
Oklahoma	665	350	677	592	197	84	.....	.....	.....	281
Arkansas	371	280	186	236	91	8	17	18	1	135
Montana	355	771	352	949	.....	291	801	263	[7] 483	1,838
Wyoming	230	407	265	545	.....	212	470	184	88	954
Colorado	12,462	13,647	8,810	11,345	.....	4,209	5,010	5,525	[7] 2,998	17,742
Utah	816	496	426	563	.....	816	223	13	22	1,074
Nevada	1,417	726	689	415	.....	4	254	133	75	466
Idaho	7,120	7,727	6,853	8,143	.....	3,512	4,216	3,711	3,177	14,616
Washington	2,630	2,924	3,098	3,765	.....	667	2,479	1,436	1,631	6,213
Oregon	1,903	1,628	786	1,756	.....	128	443	440	380	1,391
California, northern district	[9] 7,864	8,151	7,118	8,403	515	1,701	1,982	1,819	493	6,510
California, southern district	([10])	2,200	1,369	1,687	703	1,788	157	73	20	2,741
All other	1,980	1,667	1,123	1,336	276	507	443	227	[5] 135	1,588
Total	161,596	176,552	167,870	199,165	[11] 22,775	59,134	70,475	52,232	[12] 33,669	238,285

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.
[2] Old crop only.
[3] Includes 56 cars in July.
[4] Includes 2 cars in July.
[5] Includes 1 car in July.
[6] Includes 95 cars in March.
[7] Includes 3 cars in July.
[8] Includes 20 cars in March.
[9] Includes southern district.
[10] Included in northern district.
[11] Includes 115 cars in March.
[12] Includes 71 cars in July.

POTATOES—Continued.

TABLE 165.—*Potatoes, white: Monthly and yearly carlot shipments, by States, 1917–18 to 1922–23.*[1]

State and year.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Maine:									
1917–18					71	1,699	1,986	1,331	1,390
1918–19					91	2,076	2,466	1,596	1,700
1919–20					947	2,211	3,338	2,543	2,465
1920–21					91	1,126	2,170	2,046	1,478
1921–22					579	4,452	4,681	2,882	2,768
1922–23					198	1,789	3,075	2,702	2,332
New York:									
1917–18				36	733	1,052	2,228	1,043	478
1918–19				80	608	1,169	2,067	1,265	875
1919–20				117	782	516	2,920	2,071	982
1920–21				53	336	999	2,363	2,636	1,008
1921–22				203	1,360	2,121	4,914	1,946	1,356
1922–23				93	815	1,660	3,398	2,566	1,706
New Jersey:									
1917–18				112	4,669	3,919	1,979	563	76
1918–19			2	303	3,075	1,641	368	223	110
1919–20				618	4,971	3,292	970	410	56
1920–21				1,567	5,242	6,282	2,747	969	118
1921–22				2,107	5,854	1,634	377	284	49
1922–23			7	2,234	8,387	4,756	1,972	609	69
Virginia:									
1917–18		4	4,962	11,487	3,026	288	110	207	76
1918–19		1	2,470	7,570	936	124	16	410	135
1919–20			3,955	7,311	330	22	13	419	82
1920–21			4,813	8,220	1,801	236	123	784	171
1921–22		400	9,728	7,993	468	59	61	397	86
1922–23		16	8,143	9,155	651	74	50	221	42
Florida:									
1917–18	[2] 1,472	2,618	190	4					
1918–19	[3] 1,264	2,950	584	36		2			
1919–20	[3] 734	1,499	42						
1920–21	[2] 48	2,335	924	42				2	
1921–22	[4] 1,775	539	28						
1922–23	[5] 2,706	2,223	115		4		1		
Michigan:									
1917–18					16	388	1,572	1,296	598
1918–19					20	328	1,547	2,072	743
1919–20					50	601	2,687	2,329	1,043
1920–21				2	39	577	2,210	3,116	1,253
1921–22					3	789	3,210	1,886	880
1922–23					76	1,209	2,494	2,069	1,165
Wisconsin:									
1917–18					118	1,158	3,707	1,383	575
1918–19				1	134	2,768	4,630	2,464	1,545
1919–20					127	3,250	7,019	2,810	1,567
1920–21					18	450	3,189	2,876	1,214
1921–22					76	754	2,125	719	626
1922–23					205	1,378	3,644	1,921	1,540
Minnesota:									
1917–18				15	1,312	1,918	4,074	1,445	675
1918–19				96	3,099	4,573	4,623	1,733	758
1919–20				83	2,438	5,359	5,817	1,324	693
1920–21				64	1,344	2,770	6,870	3,279	934
1921–22					960	4,869	9,029	2,197	892
1922–23				508	1,432	4,195	7,061	2,428	677
Colorado:									
1917–18					230	1,764	2,165	1,254	824
1918–19				10	850	2,673	2,676	1,259	452
1919–20					631	2,348	2,720	884	455
1920–21				15	643	1,939	2,882	1,481	702
1921–22				91	1,010	3,108	2,699	1,394	917
1922–23				74	788	2,358	1,874	1,344	1,106
All other:									
1917–18	11	4,213	8,771	3,824	2,735	2,106	5,721	5,014	2,428
1918–19	57	3,055	11,646	5,979	2,992	4,487	6,509	4,420	2,573
1919–20	47	727	5,710	5,555	3,350	4,658	7,051	4,572	2,189
1920–21	39	1,703	8,548	5,651	4,078	3,776	8,968	7,886	2,877
1921–22	[6] 276	4,487	5,542	6,585	5,805	8,254	16,154	5,024	2,922
1922–23	68	6,107	9,502	6,743	5,668	6,916	11,295	6,072	2,954
Totals:									
1917–18	[2] 1,483	6,835	13,923	15,478	12,910	14,292	23,542	13,536	7,120
1918–19	[3] 1,321	6,006	14,702	14,075	11,805	19,841	24,902	15,442	8,891
1919–20	[3] 781	2,226	9,707	13,684	13,626	22,257	32,535	17,362	9,532
1920–21	[2] 87	4,038	14,285	15,614	13,592	18,155	31,522	25,075	9,755
1921–22	[7] 2,051	5,426	15,298	16,979	16,115	26,040	43,250	16,729	10,496
1922–23	[5] 2,774	8,346	17,767	18,807	18,224	24,335	34,864	19,932	11,591

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.
[2] Includes 1 car in March
[3] Includes 5 cars in March.
[4] Includes 95 cars in March.
[5] Includes 1 car in February and 221 cars in March.
[6] Includes 20 cars in March.
[7] Includes 115 cars in March.

POTATOES—Continued.

TABLE 165.—*Potatoes, white: Monthly and yearly carlot shipments, by States, 1917–18 to 1922–23* [1]—Continued.

State and year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Total.
Maine:								
1917–18	1,808	1,673	2,020	1,530	825	445	16	14,794
1918–19	1,979	1,417	2,471	2,281	1,618	1,271	60	19,026
1919–20	2,837	1,474	2,796	3,493	1,208	132	.....	23,444
1920–21	2,478	2,036	2,495	1,778	1,643	458	18	17,817
1921–22	3,563	3,395	4,405	4,839	4,459	1,920	56	37,999
New York:								
1917–18	913	1,145	1,104	891	413	74	.....	10,110
1918–19	902	687	1,012	927	374	116	7	10,089
1919–20	1,298	1,153	1,929	817	214	15	3	12,817
1920–21	1,316	1,787	2,317	2,063	1,429	192	3	16,502
1921–22	2,119	1,489	1,812	1,125	425	57	2	18,929
New Jersey:								
1917–18	57	84	105	111	27	7	.....	11,709
1918–19	27	32	48	41	13	6	.....	5,889
1919–20	32	2	50	3	5	.....	.....	10,409
1920–21	37	24	109	37	15	.....	.....	17,147
1921–22	23	55	74	16	2	.....	.....	10,475
Virginia:								
1917–18	22	63	65	101	16	13	.....	20,440
1918–19	83	43	74	54	13	.....	.....	11,929
1919–20	19	12	11	20	.....	.....	.....	12,194
1920–21	125	55	73	200	29	.....	.....	16,630
1921–22	45	51	133	105	39	.....	.....	19,565
Florida:								
1917–18	3	5	2	.....	.....	.....	.....	4,294
1918–19	3	.....	.....	.....	.....	.....	.....	4,839
1919–20	.....	.....	.....	.....	.....	.....	.....	2,275
1920–21	.....	.....	.....	.....	.....	.....	.....	3,351
1921–22	2	.....	.....	.....	.....	.....	.....	2,344
Michigan:								
1917–18	458	751	938	1,326	1,553	531	4	9,431
1918–19	790	592	1,154	1,725	1,291	770	30	11,062
1919–20	1,099	1,011	1,714	1,134	543	26	.....	12,237
1920–21	1,630	990	1,657	2,174	2,632	813	26	17,119
1921–22	1,497	1,200	2,039	1,532	1,415	720	2	15,173
Wisconsin:								
1917–18	887	1,461	1,643	1,452	1,011	447	10	13,852
1918–19	2,460	1,598	2,122	1,608	963	362	.....	20,655
1919–20	2,137	1,754	1,923	893	344	148	3	21,975
1920–21	2,337	1,933	2,385	2,234	1,592	431	2	18,661
1921–22	1,358	1,200	1,964	1,155	746	255	3	10,981
Minnesota:								
1917–18	1,261	1,510	2,119	1,328	625	179	16	16,477
1918–19	1,839	1,359	2,365	1,612	1,018	434	6	23,515
1919–20	1,875	1,162	1,900	1,027	262	117	1	22,058
1920–21	1,469	1,723	2,542	1,133	863	214	9	23,214
1921–22	1,901	1,433	4,466	2,579	1,090	243	.....	29,659
Colorado:								
1917–18	1,065	980	1,674	1,537	790	177	2	12,462
1918–19	1,380	1,083	1,257	909	828	270	.....	13,647
1919–20	687	512	431	92	47	3	.....	8,810
1920–21	1,278	893	760	527	211	14	.....	11,345
1921–22	1,976	1,426	2,123	1,813	997	185	3	17,742
All other:								
1917–18	3,081	3,337	2,949	1,936	1,454	414	33	48,027
1918–19	3,290	2,187	3,236	3,496	1,539	367	68	55,901
1919–20	2,899	1,645	2,017	880	299	51	1	41,651
1920–21	3,436	2,529	3,701	2,811	1,147	225	4	57,379
1921–22	4,179	3,311	4,993	4,350	2,758	773	5	75,418
Totals:								
1917–18	9,555	11,009	12,619	10,212	6,714	2,287	81	161,596
1918–19	12,753	8,998	13,739	12,653	7,657	3,596	171	176,552
1919–20	12,883	8,725	12,771	8,359	2,922	492	8	167,870
1920–21	14,106	11,970	16,039	12,957	9,561	2,347	62	199,165
1921–22	16,663	13,560	22,009	17,514	11,931	4,153	71	238,285

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

SWEET POTATOES.

TABLE 166.—*Sweet potatoes: Acreage, production, and value in the United States, 1849–1922.*

[See note for Table 153.]

Year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.	Year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec. 1.	Farm value Dec. 1.
	1,000 acres.	*Bushels.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*		*1,000 acres.*	*Bushels.*	*1,000 bushels.*	*Cents.*	*1,000 dollars.*
1849	.....	.....	*38,268*	.....	.....	1909	*641*	90.1	57,764	68.5	39,585
1859	.....	.....	*42,095*	.....	.....	1910[1]	641	93.5	59,938	67.1	40,216
1869	.....	.....	*21,710*	.....	.....	1911	605	90.1	54,538	75.5	41,202
1879	.....	.....	*33,379*	.....	.....	1912	583	95.2	55,479	72.6	40,264
1889	.....	.....	*43,950*	.....	.....	1913	625	94.5	59,057	72.6	42,884
1899	*587*	77.5	41.593	53.0	22,065	1914	603	93.8	56,574	73.0	41,294
1900	544	88.9	48,346	50.6	24,478	1915	731	103.5	75,639	62.1	46,980
1901	547	81.7	44,697	57.5	25,720	1916	774	91.7	70,955	84.8	60,141
1902	532	85.2	45,344	58.1	26,358	1917	919	91.2	83,822	110.8	92,916
1903	548	89.2	48,870	58.3	28,478	1918	940	93.5	87,924	135.2	118,863
1904	548	88.9	48,705	60.4	29,424	1919	941	103.2	97,126	134.4	130,514
1905	551	92.6	51,034	58.3	29,734	1920[1]	992	104.8	103,925	113.4	117,834
1906	554	90.2	49,948	62.2	31,063	1921	1,066	92.5	98,654	88.1	86,894
1907	565	88.2	49,813	70.0	34,858	1922[2]	1,116	98.1	109,534	77.1	84,492
1908	599	92.4	55,352	66.1	36,564						

[1] Figures adjusted to census basis. [2] Preliminary estimate.

TABLE 167.—*Sweet potatoes: Acreage, production, and total farm value, by States, 1920–1922.*

State.	Thousands of acres.			Production (thousands of bushels).			Total value, basis Dec. 1 price (thousands of dollars).		
	1920	1921	1922[1]	1920	1921	1922[1]	1920	1921	1922[1]
New Jersey	16	17	20	2,288	1,870	3,500	3,546	3,179	2,520
Pennsylvania	2	2	2	276	248	280	428	446	311
Delaware	9	9	10	1,152	900	1,720	1,152	990	860
Maryland	9	9	10	1,134	900	1,590	1,304	1,260	765
Virginia	42	44	46	5,334	4,180	6,210	5,067	5,225	5,403
West Virginia	3	3	3	357	345	402	536	621	563
North Carolina	99	102	110	10,296	10,302	12,430	11,737	9,993	9,944
South Carolina	76	83	104	7,980	7,885	9,568	9,337	7,006	6,793
Georgia	132	146	152	12,276	12,410	12,616	11,908	7,818	7,696
Florida	30	32	32	2,850	2,720	2,720	3,420	2,611	2,557
Ohio	3	3	3	309	321	360	541	571	486
Indiana	3	3	3	360	396	375	576	594	450
Illinois	9	9	9	873	900	855	1,179	891	898
Iowa	4	3	4	416	312	440	1,028	546	616
Missouri	13	14	14	1,430	1,400	1,330	2,216	1,400	1,396
Kansas	4	4	4	540	500	416	864	575	437
Kentucky	18	18	20	1,890	1,872	2,020	2,835	2,153	2,222
Tennessee	42	44	44	4,284	4,400	4,180	5,269	4,180	3,260
Alabama	118	135	142	11,446	12,150	13,490	11,446	8,870	10,118
Mississippi	103	107	109	11,330	8,560	11,445	11,896	6,334	7,897
Louisiana	80	88	85	8,080	8,272	7,820	7,514	5,377	4,770
Texas	95	100	105	9,975	8,200	8,715	12,968	6,970	7,408
Oklahoma	23	27	27	2,645	2,646	2,052	3,491	2,805	2,421
Arkansas	49	54	47	5,145	5,670	3,760	5,402	4,649	3,346
New Mexico	1	1	1	118	120	120	260	312	240
Arizona	1	1	2	125	125	300	288	228	525
California	8	8	8	1,016	960	880	1,626	1,200	590
United States	992	1,066	1,116	103,925	98,654	109,534	117,834	86,894	84,492

[1] Preliminary estimate.

SWEET POTATOES—Continued.

TABLE 168.—*Sweet potatoes: Condition of crop, United States, on 1st of months named, 1902–1922.*

Year.	July.	Aug.	Sept.	Oct.	Year.	July.	Aug.	Sept.	Oct.	Year.	July.	Aug.	Sept.	Oct.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1902	83.6	78.3	77.2	79.7	1909	89.7	86.9	81.3	77.8	1916	90.4	85.9	82.7	79.2
1903	90.2	88.7	91.1	83.7	1910	87.3	85.4	83.9	80.2	1917	81.9	84.8	85.7	83.2
1904	87.3	88.5	89.9	86.1	1911	78.4	77.7	79.1	78.1	1918	86.4	78.3	74.5	77.4
1905	90.6	90.1	89.5	88.6	1912	86.9	85.0	84.1	82.0	1919	90.1	87.1	86.0	83.9
1906	90.9	91.2	88.7	86.0	1913	86.5	85.8	81.4	80.1	1920	87.2	86.9	86.8	87.1
1907	85.9	85.7	85.7	82.7	1914	77.1	75.5	81.8	80.7	1921	85.1	84.5	80.7	77.0
1908	89.8	88.8	88.7	85.5	1915	88.7	85.5	87.5	85.0	1922	88.2	86.3	82.4	79.0

TABLE 169.—*Sweet potatoes: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	July.	August.	September.	October.	November production estimate.	Final estimate.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1914	49,474	49,886	54,958	55,364	56,030	56,574
1915	64,067	62,779	65,274	64,800	66,650	75,639
1916	73,917	71,041	69,329	67,794	67,663	70,955
1917	82,196	86,405	88,151	87,244	84,727	83,822
1918	92,119	84,474	81,016	85,473	88,114	87,924
1919	101,942	100,456	100,320	99,413	102,946	97,126
1920	98,462	100,683	101,779	103,779	105,676	103,925
1921	112,023	114,086	110,164	106,569	105,841	98,654
Average	84,275	83,726	83,874	83,804	84,706	84,327
1922	111,334	111,921	108,372	105,490	110,359	[1] 109,534

[1] Preliminary estimate.

TABLE 170.—*Sweet potatoes: Yield per acre, price per bushel December 1, and value per acre, by States.*

State.	Yield per acre (bushels).						Farm price per bushel (cents).										Value per acre (dollars).[1]	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
N. J.	134	115	125	143	110	175	133	78	95	70	120	160	190	220	155	170	72	218.83	126.00
Pa.	132	120	140	138	124	140	134	90	86	75	135	140	185	180	155	180	111	213.02	155.40
Del.	132	120	138	128	100	172	89	60	70	62	81	120	125	110	100	110	50	134.85	86.00
Md.	130	130	140	126	100	153	98	60	70	70	88	100	150	133	115	140	50	156.82	76.50
Va.	123	120	140	127	95	135	102	70	76	65	90	110	145	155	95	125	87	148.96	117.45
W. Va.	118	106	115	119	115	134	144	100	98	92	126	140	204	210	150	180	140	207.85	187.60
N. C.	107	110	107	104	101	113	92	61	65	56	75	105	132	138	114	97	80	121.83	90.40
S. C.	95	95	90	105	95	92	97	75	70	65	85	104	142	148	117	90	71	115.05	65.32
Ga.	89	92	92	93	85	83	84	68	69	61	81	105	125	110	97	63	61	91.52	50.63
Fla.	95	110	100	95	85	85	100	75	80	63	86	115	125	140	120	96	94	116.47	79.90
Ohio	105	96	100	103	107	120	150	106	96	98	150	175	175	215	175	178	135	183.99	162.00
Ind.	118	108	105	120	132	125	144	103	90	90	150	165	195	215	160	150	120	200.25	150.00
Ill.	96	82	95	97	110	95	124	106	95	82	125	150	175	175	135	90	105	137.04	99.75
Iowa	96	93	67	104	104	110	181	150	127	108	192	210	210	250	247	175	140	198.14	154.00
Mo.	100	91	104	110	100	95	131	105	96	82	150	141	186	187	155	100	105	158.43	99.75
Kans.	111	80	109	135	125	104	141	110	106	100	150	160	222	185	160	115	105	177.24	109.20
Ky.	102	95	105	105	104	101	118	94	77	70	100	125	175	160	150	115	110	146.02	111.10
Tenn.	101	98	112	102	100	95	95	80	69	59	87	105	136	117	123	95	78	116.91	74.10
Ala.	94	96	94	97	90	95	83	67	65	57	74	92	115	113	100	73	75	92.42	71.25
Miss.	99	95	105	110	80	105	81	62	63	55	67	97	104	112	105	74	69	90.83	72.45
La.	90	75	90	101	94	92	82	70	64	50	66	104	128	115	93	65	61	87.34	56.12
Tex.	88	58	110	105	82	83	111	95	87	70	90	140	175	150	130	85	85	116.38	70.55
Okla.	93	65	110	115	98	76	132	104	89	73	135	160	220	180	132	106	118	148.14	89.68
Ark.	96	90	100	105	105	80	93	80	77	61	90	96	138	115	105	82	89	108.23	71.20
N. Mex.	121	125	120	118	120	120	190	130	113	120	180	205	250	225	220	260	200	279.20	240.00
Ariz.	137	135	150	125	125	150	196	170	150	150	185	227	238	250	230	182	175	310.36	262.50
Calif.	131	170	130	127	120	110	120	100	87	80	100	150	150	179	160	125	67	218.28	73.70
U. S.	98.4	93.5	103.2	104.8	92.5	98.1	95.2	72.6	73.0	32.1	84.8	110.8	135.2	134.4	113.4	88.1	77.1	113.31	75.71

[1] Based upon farm price Dec. 1.

SWEET POTATOES—Continued.

TABLE 171.—*Sweet potatoes: Farm price, cents per bushel on 1st of each month, 1910–1922.*

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.	Average.
1910	.....	76.8	79.4	82.4	83.4	79.4	75.1	78.2	81.2	77.6	71.8	67.1	77.5
1911	75.0	80.4	84.4	91.2	99.3	98.7	99.0	105.8	102.6	91.8	80.9	75.5	91.2
1912	83.0	90.2	98.0	109.9	118.0	115.0	112.2	107.8	95.7	84.4	76.8	72.6	97.0
1913	80.4	85.4	88.9	92.6	93.8	92.0	90.1	94.1	94.3	83.9	75.7	72.6	87.0
1914	79.2	84.3	86.7	89.6	94.5	94.2	82.6	97.5	92.8	87.3	76.3	73.0	86.5
1915	79.0	82.0	84.7	90.7	95.6	96.7	88.9	85.8	84.6	72.7	63.7	62.1	82.2
1916	64.9	71.2	77.3	78.0	80.5	83.4	79.4	87.1	89.9	83.7	80.6	84.8	80.1
1917	90.1	95.8	110.7	124.0	141.3	149.4	140.5	129.3	132.6	116.1	111.2	110.8	121.0
1918	117.2	123.1	142.7	151.6	155.0	148.8	134.3	144.7	156.2	160.6	146.0	135.2	143.0
1919	142.1	143.1	153.7	160.7	174.6	173.7	159.8	167.9	175.4	154.7	143.9	134.4	157.0
1920	138.2	156.6	172.2	185.8	205.2	216.6	213.6	223.5	200.7	160.8	122.1	113.4	175.7
1921	113.0	117.8	119.8	127.4	127.2	128.8	125.0	144.1	135.6	108.3	89.5	88.1	118.7
1922	95.1	96.8	110.7	111.7	114.1	121.2	119.0	128.4	107.6	94.8	80.7	77.1	104.8
Average 1913–1922	99.9	105.6	114.7	121.2	128.2	130.5	123.3	130.2	127.0	112.3	99.0	95.2	115.6

TABLE 172.—*Potatoes, sweet: Monthly average jobbing prices per bushel at 10 markets, 1920–21 to 1922–23.*[1]

Market and year.	August.[2]		September.		October (average).	November (average).	December (average).
	Range.	Average.	Range.	Average.			
New York:							
1920–21	$2.31–$3.08	$2.70	$1.04–$2.77	$1.76	$1.36	$1.23	$1.56
1921–22	1.23– 2.00	1.51	.88– 2.25	1.48	1.26	1.36	1.67
1922–23	.....	.....	.50– 1.75	1.00	.70	.73	.96
Chicago:							
1920–21	2.00– 3.00	2.61	1.35– 2.85	2.05	1.85	1.96	2.21
1921–22	1.14– 2.75	2.01	.80– 2.50	1.70	1.57	1.48	1.65
1922–23	.....	.....	.69– 2.75	1.44	1.00	1.22	1.26
Philadelphia:							
1920–21	1.23– 2.77	2.27	.85– 2.31	1.40	.99	.84	1.35
1921–22	1.15– 1.50	1.33	.92– 1.36	1.14	1.02	1.03	1.43
1922–23	.....	.....	.46– 1.00	.68	.57	.41	.68
Pittsburgh:							
1920–21	2.31	2.31	1.31– 3.00	1.95	1.49	1.38	1.95
1921–22	75 – 2.50	1.55	1.14– 2.25	1.62	1.49	1.50	1.69
1922–23	.....	.....	.62– 2.25	1.14	.90	.87	.98
St. Louis:							
1920–21	1.75– 2.75	2.25	.86– 2.30	1.66	1.16	1.61	1.40
1921–22	1.00– 1.40	1.23	.50– 1.38	1.09	.94	.....	1.11
1922–23	.....	.....	.65– 1.00	.87	.84	.92	.98
Cincinnati:							
1920–21	1.77– 2.35	1.98	1.00– 2.19	1.63	1.31	1.15	1.54
1921–22	.90– 1.54	1.19	.90– 1.40	1.21	1.11	.98	1.27
1922–23	.....	.....	.69– 1.15	.84	.66	.65	.88
St. Paul:							
1920–21	.....	.....	1.92– 4.00	2.86	2.13	2.03	2.05
1921–22	.....	.....	1.50– 3.00	2.05	1.77	1.79	1.89
1922–23	.....	.....	1.00– 2.50	1.52	1.24	1.36	1.69
Minneapolis:							
1920–21	3.08– 3.25	3.19	1.88– 3.75	2.80	2.03	1.99	2.09
1921–22	2.15– 3.25	2.47	1.62– 2.75	2.24	1.89	1.85	2.07
1922–23	.....	.....	1.00– 2.65	1.76	1.21	1.40	1.81
Kansas City:							
1920–21	2.00– 2.25	2.15	1.50– 2.00	1.75	.....	1.62	1.48
1921–22	1.50– 1.65	1.56	1.00– 1.50	1.25	1.01	1.10	1.21
1922–23	.....	.....	.75– 1.00	.89	.78	.62	1.04
Washington:[3]							
1920–21	2.15– 2.62	2.36	1.08– 2.46	1.63	1.17	1.06	1.09
1921–22	1.27– 1.62	1.40	.85– 1.35	1.10	.97	.96	1.26
1922–23	.....	.....	.46– .69	.62	.58	.73	.68

[1] 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.
[2] Quotations began Aug. 23, 1920 and 1921.
[3] Sales direct to retailers.

SWEET POTATOES—Continued.

TABLE 172.—*Potatoes, sweet: Monthly average jobbing prices per bushel at 10 markets, 1920–21 to 1922–23*[1]—Continued.

Market and year.	January (average).	February (average).	March (average).	April.		May.	
				Range.	Average.	Range.	Average.
New York:							
1920–21	$1.76	$1.82	$2.40	$1.50–$2.75	$2.32	$2.00–$3.00	$2.73
1921–22	2.02	1.93	1.92	1.50– 2.50	2.27	1.25– 2.50	2.23
Chicago:							
1920–21	2.20	2.29	2.35	1.75– 3.25	2.40	1.75– 2.50	2.13
1921–22	1.81	1.89	1.93	1.00– 2.50	1.69	.75– 2.40	1.29
Philadelphia:							
1920–21	1.53	1.55	1.74	1.25– 2.00	1.66	.80– 1.90	1.63
1921–22	1.51	1.65	1.72	1.00– 1.80	1.42	.....	.....
Pittsburgh:							
1920–21	1.91	1.73	2.03	1.40– 2.15	1.89	1.50– 2.15	1.92
1921–22	1.88	1.94	1.82	1.25– 2.00	1.71	.75– 2.00	1.32
St. Louis:							
1920–21	1.68	1.85	1.78	1.50– 2.10	1.80	1.80– 1.90	1.84
1921–22	1.20	1.10	1.18	.70– 1.90	1.04	.....	.....
Cincinnati:							
1920–21	1.71	1.95	1.78	1.31– 3.00	1.80	1.35– 2.10	1.89
1921–22	1.21	1.16	1.15	.75– 1.15	1.03	.40– 1.15	.80
St. Paul:							
1920–21	2.18	2.26	2.37	2.25	2.25	.....	.....
1921–22	2.19	1.88	1.88	1.15– 2.25	1.66	1.00– 2.00	1.35
Minneapolis:							
1920–21	2.25	2.28	2.41	2.25	2.25	.....	.....
1921–22	2.19	1.85	2.08	1.25– 2.75	1.76	.25– 2.00	.95
Kansas City:							
1920–21	1.59	1.64	1.66	1.75– 2.25	1.92	1.85– 2.25	2.01
1921–22	1.30	1.22	1.19	.85– 1.25	1.09	.85– 1.00	.92
Washington:[2]							
1920–21	1.66	1.73	1.72	1.38– 2.00	1.59	1.62– 2.50	1.89
1921–22	1.58	1.68	1.68	1.08– 1.50	1.32	1.00– 1.40	1.14

[1] 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.
[2] Sales direct to retailers.

TABLE 173.—*Potatoes, sweet: Carlot shipments, by States of origin, 1917–18 to 1921–22.*[1]

State.	1917–18	1918–19	1919–20	1920–21	1921–22				Total, 1921–22.
					July–Sept.	Oct.–Dec.	Jan.–Mar.	Apr.–June.	
New Jersey	1,955	1,785	2,237	2,948	467	1,004	618	126	2,215
Delaware	670	1,377	1,212	1,799	8	640	949	131	1,728
Maryland	607	441	1,179	1,473	236	617	393	45	1,291
Virginia, Eastern Shore	5,476	2,948	5,561	4,899	2,348	2,418	5	7	4,778
Virginia, other	139	76	179	634	193	74	50	18	335
North Carolina	463	708	750	884	510	198	200	106	1,014
Georgia	152	525	481	966	78	340	560	371	1,349
Tennessee	114	545	1,212	898	155	390	716	[2] 314	1,575
Alabama	225	342	401	482	380	110	28	99	617
Louisiana	51	150	211	647	157	264	283	254	958
Texas	186	329	506	622	171	264	242	78	755
Arkansas	159	149	355	498	16	171	250	141	578
California	314	800	640	708	251	585	150	14	1,000
All other	146	365	561	473	139	403	330	168	1,040
Total	10,657	10,540	15,485	17,931	5,109	7,478	4,774	[2] 1,872	19,233

[1] Shipments as shown in car lots include those by boat reduced to carlot basis.
[2] Includes 13 cars in July.

HAY.

TABLE 174.—*Hay: Acreage, production, value, exports, etc., in the United States, 1849–1922.*

[See note for Table 153.]

Year.	Acreage.	Average yield per acre.	Production.	Average farm price per ton Dec. 1.	Farm value Dec. 1.	Chicago prices No. 1 timothy per ton, by carload lots. December. Low.	December. High.	Following May. Low.	Following May. High.	Domestic exports, fiscal year beginning July 1.	Imports, fiscal year beginning July 1.
	1,000 acres.	*Tons.*[1]	*1,000 tons.*[1]	*Dolls.*	*1,000 dollars.*	*Dolls.*	*Dolls.*	*Dolls.*	*Dolls.*	*Tons.*[2]	*Tons.*[2]
1849			*13,839*								
1859			*19,084*								
1866–1875	20,418	1.22	24,929	11.51	286,821					5,711	
1876–1885	31,124	1.24	38,723	9.21	352,577	11.56	12.36	12.38	14.22	11,665	82,510
1886–1895	40,127	1.18	47,401	8.89	420,673	10.75	11.75	11.70	1[illegible].42	34,724	124,213
1896	40,978	1.33	54,380	7.48	406,957	8.00	8.50	8.50	9.00	61,658	119,942
1897	41,336	1.42	58,878	7.28	428,919	8.00	8.50	9.50	10.50	81,827	3,887
1898	43,120	1.55	66,772	6.63	442,905	8.00	8.25	9.50	10.50	64,916	19,872
1899	*43,127*	1.33	57,450	8.20	470,844	10.50	11.50	10.50	12.50	72,716	143,890
1900	42,070	1.27	53,231	9.72	517,399	11.50	14.00	12.50	13.50	89,364	142,620
1901	42,066	1.33	55,819	9.91	553,328	13.00	13.50	12.50	13.50	153,431	48,415
1902	42,962	1.52	65,296	9.19	599,781	12.00	12.50	13.50	15.00	50,974	293,112
1903	43,400	1.57	68,154	9.35	637,485	10.00	12.00	12.00	15.00	60,730	114,388
1904	44,645	1.55	69,192	8.91	616,369	10.50	11.50	11.00	12.00	66,557	46,214
1905	45,991	1.59	72,973	8.59	627,623	10.00	12.00	11.50	12.50	70,172	68,540
1906	47,891	1.39	66,341	10.43	692,116	15.50	18.00	15.50	20.50	58,662	61,116
1907	49,698	1.47	72,261	11.78	850,915	13.00	17.50	13.00	14.00	77,281	10,063
1908	51,196	1.53	78,440	9.14	716,644	11.50	12.00	12.00	13.00	64,641	6,712
1909	*51,041*	1.46	74,384	10.58	786,722	16.00	17.00	12.50	16.00	55,007	96,829
1910[3]	51,015	1.36	69,378	12.14	842,252	16.00	19.00	18.50	23.50	55,223	336,757
1911	48,240	1.14	54,916	14.29	784,926	20.00	22.00	24.00	28.00	59,730	699,004
1912	49,530	1.47	72,691	11.79	856,695	13.00	18.00	14.00	16.50	60,720	156,323
1913	48,954	1.31	64,116	12.43	797,077	14.50	18.00	15.00	17.50	50,151	170,786
1914	49,145	1.43	70,071	11.12	779,068	15.00	16.00	16.50	17.50	105,508	20,187
1915	51,108	1.68	85,920	10.63	913,644	14.50	16.50	17.50	20.00	178,336	43,184
1916	55,721	1.64	91,192	11.22	1,022,930	15.00	17.50	19.00	22.00	85,529	58,147
1917	55,203	1.51	83,308	17.09	1,423,766	26.00	28.00	20.00	26.00	30,145	410,738
1918	55,755	1.37	76,660	20.13	1,543,494	29.00	31.00	34.00	37.00	28,898	277,448
1919[3]	56,888	1.52	86,359	20.08	1,734,085	28.00	32.00	35.00	50.00	59,948	224,952
1920	58,101	1.51	87,855	17.76	1,560,235	26.00	32.00	21.00	23.00	49,505	112,665
1921	58,769	1.40	82,379	12.11	997,527	20.00	24.00	26.00	28.00	54,679	4,783
1922[4]	61,208	1.58	96,687	12.59	1,217,044	21.00	22.00				

[1] 2,000 pounds.
[2] 2,240 pounds.
[3] Figures adjusted to census basis.
[4] Preliminary estimate.

HAY—Continued.

TABLE 175.—*Hay: Acreage, production, and total farm value, by States, 1921–22.*

States.	Tame hay.						Wild, salt, or prairie hay.					
	Thousands of acres.		Production (thousands of tons).		Total value, basis Dec. 1 price (thousands of dollars).		Thousands of acres.		Production (thousands of tons).		Total value, basis Dec. 1 price (thousands of dollars).	
	1921	1922[1]	1921	1922[1]	1921	1922[1]	1921	1922[1]	1921	1922[1]	1921	1922[1]
Maine	1,245	1,233	996	1,541	19,920	20,187	15	15	13	16	214	176
New Hampshire	450	450	428	585	11,984	11,408	12	12	10	12	200	144
Vermont	900	909	945	1,273	20,790	22,278	13	13	13	14	234	147
Massachusetts	423	435	529	587	14,283	13,501	12	12	12	12	180	174
Rhode Island	45	45	50	54	1,350	1,431	1	1	1	1	17	18
Connecticut	320	323	416	436	10,816	11,336	9	9	10	9	170	146
New York	4,895	4,870	4,895	6,818	88,110	96,134	65	67	65	79	975	790
New Jersey	300	303	396	485	7,128	8,778	23	22	28	31	364	372
Pennsylvania	3,025	3,055	3,630	4,888	61,710	69,898	23	23	28	28	336	224
Delaware	73	77	88	116	1,540	2,204	1	2	1	2	8	20
Maryland	390	406	526	658	7,943	12,173	4	4	5	4	52	60
Virginia	930	976	911	1,220	16,125	19,520	12	14	9	14	130	189
West Virginia	725	768	870	1,037	15,225	17,422	11	11	12	13	144	182
North Carolina	690	800	897	1,120	17,761	20,384	42	45	42	54	546	837
South Carolina	395	455	321	455	6,420	7,962	6	6	5	6	80	89
Georgia	693	728	610	670	9,638	11,390	19	19	19	17	243	230
Florida	110	126	121	139	2,360	2,572	6	6	5	5	80	85
Ohio	3,213	3,374	4,081	4,892	46,932	52,834	2	2	3	3	30	30
Indiana	2,360	2,575	2,549	3,734	33,137	41,821	21	22	22	25	198	212
Illinois	3,172	3,645	3,743	5,235	50,530	66,062	62	62	74	78	755	780
Michigan	2,873	3,074	2,873	4,457	37,349	45,016	55	56	60	73	552	518
Wisconsin	3,064	3,155	4,136	5,553	63,694	68,302	364	335	437	436	3,933	3,357
Minnesota	1,949	1,988	2,924	3,141	25,146	33,609	2,033	2,053	2,602	2,505	16,913	19,288
Iowa	3,171	3,393	4,693	4,750	43,645	47,500	450	432	522	492	3,863	4,133
Missouri	3,200	3,520	3,616	3,872	35,437	44,528	129	134	142	127	852	952
North Dakota	961	1,028	1,297	1,655	9,987	12,412	2,308	2,469	2,308	2,592	17,310	12,960
South Dakota	970	1,000	1,358	1,750	8,691	13,125	3,500	3,675	2,800	3,308	15,400	18,194
Nebraska	1,565	1,553	3,427	3,323	23,989	37,218	2,256	2,208	1,895	1,877	9,475	15,954
Kansas	1,552	1,630	2,794	3,537	22,352	32,894	932	887	1,016	976	5,588	5,856
Kentucky	1,051	1,177	1,104	1,471	17,112	21,330	26	23	23	26	264	325
Tennessee	1,329	1,382	1,528	1,866	23,684	30,602	50	52	58	57	667	627
Alabama	836	760	752	760	11,731	12,920	25	25	22	22	264	297
Mississippi	428	458	492	550	7,134	7,975	40	41	40	45	448	518
Louisisana	208	214	266	342	3,724	4,549	15	18	20	25	200	225
Texas	639	671	882	1,074	8,732	12,351	203	201	223	221	2,074	2,210
Oklahoma	910	965	1,383	1,448	11,341	18,100	485	495	485	446	2,862	3,345
Arkansas	609	585	658	731	8,225	9,942	129	133	135	140	1,215	1,680
Montana	1,045	1,045	1,881	1,986	16,365	17,874	657	692	526	623	4,524	4,984
Wyoming	690	710	1,242	1,349	9,315	11,466	300	300	240	270	1,560	2,295
Colorado	1,195	1,239	2,510	2,354	17,319	26,365	407	366	407	355	2,442	3,195
New Mexico	191	172	458	310	5,817	6,045	48	30	41	24	451	432
Arizona	150	165	450	578	5,850	10,404	15	10	15	5	165	60
Utah	490	503	1,284	1,459	7,961	11,964	106	112	117	155	585	852
Nevada	177	179	473	507	4,257	5,983	179	181	199	288	1,791	2,736
Idaho	1,029	1,029	2,984	2,572	19,993	25,720	131	132	196	158	882	1,185
Washington	1,008	987	2,621	2,310	27,520	37,422	30	27	45	31	315	372
Oregon	995	965	2,288	1,930	22,422	26,248	233	228	255	228	1,152	1,596
California	2,129	2,108	5,003	5,059	55,033	75,885	167	160	184	176	1,288	1,584
United States	58,769	61,208	82,379	96,687	997,527	1,217,044	15,632	15,842	15,391	16,104	101,991	114,635

[1] Preliminary estimate.

HAY—Continued.

TABLE 176.—*Hay: Stocks on farms May 1, 1910–1922.*

Year.	Production of all hay preceding year (tons).	Per cent on farms May 1.	Tons on farms May 1.	Price per ton May 1.	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....	87,216,000	11.5	10,053,000	$11.08	1917....	110,992,000	11.4	12,659,000	$13.94
1911....	82,529,000	12.4	10,222,000	11.69	1918....	98,439,000	11.7	11,476,000	17.97
1912....	67,071,000	8.5	5,732,000	16.31	1919....	91,139,000	9.4	8,559,000	22.31
1913....	90,734,000	14.9	13,523,000	10.42	1920....	104,760,000	10.1	10,618,000	24.22
1914....	79,179,000	12.2	9,631,000	11.63	1921....	105,315,000	17.8	18,771,000	13.08
1915....	88,686,000	12.2	10,797,000	11.03	1922....	97,770,000	11.2	10,919,000	12.98
1916....	107,263,000	13.5	14,452,000	11.27					

TABLE 177.—*Hay: Condition of crop, United States, on 1st of months named, 1909–1922.*

Year.	May.	June.	July.	August.	Year.	May.	June.	July.	August.
	Per ct.	*Per ct.*	*Per ct.*	*Per ct.*		*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
1909	84.5	87.6	87.8	86.8	1916	88.2	90.7	93.5	95.7
1910	89.8	86.1	80.2	83.1	1917	88.7	85.1	84.3	84.6
1911	84.2	78.8	65.0	67.6	1918	89.6	89.0	82.2	82.3
1912	86.0	90.3	86.2	90.9	1919	94.3	94.1	91.1	91.0
1913	88.5	87.5	79.5	81.8	1920	89.4	88.9	86.7	90.5
1914	90.7	89.1	82.2	86.7	1921	91.5	85.0	79.5	82.5
1915	91.2	89.6	87.5	90.1	1922	90.1	91.1	89.0	90.8

TABLE 178.—*Hay: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	May.	June.	July.	August.	September production estimate.	Final estimate.
	1,000 tons.	*1,000 tons.*	*1,000 tons.*	*1,000 tons.*	*1,000 tons.*	*1,000 tons.*
1917	106,371	102,088	103,184	100,154	91,715	98,439
1918	107,550	106,962	101,642	99,341	86,254	91,139
1919	114,930	115,907	115,701	110,876	103,544	104,760
1920	111,831	111,788	102,444	107,266	106,451	105,315
1921	107,784	100,977	96,961	97,073	94,619	97,770
1922	103,579	106,099	106,780	110,368	108,736	[1] 112,791

[1] Preliminary estimate.

HAY—Continued.

TABLE 179.—*Hay: Yield per acre, price per ton December 1, and value per acre, by States.*

State.	Yield per acre (tons).						Farm price per ton (dollars).											Value per acre (dollars).[1]	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
Me....	1.07	1.15	1.20	0.95	0.80	1.25	15.57	13.90	13.10	14.90	12.40	11.10	13.90	18.70	24.60	20.00	13.10	18.55	16.38
N. H..	1.14	1.15	1.20	1.10	.95	1.30	19.34	17.20	17.00	17.40	14.50	12.00	18.80	24.00	25.00	28.00	19.50	24.14	25.35
Vt.....	1.32	1.30	1.50	1.35	1.05	1.40	16.76	14.50	14.60	15.50	12.60	11.50	16.30	20.10	23.00	22.00	17.50	24.82	24.50
Mass..	1.31	1.20	1.40	1.35	1.25	1.35	23.45	21.10	21.50	20.00	19.00	19.90	26.00	27.00	28.00	27.00	23.00	34.08	31.05
R. I...	1.19	1.30	1.25	1.10	1.10	1.20	24.84	21.20	20.20	22.50	20.00	20.30	25.50	32.00	33.20	27.00	26.50	33.96	31.80
Conn..	1.30	1.30	1.35	1.20	1.30	1.35	23.40	20.10	19.50	20.00	18.50	19.50	24.00	30.20	30.00	26.00	26.00	34.20	35.10
N. Y..	1.26	1.25	1.40	1.25	1.00	1.40	16.92	15.30	14.60	15.70	11.90	15.10	20.40	20.50	23.60	18.00	14.10	24.75	19.74
N. J...	1.51	1.50	1.50	1.65	1.32	1.60	21.58	19.00	19.50	19.00	17.60	20.00	28.00	29.10	27.50	18.00	18.10	36.76	28.96
Pa.....	1.39	1.41	1.35	1.40	1.20	1.60	17.88	14.90	14.50	15.60	13.80	17.50	23.70	24.00	23.50	17.00	14.30	28.76	22.88
Del....	1.33	1.25	1.28	1.40	1.20	1.50	19.81	15.70	17.00	17.00	15.90	20.50	28.00	26.00	21.50	17.50	19.00	29.04	28.50
Md....	1.45	1.35	1.40	1.55	1.35	1.62	19.00	15.20	15.30	16.20	14.00	19.90	26.80	24.00	25.00	15.10	18.50	30.76	29.97
Va.....	1.22	1.35	1.20	1.30	.98	1.25	18.86	15.50	17.20	15.70	15.00	21.30	23.00	23.70	23.50	17.70	16.00	26.42	20.00
W. Va.	1.26	1.30	1.20	1.25	1.20	1.35	19.03	14.90	17.20	15.00	14.50	21.10	23.50	25.60	24.20	17.50	16.80	27.86	22.68
N. C...	1.19	1.20	1.02	1.05	1.30	1.40	19.35	16.50	17.10	16.50	17.50	19.70	21.00	24.20	23.00	19.80	18.20	24.41	25.48
S. C...	.95	1.10	.90	.93	.81	1.00	20.82	18.70	17.00	15.60	16.70	20.60	26.10	31.00	25.00	20.00	17.50	23.66	17.50
Ga.....	.94	1.24	.85	.81	.88	.92	19.05	17.90	16.20	15.10	16.20	20.00	23.50	25.30	23.50	15.80	17.00	20.84	15.64
Fla....	.95	1.14	.77	.65	1.10	1.10	18.41	18.20	17.20	16.00	16.00	18.20	18.50	23.00	19.00	19.50	18.50	18.52	20.35
Ohio..	1.36	1.40	1.35	1.35	1.27	1.45	15.43	12.80	13.40	12.70	10.60	19.00	22.20	21.80	19.50	11.50	10.80	25.68	15.66
Ind....	1.30	1.45	1.22	1.29	1.08	1.45	15.37	14.10	14.10	11.00	10.90	18.70	19.80	21.60	19.30	13.00	11.20	24.22	16.24
Ill.....	1.32	1.35	1.35	1.25	1.18	1.45	15.96	14.10	14.40	10.80	11.30	20.00	21.00	21.40	20.60	13.50	12.50	24.78	18.12
Mich..	1.18	1.03	1.20	1.20	1.00	1.45	15.55	13.10	12.00	12.20	10.00	17.20	23.50	23.40	21.00	13.00	10.10	23.26	14.64
Wis...	1.60	1.40	1.77	1.70	1.35	1.76	14.92	11.10	9.30	9.90	11.60	17.30	21.60	20.30	20.40	15.40	12.30	30.21	21.65
Minn..	1.62	1.40	1.90	1.70	1.50	1.58	9.73	6.60	6.10	6.40	7.00	12.10	14.10	14.50	11.20	8.60	10.70	19.60	16.91
Iowa..	1.45	1.30	1.53	1.52	1.48	1.40	12.53	9.60	10.10	8.70	9.00	16.80	18.20	17.40	16.24	9.30	10.00	21.88	14.00
Mo....	1.14	.90	1.35	1.24	1.13	1.10	14.04	14.50	13.60	8.50	9.30	17.50	20.50	19.50	15.70	9.80	11.50	19.09	12.65
N. D..	1.26	1.10	1.00	1.25	1.35	1.61	8.80	5.80	5.20	5.70	6.00	11.50	14.60	14.10	9.90	7.70	7.50	12.61	12.08
S. D..	1.65	1.60	1.75	1.75	1.40	1.75	7.94	6.50	5.70	5.30	5.40	10.60	10.00	13.50	8.50	6.40	7.50	15.87	13.12
Nebr..	1.90	1.40	1.86	1.90	2.19	2.14	10.21	8.70	6.90	5.80	7.10	15.20	17.20	14.00	9.00	7.00	11.20	21.37	23.97
Kans..	2.05	1.73	2.46	2.08	1.80	2.17	11.24	12.50	7.40	5.60	7.60	16.60	19.40	15.80	10.20	8.00	9.30	28.85	20.18
Ky....	1.19	1.30	1.15	1.20	1.05	1.25	17.90	16.50	16.00	12.50	12.60	20.30	23.70	25.40	22.00	15.50	14.50	21.82	18.12
Tenn..	1.26	1.35	1.16	1.28	1.15	1.35	18.48	16.20	17.00	13.90	15.00	19.30	24.00	27.00	20.50	15.50	16.40	26.19	22.14
Ala....	.89	.81	.90	.86	.90	1.00	16.43	14.20	13.80	12.40	13.00	16.20	20.30	22.30	19.50	15.60	17.00	16.06	17.00
Miss...	1.27	1.20	1.35	1.44	1.15	1.20	14.80	13.50	12.00	11.00	11.00	15.30	18.50	20.50	17.20	14.50	14.50	22.70	17.40
La.....	1.40	1.30	1.44	1.40	1.28	1.60	14.76	12.50	12.00	10.30	11.00	14.30	21.20	23.00	16.00	14.00	13.30	24.78	21.28
Tex...	1.40	1.00	1.60	1.40	1.38	1.60	13.77	11.80	9.80	7.90	10.50	20.00	24.90	18.00	13.40	9.90	11.50	21.22	18.40
Okla..	1.53	1.20	1.82	1.60	1.52	1.50	11.41	10.40	7.90	5.60	9.00	15.40	19.50	15.10	10.50	8.20	12.50	20.96	18.75
Ark...	1.18	1.30	1.12	1.16	1.08	1.25	14.67	13.50	12.90	10.30	12.50	15.40	19.50	20.50	16.00	12.50	13.60	20.60	17.00
Mont..	1.62	1.60	1.00	1.80	1.80	1.90	12.77	9.60	8.70	7.50	11.00	18.60	19.60	23.00	12.00	8.70	9.00	25.53	17.10
Wyo..	1.84	2.10	1.40	2.00	1.80	1.90	11.60	6.70	7.50	7.80	12.00	17.00	14.00	23.00	12.00	7.50	8.50	25.60	16.15
Colo...	2.08	2.22	2.05	2.15	2.10	1.90	11.67	10.00	7.40	7.60	11.00	16.00	15.50	18.50	12.00	6.90	11.20	30.66	21.28
N. M..	2.24	2.20	2.40	2.40	2.40	1.80	15.26	12.10	9.30	8.80	14.00	21.00	20.00	18.20	17.00	12.70	19.50	39.77	35.10
Ariz...	3.26	3.20	3.50	3.10	3.00	3.50	17.27	11.00	8.80	9.60	14.50	24.80	24.00	20.00	29.00	13.00	18.00	72.50	63.00
Utah..	2.48	2.35	1.92	2.62	2.62	2.90	12.12	9.10	7.70	8.00	15.00	15.00	17.10	21.90	13.00	6.20	8.20	35.21	23.78
Nev...	2.54	2.60	2.28	2.33	2.67	2.83	12.86	11.00	8.30	7.50	9.60	15.90	19.90	19.60	16.00	9.00	11.80	40.77	33.39
Idaho.	2.68	3.00	2.30	2.70	2.90	2.50	11.91	7.20	7.30	7.70	12.10	16.00	17.60	22.00	12.50	6.70	10.00	40.92	25.00
Wash.	2.23	1.80	2.40	2.00	2.60	2.34	16.01	10.90	11.00	10.80	13.80	20.00	25.40	23.00	18.50	10.50	16.20	41.84	37.91
Oreg...	2.01	1.80	1.72	2.25	2.30	2.00	13.31	9.00	9.20	9.50	10.90	17.50	20.00	19.10	14.50	9.80	13.60	31.63	27.20
Calif...	2.11	1.25	2.25	2.30	2.35	2.40	14.79	13.50	8.20	11.20	12.60	19.20	20.00	17.20	20.00	11.00	15.00	34.79	36.00
U. S.	1.48	1.37	1.52	1.51	1.40	1.58	14.52	12.43	11.12	10.63	11.22	17.09	20.13	20.08	17.76	12.11	12.59	25.55	19.88

[1] Based upon farm price Dec. 1.

HAY—Continued.

TABLE 180.—*Wild, salt, and prairie hay: Acreage, production, and value, United States, 1909–1922.*

Year.	Acreage.	Yield per acre.	Production.	Farm price per ton.	Farm value.	Year.	Acreage.	Yield per acre.	Production.	Farm price per ton.	Farm value.
	1,000 acres.	*Tons.*	*1,000 tons.*	*Dolls.*	*1,000 dolls.*		*1,000 acres.*	*Tons.*	*1,000 tons.*	*Dolls.*	*1,000 dolls.*
1909 [1]	17,186	1.07	18,388	.....	.....	1916	16,635	1.19	19,800	7.00	156,503
1910	17,187	.77	13,151	.....	.....	1917	16,212	.93	15,131	13.49	204,086
1911	17,187	.71	12,155	.....	.....	1918	15,365	.94	14,479	15.23	220,487
1912	17,427	1.04	18,043	.....	.....	1919	17,150	1.07	18,401	16.50	303,639
1913	16,341	.92	15,063	.....	.....	1920	15,787	1.11	17,460	11.35	198,115
1914	16,752	1.11	18,615	.....	.....	1921	15,632	.98	15,391	6.63	101,991
1915	16,796	1.27	21,343	6.80	145,125	1922 [2]	15,842	1.02	16,104	7.12	114,635

[1] Census figures. [2] Preliminary estimate.

TABLE 181.—*Hay: Farm price per ton, 1st of each month, 1908–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[1]
1908	$11.28	$11.20	$11.02	$10.83	$10.78	$10.66	$9.79	$9.28	$9.18	$9.23	$9.22	$9.02	10.03
1909	9.09	9.27	9.47	9.65	10.12	10.70	10.50	9.74	9.67	10.03	10.35	10.50	9.93
1910	10.45	11.34	11.61	11.53	11.08	10.84	10.75	10.75	11.21	11.12	11.20	12.14	11.19
1911	11.69	11.80	11.57	11.36	11.69	12.38	13.19	13.83	13.63	13.53	13.61	14.29	12.83
1912	13.75	14.39	14.66	15.64	16.31	16.22	14.32	12.03	11.21	11.02	11.08	11.79	13.24
1913	11.11	10.86	10.61	10.43	10.42	10.55	10.47	10.43	11.04	11.45	11.51	12.43	11.02
1914	11.70	11.67	11.69	11.52	11.63	11.64	11.29	10.76	11.10	10.96	10.78	11.12	11.28
1915	10.47	10.83	10.89	10.98	11.03	11.16	10.85	10.19	9.95	9.83	9.98	9.87	10.43
1916	10.07	10.55	10.75	10.85	11.27	11.47	11.10	9.89	9.72	9.65	9.99	10.63	10.42
1917	10.86	11.34	11.54	12.53	13.94	14.68	13.96	12.90	13.26	13.83	15.16	16.54	13.47
1918	18.09	18.88	19.14	18.68	17.97	17.13	16.07	15.92	17.42	18.45	19.27	19.35	18.11
1919	19.92	19.79	19.82	20.52	22.31	23.30	21.73	20.16	20.52	19.79	19.36	19.45	20.39
1920	20.55	21.76	22.31	22.94	24.22	24.85	23.62	20.89	19.88	18.04	17.45	16.70	20.75
1921	16.16	15.24	14.28	13.61	13.08	12.52	12.61	11.73	11.70	11.36	11.13	11.25	12.78
1922	11.33	11.36	11.80	12.30	12.98	12.65	11.01	10.97	10.58	10.78	10.96	11.81	11.31
Average, 1913–1922	14.03	14.23	14.28	14.44	14.88	15.00	14.36	13.38	13.52	13.41	13.56	13.92	14.00

[1] Weighted average.

TABLE 182.—*Timothy and clover hay: Farm price per ton, 15th of each month, 1918–1922.*

Date.	Timothy.					Clover.				
	1918	1919	1920	1921	1922	1918	1919	1920	1921	1922
Jan. 15	$21.37	$23.48	$24.59	$19.88	$14.51	$19.82	$21.69	$23.78	$19.17	$13.90
Feb. 15	22.25	22.69	25.49	18.30	14.77	21.11	21.11	24.94	17.39	14.10
Mar. 15	22.53	22.68	26.75	17.04	15.06	21.37	21.25	26.13	16.44	14.06
Apr. 15	21.47	24.74	27.99	16.09	15.52	19.68	23.36	26.93	15.47	14.51
May 15	20.40	27.27	29.92	15.44	16.10	18.30	25.33	28.31	14.90	14.90
June 15	18.55	27.50	30.05	15.16	15.75	16.54	25.48	27.80	14.52	14.33
July 15	17.61	24.22	26.59	14.51	14.33	15.73	22.62	24.62	13.89	12.82
Aug. 15	18.98	23.89	24.35	15.01	13.61	17.18	21.58	22.82	14.17	12.66
Sept. 15	20.85	23.65	24.15	14.83	13.44	19.27	21.74	22.57	14.37	12.54
Oct. 15	22.60	23.04	22.74	14.39	13.70	20.60	21.17	21.29	13.99	12.51
Nov. 15	22.93	22.90	22.09	14.22	13.93	21.13	21.61	20.60	13.83	12.67
Dec. 15	22.94	23.71	21.22	14.31	13.91	21.26	22.60	19.96	14.17	13.03

HAY—Continued.

TABLE 183.—*Hay: Receipts, in tons, at 12 markets, 1910–11 to 1921–22.*[1]

Crop year.	Baltimore.	Boston.	Chicago.	Kansas City.	Milwaukee.	Minneapolis.	New York.
1910–11	68,589	162,420	273,983	308,940	38,313	66,306	336,471
1911–12	69,284	164,196	351,630	318,948	44,199	63,570	286,474
1912–13	58,939	139,920	274,769	343,392	47,138	37,290	296,866
1913–14	63,186	117,740	369,032	285,288	36,283	38,280	317,543
Average 1910–11 to 1913–14	65,000	146,069	317,354	314,142	41,483	51,361	309,338
1914–15	54,904	115,161	325,095	398,604	45,060	45,513	330,098
1915–16	50,415	126,590	273,181	398,172	34,637	45,376	294,395
1916–17	50,874	123,780	237,932	359,316	24,360	35,652	212,256
1917–18	64,053	97,150	352,730	419,964	23,131	39,126	199,727
1918–19	41,870	67,000	287,031	386,460	16,656	28,457	221,580
1919–20	32,650	58,740	225,050	599,340	19,053	22,601	167,088
1920–21	19,559	50,220	149,801	337,169	19,466	23,015	150,338
Average 1914–15 to 1920–21	44,904	91,234	264,403	414,146	26,052	34,249	225,069
1921–22	13,730	51,250	135,625	196,534	19,038	23,467	98,904
1921.							
July	928	3,030	9,508	12,001	600	883	9,474
August	1,251	5,790	14,021	14,201	1,032	1,958	8,770
September	974	5,200	4,977	11,143	1,380	1,393	8,468
October	1,122	2,390	13,453	14,674	1,695	2,659	9,979
November	815	7,450	9,590	15,637	1,978	1,793	9,827
December	1,182	2,110	14,614	13,354	1,920	2,291	7,156
1922.							
January	915	4,810	13,206	20,647	1,512	2,351	5,644
February	1,119	3,460	11,429	23,619	1,860	2,455	7,028
March	1,124	3,510	8,268	24,189	1,776	2,736	5,881
April	1,133	3,310	8,332	19,272	1,152	2,071	7,384
May	1,559	5,030	14,840	14,487	2,124	1,578	9,490
June	1,608	5,160	13,387	13,310	2,009	1,299	9,803
Total	13,730	51,250	135,625	196,534	19,038	23,467	98,904
1922.							
July	1,169	2,070	9,906	14,190	1,348	2,244	10,053
August	1,780	4,110	9,861	21,978	1,140	2,263	6,000
September	1,314	3,890	9,864	13,937	1,080	1,921	10,677
October	912	3,390	14,443	18,975	1,344	2,193	10,052
November	781	6,080	11,879	31,438	2,270	2,245	9,532
December	1,083	2,790	17,654	25,071	1,520	2,254	6,795
Total	7,039	22,330	73,607	125,589	8,702	13,120	53,109

[1] Hay Trade Jorunal, Annual Report of the San Francisco Merchants' Exchange, Minneapolis Chamber of Commerce Report, Minneapolis Daily Market Record.

HAY—Continued.

TABLE 183.—*Hay: Receipts, in tons, at 12 markets, 1910–11 to 1921–22*—Contd.

Crop year.	Peoria.	Philadelphia.	Pittsburgh.	St. Louis.	San Francisco.	Total.
1910–11	37,419	86,851	119,685	253,540	184,594	1,937,111
1911–12	41,822	96,484	115,608	256,462	147,483	1,956,160
1912–13	38,131	82,063	106,993	222,998	141,224	1,789,723
1913–14	43,660	75,630	103,466	261,155	133,598	1,844,861
Average 1910–11 to 1913–14	40,258	85,257	111,438	248,539	151,725	1,881,964
1914–15	33,957	78,583	83,923	308,727	161,750	1,981,375
1915–16	51,299	84,006	106,710	232,628	146,560	1,843,969
1916–17	48,870	78,284	92,202	210,591	104,468	1,578,585
1917–18	40,250	61,618	74,075	237,506	82,460	1,691,790
1918–19	35,050	31,571	72,721	213,043	72,440	1,473,879
1919–20	33,306	52,466	63,680	254,042	85,807	1,613,823
1920–21	21,140	40,057	79,062	188,550	75,272	1,153,649
Average 1914–15 to 1920–21	37,696	60,941	81,768	235,012	104,108	1,619,582
1921–22	10,970	51,226	76,162	121,104	59,185	857,195
1921.						
July	240	2,100	1,848	7,525	6,035	54,172
August	690	2,520	6,336	9,833	12,938	79,340
September	440	2,412	5,268	9,636	5,939	57,230
October	710	4,488	6,288	11,590	4,734	73,782
November	980	3,900	11,436	11,729	3,674	78,809
December	660	4,596	4,684	9,974	2,876	65,417
1922.						
January	890	5,136	7,476	12,655	3,763	79,005
February	900	4,332	7,140	11,427	3,791	78,560
March	730	4,848	7,260	9,924	3,714	73,960
April	1,240	4,114	4,260	7,896	3,300	63,464
May	1,310	4,560	5,734	9,136	4,482	74,330
June	2,180	8,220	8,432	9,779	3,939	79,126
Total	10,970	51,226	76,162	121,104	59,185	857,195
1922.						
July	2,300	4,044	4,122	5,978	4,547	61,971
August	6,380	6,100	5,506	13,045	9,270	87,433
September	3,750	2,964	5,808	9,712	5,180	70,097
October	3,410	3,924	5,008	9,368	3,159	76,178
November	2,700	3,532	6,944	13,401	5,017	95,819
December	2,610	3,000	5,764	11,664	4,058	84,263
Total	21,150	23,564	33,152	63,168	31,231	475,761

HAY—Continued.

TABLE 184.—*Hay: Shipments, in tons, from 8 markets, 1910–11 to 1921–22.*[1]

Crop year.	Baltimore.	Chicago.	Kansas City.	Milwaukee.	Minneapolis.	Peoria.	Pittsburgh.	St. Louis.	Total.
1910–11	11,864	18,011	93,828	5,958	31,350	10,373	76,631	112,435	360,450
1911–12	13,257	49,160	58,896	4,445	28,910	17,222	75,420	146,285	393,595
1912–13	8,313	22,681	85,176	3,159	4,820	7,819	65,800	105,533	303,301
1913–14	8,995	39,184	78,756	9,718	5,500	16,077	65,148	139,376	362,754
Average 1910–11 to 1913–14	10,607	32.259	79,164	5,820	17,645	12,873	70,750	125,907	355,025
1914–15	8,896	83,414	67,608	17,306	5,390	19,788	37,512	172,590	412,504
1915–16	9,681	55,791	73,668	6,841	4,156	9,676	87,216	90,415	337,444
1916–17	13,657	33,439	138,432	5,765	4,351	15,324	55,032	103,990	569,990
1917–18	26,913	62,665	222,912	5,293	7,042	10,621	20,536	177,240	533,222
1918–19	20,221	52,802	143,040	2,986	4,147	7,650	23,511	119,625	373,982
1919–20	4,118	32,637	276,492	5,270	6,925	6,151	26,267	111,695	469,555
1920–21	.....	18,631	153,648	3,863	2,020	7,100	40,480	63,250	288,992
Average 1914–15 to 1920–21	11,926	48,483	153,686	6,761	4,862	10,901	41,508	119,829	397,956
1921–22	.....	9,700	18,153	10,435	3,531	4,520	31,509	43,610	121,458
1921.									
July	.....	184	4,500	360	140	110	680	3,010	8,984
August	.....	803	1,548	441	94	220	1,710	2,780	7,596
September	.....	731	1,020	648	117	200	930	4,550	8,196
October	.....	550	2,124	742	137	390	6,140	2,600	12,683
November	.....	418	2,328	600	72	370	5,369	2,460	11,617
December	.....	577	3,576	466	226	290	926	2,565	8,626
1922.									
January	.....	669	507	804	206	350	3,920	4,320	10,776
February	.....	1,022	780	756	217	530	1,984	5,040	10,329
March	.....	1,315	488	1,152	654	390	850	5,475	10,324
April	.....	1,316	452	1,562	893	370	1,780	3,275	9,648
May	.....	939	332	1,440	665	780	2,400	4,045	10,601
June	.....	1,176	493	1,464	110	520	4,820	3,490	12,073
Total	.....	9,700	18,148	10,435	3,531	4,520	31,509	43,610	121,453
1922.									
July	.....	531	303	1,684	23	400	1,198	2,610	6,749
August	.....	323	320	1,438	82	480	4,820	3,970	11,433
September	.....	725	250	1,171	73	120	1,305	3,465	7,109
October	.....	496	392	1,380	180	170	.....	2,970	5,588
November	.....	392	541	1,464	228	220	.....	5,315	8,160
December	.....	526	619	1,176	297	180	.....	4,320	7,118
Total	.....	2,993	2,425	8,313	883	1,570	7,323	22,650	46,157

[1] Hay Trade Journal, Peoria Board of Trade, Annual Report of the Kansas City Board of Trade, Daily Trade Bulletin, Kansas City Grain Market Review, Minneapolis Daily Market Record.

TABLE 185.—*Alfalfa and prairie hay: Farm price per ton, 15th of each month, 1918–1922.*

Date.	Alfalfa.					Prairie.				
	1918	1919	1920	1921	1922	1918	1919	1920	1921	1922
Jan. 15	$21.27	$20.42	$24.13	$14.98	$10.55	$15.39	$16.33	$17.54	$10.20	$7.39
Feb. 15	21.38	20.91	24.41	13.55	11.04	15.74	16.55	17.36	9.46	7.67
Mar. 15	20.82	21.40	24.68	12.88	11.80	15.47	17.38	16.52	8.70	7.94
Apr. 15	18.97	22.28	24.57	11.35	12.39	14.47	18.85	16.66	8.43	8.02
May 15	17.84	23.32	25.68	10.88	12.28	12.75	20.22	18.06	8.05	8.24
June 15	16.74	20.89	24.20	10.64	10.98	12.78	18.71	17.59	8.02	8.40
July 15	16.58	20.15	21.70	9.85	10.61	12.51	16.10	15.38	7.67	7.68
Aug. 15	18.22	20.72	20.43	9.66	10.54	13.26	16.10	13.74	7.50	7.76
Sept. 15	19.72	20.89	19.12	9.86	11.15	14.35	15.90	12.93	7.52	7.54
Oct. 15	20.23	20.56	18.03	9.82	11.87	15.06	15.88	11.83	6.78	7.74
Nov. 15	20.42	21.63	17.10	9.67	12.70	15.47	16.91	11.47	7.49	8.13
Dec. 15	20.74	22.95	16.59	10.46	13.31	16.30	17.19	10.80	7.47	8.98

HAY—Continued.

TABLE 186.—*Hay: Extent and causes of yearly crop losses, 1909–1921.*

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	10.7	2.2	0.6	1.2	0.1	0.3	0.3	15.7	0.1	0.5	0.1	0.1	17.6
1910	17.4	1.2	.3	1.2	.1	.5	.1	21.2	.1	.5	.2	.1	23.6
1911	27.7	.8	(1)	.9	.1	1.9	(1)	31.9	.1	.6	.1	.1	34.7
1915	3.7	4.9	.6	1.8	.1	.1	.3	11.9	.2	.5	.1	(1)	13.9
1916	5.5	1.0	.3	1.1	.1	.2	.1	8.6	(1)	.3	(1)	(1)	9.6
1917	11.5	1.3	.2	2.9	.2	.3	.1	16.8	.1	.4	.1	(1)	18.3
1918	17.5	.7	.2	2.7	.1	.8	.1	22.7	.1	.9	.1	(1)	24.9
1919	9.9	1.9	.3	1.0	.1	.4	.1	13.9	.1	1.0	(1)	.1	15.5
1920	7.2	1.4	.2	.4	.2	.2	.1	10.8	.2	1.0	0	.1	12.7
1921	15.1	.9	.2	1.4	.2	.7	.2	19.5	.2	.9	.1	0	21.0
Average	12.4	1.6	.3	1.5	.1	.5	.1	17.3	.1	.6	.1	0	19.1

TABLE 187.—*Hay, timothy No. 1, Chicago: Monthly and yearly average price per ton, 1910–11 to 1922–23.*[1]

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average.
1910–11	$18.75	$19.50	$17.25	$17.25	$17.50	$17.50	$18.00	$16.25	$16.25	$17.75	$21.00	$21.75	$18.23
1911–12	23.50	21.50	20.00	20.50	21.25	21.00	21.75	20.75	21.50	24.00	26.00	21.25	21.92
1912–13	19.75	18.50	18.50	18.00	17.00	15.50	15.75	14.25	14.75	15.50	15.25	14.25	16.42
1913–14	15.00	17.75	17.75	18.00	17.00	16.25	15.50	14.75	15.25	16.00	16.25	15.25	16.23
Average, 1910–11 1913–14	19.25	19.31	18.38	18.44	18.19	17.56	17.75	16.50	16.94	18.31	19.62	18.12	18.20
1914–15	16.25	16.75	15.50	15.25	15.50	15.50	16.25	15.50	15.25	16.25	17.00	17.50	16.04
1915–16	19.25	20.25	19.00	17.00	15.50	15.50	16.25	15.50	16.75	18.75	18.75	18.00	17.54
1916–17	16.00	16.00	15.50	16.25	16.25	16.25	15.50	15.75	15.75	18.00	20.50	18.75	16.71
1917–18	17.75	19.25	21.00	25.00	27.25	27.00	28.25	29.00	28.00	24.00	23.00	19.00	24.04
1918–19	21.50	26.50	32.00	31.00	30.00	30.00	29.50	26.00	30.50	33.50	35.50	33.00	29.92
1919–20	34.50	35.00	29.00	28.00	29.50	30.00	32.50	34.00	35.25	43.00	46.50	42.75	35.00
1920–21	38.50	40.25	33.75	32.25	32.00	28.50	26.90	24.40	25.30	23.80	21.90	22.50	29.17
Average, 1914–15 1920–21	23.39	24.86	23.68	23.54	23.71	23.25	23.59	22.88	23.83	25.33	26.16	24.50	24.06
1921–22	24.40	24.00	24.20	22.60	22.90	21.90	22.50	21.80	23.60	26.80	25.70	23.60	23.67
1922–23	24.50	22.00	20.90	22.40	23.00	21.10	.....	.....	.....	.....	.....	.....	.....

[1] Chicago Board of Trade and Daily Trade Bulletin.

TABLE 188.—*Hay: Monthly average price per ton at Chicago, 1922.*

Grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Timothy No. 1	$22.50	$21.80	$23.60	$26.80	$25.70	$23.60	$24.50	$22.00	$20.90	$22.40	$23.00	$21.10	$23.20
Timothy No. 2	[2]19.40	[3]18.40	[4]20.30	[5]24.00	23.30	20.20	20.80	18.90	17.50	18.20	19.10	17.70	19.80
Timothy No. 3	16.20	15.00	16.40	19.30	18.90	16.70	16.00	15.30	14.40	14.90	15.70	14.80	16.10
Timothy, standard	[5]22.40	.....	.....	.....	[3]24.80	[6]23.00	[6]23.30	[4]22.30	[4]21.30	20.40	[3]20.40	[2]19.50	[6]21.90
Prairie No. 1	16.30	13.80	14.50	16.40	16.50	15.50	15.40	15.50	16.00	17.80	18.40	17.10	16.10
Prairie No. 2	15.20	12.90	13.10	14.50	14.90	14.30	14.50	14.40	14.20	16.10	16.80	15.10	14.70
Prairie No. 3	12.90	10.90	11.20	13.50	13.50	12.70	12.50	12.40	12.00	13.80	13.70	13.60	12.70
Mixed clover	[7]19.00	[7]17.00	.....	[7]25.00	[2]21.90	17.30	[4]18.00	[4]17.80	[3]15.60	17.40	[2]17.50	[5]17.50	18.50
Mixed cars	19.30	17.90	19.90	23.80	22.40	19.50	17.20	16.60	12.20	13.70	16.80	15.60	17.90

[1] Daily Trade Bulletin.
[2] Based on four quotations.
[3] Based on five quotations.
[4] Based on three quotations.
[5] Based on two quotations.
[6] Based on six quotations.
[7] Based on one quotation.

HAY—Continued.

TABLE 189.—*Hay, Alfalfa No. 1, Kansas City: Monthly and yearly average price per ton, 1910–11 to 1922–23.*[1]

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average.
1910–11	$12.08	$13.50	$13.89	$14.25	$14.25	$14.23	$13.51	$12.93	$13.07	$13.67	$13.29	$12.38	$13.42
1911–12	15.13	14.44	14.87	15.00	15.27	15.50	17.72	18.37	20.49	22.73	19.34	11.62	16.71
1912–13	12.59	13.00	13.58	15.11	15.11	15.00	14.79	12.86	14.06	13.75	13.28	10.70	13.65
1913–14	12.12	14.80	16.14	16.54	16.00	16.01	15.96	15.25	15.18	15.30	15.54	14.23	15.26
Av. 1910–11 to 1913–14	12.98	13.94	14.62	15.22	15.16	15.18	15.50	14.85	15.70	16.36	15.36	12.23	14.76
1914–15	12.38	13.42	13.33	12.51	13.21	13.79	13.75	13.73	14.75	15.11	13.73	13.42	13.59
1915–16	11.54	11.90	12.25	13.11	12.83	14.35	14.54	15.34	13.92	14.44	14.45	11.42	13.34
1916–17	11.29	13.40	13.58	15.68	18.50	19.33	19.81	20.25	21.10	24.33	24.52	21.87	18.64
1917–18	21.18	24.09	24.07	27.43	31.10	32.76	30.01	31.33	27.56	24.11	22.64	20.57	26.40
1918–19	22.60	29.08	31.45	30.14	31.21	31.01	32.85	31.01	34.56	37.90	36.20	36.43	32.04
1919–20	26.93	27.63	24.86	30.24	33.39	35.10	35.75	34.83	33.79	34.10	35.46	31.75	31.99
1920–21	27.21	29.49	27.22	23.95	25.05	23.01	23.30	20.30	20.30	21.00	22.20	18.40	23.45
Av. 1914–15 to 1920–21	19.02	21.29	29.97	21.87	23.61	24.19	24.29	23.83	23.71	24.43	24.17	21.98	22.78
1921–22	17.50	19.00	17.20	19.80	20.40	19.60	20.00	19.60	22.10	22.50	22.10	15.40	19.60
1922–23	15.50	15.80	18.30	22.60	23.80	23.00	.....	.....	.....	.....	.....	.....	.....

[1] Kansas City Daily Price Current and Kansas City Grain Market Review.

TABLE 190.—*Hay, Prairie No. 1, Kansas City: Monthly and yearly average price per ton, 1910–11 to 1922–23.*[1]

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average.
1910–11	$10.83	$10.82	$11.67	$11.34	$11.16	$10.86	$11.07	$10.95	$10.84	$11.31	$11.55	$13.61	$11.33
1911–12	15.93	12.93	11.50	11.60	12.07	12.61	13.84	13.66	16.70	20.85	20.48	15.16	14.78
1912–13	8.79	7.96	8.39	8.96	8.91	9.39	10.45	9.37	9.19	9.56	9.53	9.97	9.21
1913–14	10.60	13.62	15.76	16.00	15.66	15.57	14.20	14.50	14.40	16.00	16.42	15.43	14.85
Av. 1910–11 to 1913–14	11.54	11.33	11.83	11.98	11.95	12.11	12.39	12.12	12.78	14.43	14.50	13.54	12.54
1914–15	12.10	9.96	11.58	11.35	10.94	10.98	11.25	10.89	11.26	11.41	11.02	11.03	11.15
1915–16	11.32	8.65	8.63	9.71	9.54	8.97	8.84	9.15	8.96	9.50	9.74	8.65	9.31
1916–17	8.50	8.06	9.36	9.47	10.74	11.15	10.57	10.92	12.92	18.68	19.74	20.57	12.56
1917–18	18.14	18.57	18.06	19.60	25.07	25.47	24.00	23.79	23.42	21.13	19.17	17.66	21.17
1918–19	19.26	25.25	26.57	27.58	26.84	24.04	28.25	26.82	32.35	36.63	38.91	37.34	29.15
1919–20	20.89	19.98	19.32	19.75	21.12	25.34	21.40	20.68	20.64	21.70	24.02	18.95	21.15
1920–21	17.21	19.52	18.47	16.45	16.13	14.49	14.00	13.10	14.10	13.70	14.10	13.40	15.39
Av. 1914–15 to 1920–21	15.35	15.71	16.00	16.27	17.20	17.21	16.90	16.48	17.66	18.96	19.53	18.23	17.13
1921–22	12.30	11.40	11.30	12.40	12.00	11.30	11.10	10.30	11.50	11.90	12.40	11.90	11.65
1922–23	12.90	10.70	11.00	14.00	14.20	12.70	.....	.....	.....	.....	.....	.....	.....

[1] Kansas City Daily Price Current and Kansas City Grain Market Review.

HAY—Continued.

TABLE 191.—*Hay: Monthly average price per ton at Kansas City, 1922.*[1]

Grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Timothy No. 1	$13.70	$14.00	$15.00	$17.80	$19.10	$17.90	$14.70	$14.40	$14.40	$15.40	$15.60	$16.20	$15.70
Timothy No. 2	11.00	11.00	12.30	15.20	15.90	14.50	11.40	11.20	11.50	12.60	12.90	13.60	12.80
Timothy No. 3	8.70	8.10	9.60	12.60	12.90	11.50	9.40	9.10	10.20	10.50	10.90	11.70	10.40
Timothy standard	12.60	12.40	13.70	16.40	17.50	16.30	12.70	12.50	13.00	14.10	14.25	14.90	14.20
Mixed clover No. 1	11.80	11.90	13.00	15.60	16.50	15.60	12.30	12.40	12.70	13.60	13.60	14.30	13.60
Mixed clover No. 2	8.50	8.50	9.50	[2]12.30	13.90	12.50	9.80	9.80	10.20	10.90	10.90	11.25	10.70
Mixed clover light	13.40	13.40	14.50	15.80	18.50	17.50	14.40	14.25	13.30	15.10	15.10	15.60	15.10
Clover No. 1	[3]15.00	.....	.....	.....	.....	9.00	10.10	12.10	13.00	14.50	15.30	15.70	[3]13.10
Clover No. 2	.....	[3]13.00	.....	.....	.....	6.90	7.80	9.30	10.50	12.40	13.10	13.90	[3]10.90
Prairie choice	12.70	11.60	13.00	13.60	[4]13.90	13.10	14.10	12.00	12.00	.....	15.30	[5]13.80	[6]13.20
Prairie No. 1	11.10	10.30	11.50	11.90	12.40	11.90	12.90	10.70	11.00	14.00	14.20	12.70	12.00
Prairie No. 2	9.20	8.30	9.60	10.20	10.60	10.30	11.20	9.70	9.80	13.00	12.90	11.20	10.50
Prairie No. 3	7.40	6.20	7.70	8.50	8.20	7.60	8.60	8.30	8.40	11.30	10.70	9.40	8.50
Alfalfa choice	22.90	23.20	24.10	24.40	[4]24.60	17.30	18.00	17.90	20.20	24.60	25.20	24.90	22.30
Alfalfa No. 1	20.00	19.60	22.10	22.50	22.10	15.40	15.50	15.80	18.30	22.60	23.80	23.00	20.10
Alfalfa No. 2	14.60	13.50	16.20	17.30	16.60	11.80	11.90	12.40	14.00	17.20	18.60	16.80	15.10
Alfalfa No. 3	12.10	10.50	13.00	13.70	12.60	9.20	9.70	10.10	11.80	14.80	16.10	14.00	12.30
Alfalfa standard	17.50	17.00	19.30	19.90	20.00	14.10	13.70	14.00	16.10	20.00	21.30	19.80	17.70
Packing hay	5.30	4.80	5.40	5.80	5.70	4.80	4.50	5.90	6.60	8.40	8.70	7.70	6.10
Straw	6.90	6.40	7.20	8.40	9.40	9.50	9.00	6.80	7.40	8.80	8.90	9.30	8.20

[1] Kansas City Grain Market Review.
[2] Based on 5 quotations.
[3] Based on 1 quotation.
[4] Based on 7 quotations.
[5] Based on 3 quotations.

TABLE 192.—*Hay: Monthly average price per ton at St. Louis, 1922.*[1]

Grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Timothy No. 1	$21.40	$20.30	$23.40	$25.40	$26.40	$23.70	$22.60	$19.80	$18.80	$21.20	$20.70	$20.50	$22.00
Timothy No. 2	17.20	15.50	19.00	21.10	21.40	18.50	16.60	15.50	14.60	16.10	16.10	16.60	17.40
Timothy standard	19.50	17.90	21.40	23.60	24.20	21.60	21.60	17.70	16.80	18.80	18.60	18.70	20.00
Mixed clover No. 1	19.10	17.30	20.60	22.30	23.40	19.60	[2]20.00	17.40	15.80	18.00	17.90	18.00	19.10
Mixed clover No. 2	17.10	15.80	17.90	[3]21.20	19.80	16.90	15.10	15.00	14.20	16.20	16.20	17.20	16.90
Clover No. 1	21.50	20.60	[2]22.20	[4]22.00	[5]22.80	[6]14.50	[6]18.00	16.50	16.50	17.60	17.90	18.40	19.00
Clover No. 2	17.80	[5]16.10	[6]18.50	[5]21.50	[5]18.30	[4]14.00	[6]15.00	14.20	13.90	16.10	16.30	16.80	16.50
Alfalfa No. 1	23.50	23.90	26.00	[7]26.60	25.80	.....	.....	[6]21.50	22.40	[8]26.30	[3]27.00	[7]27.50	[8]25.00
Alfalfa No. 2	16.70	16.80	[3]19.00	[8]18.80	[2]18.10	[6]14.00	[4]18.00	[8]17.00	[6]16.80	[6]20.00	[6]23.00	19.70	18.20
Alfalfa standard	19.20	[8]21.30	[7]22.80	24.20	[5]23.20	[3]22.00	.....	.....	[3]19.60	[4]25.00	[8]23.30	[3]25.20	[8]22.60
Prairie No. 1	16.30	14.60	15.80	16.50	17.10	16.90	[2]16.60	16.30	15.00	[8]16.70	[8]20.00	17.60	16.60
Prairie No. 2	14.30	12.20	13.60	14.80	14.60	14.80	[4]13.00	14.50	13.20	[8]13.50	[8]16.50	16.10	14.30

[1] St. Louis Daily Market Reporter.
[2] Based on 5 quotations.
[3] Based on 6 quotations.
[4] Based on 1 quotation.
[5] Based on 4 quotations.
[6] Based on 2 quotations.
[7] Based on 7 quotations.
[8] Based on 3 quotations.

HAY—Continued.

TABLE 193.—*Hay, No. 1 Timothy: Monthly average price per ton at 17 markets, 1922.*

[Compiled from bureau sources with exception of those indicated in footnotes.]

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Atlanta	$26.80	$26.20	$26.90	$30.10	$30.30	$28.40	$25.00	$23.70	$23.80	$24.25	$29.50	$25.50	$26.70
Baltimore	21.00	21.50	21.00	21.00	.....	.....	20.00	.....	18.50	.....	.....	.....	.....
Boston	29.00	28.40	27.50	29.20	32.25	31.75	30.50	28.50	25.90	25.60	25.75	25.10	28.30
Buffalo	.....	19.00	.....	20.00	.....	23.50	19.50	19.00	.....	.....	.....	.....	.....
Chicago [1]	22.50	21.80	23.60	26.80	25.70	23.60	24.50	22.00	20.90	22.40	23.00	21.10	23.20
Cincinnati	20.60	20.00	20.90	23.30	23.75	21.75	19.10	17.40	16.90	17.40	18.10	18.20	19.80
Jacksonville	26.50	26.60	27.00	29.25	30.30	29.20	25.00	24.00	23.00	24.00	24.50	25.00	26.20
Kansas City [2]	13.70	14.00	15.00	17.80	19.10	17.90	14.70	14.40	14.40	15.40	15.60	16.20	15.70
Memphis	23.40	22.00	22.75	25.40	27.30	24.90	21.70	20.40	21.10	21.40	21.10	22.10	22.80
Minneapolis [3]	18.00	18.50	19.30	21.00	21.40	21.20	18.50	17.70	18.40	17.80	18.60	17.90	19.00
New Orleans	28.50	26.00	26.75	29.00	.....	.....	.....	.....	25.00	23.50	24.00	24.50	[4] 25.90
New York	28.90	28.00	28.40	30.90	32.25	31.00	30.90	30.10	25.10	26.40	26.25	26.20	28.70
Philadelphia	23.10	23.75	23.50	23.90	25.10	23.90	23.20	21.00	20.00	21.25	21.90	21.70	22.70
Pittsburgh	22.75	22.10	23.40	24.10	25.10	24.40	23.20	19.90	19.10	20.00	19.50	19.20	21.90
Richmond	25.25	24.25	25.50	27.50	28.25	.....	24.60	23.75	21.50	20.75	23.00	22.50	[5] 22.20
St. Louis [4]	21.40	20.30	23.40	25.40	26.40	23.70	22.60	19.80	18.80	21.20	20.70	20.50	22.00
Savannah	27.00	26.50	29.00	30.00	31.00	.....	27.30	23.50	23.10	23.75	24.50	24.50	[5] 26.40

[1] Daily Trade Bulletin.
[2] Kansas City Grain Market Review.
[3] Daily Market Record.
[4] St. Louis Daily Market Reporter.

FEED.

TABLE 194.—*Feed: Monthly and yearly average price per ton at Minneapolis, 1916–1922.*[1]

BRAN.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1916	$18.78	$20.10	$18.54	$18.63	$19.05	$18.32	$17.69	$20.03	$21.71	$24.50	$27.08	$25.93	$20.87
1917	28.75	32.55	34.20	38.54	33.77	26.97	32.15	31.83	30.28	30.55	33.46	38.02	32.59
1918	32.50	32.50	32.85	33.04	31.27	30.74	26.00	29.31	29.06	28.45	27.80	33.49	30.58
1919	47.26	42.83	38.09	39.78	37.39	34.20	37.41	40.38	37.49	36.82	37.94	41.50	39.26
1920	41.98	42.68	46.69	50.26	53.25	50.78	47.83	41.88	38.42	30.63	31.85	28.23	42.04
1921	25.93	21.44	21.64	16.41	15.97	14.80	14.06	13.93	12.97	12.15	14.79	20.63	17.06
1922	20.98	24.75	23.85	22.29	20.91	15.35	15.31	14.06	16.88	21.81	22.65	24.14	20.24
7-year average	30.88	30.98	30.84	31.28	30.23	27.31	27.21	27.35	26.69	26.42	27.94	30.28	28.95

[1] Compiled from Minneapolis Daily Market Record.

MIDDLINGS.

1916	$19.41	$21.61	$20.22	$19.50	$20.06	$20.10	$19.88	$21.48	$22.50	$27.19	$30.81	$27.88	$22.55
1917	28.83	32.55	34.20	39.56	36.15	33.27	41.90	41.78	35.09	36.25	37.40	39.05	36.34
1918	34.50	34.50	34.85	35.04	33.27	32.69	27.61	31.00	30.90	30.77	30.09	36.27	32.63
1919	48.84	44.14	38.56	40.74	44.81	42.90	47.22	53.08	51.46	44.44	41.22	43.13	45.04
1920	43.97	47.28	51.57	54.88	57.77	56.06	54.22	52.56	45.65	30.62	28.86	23.94	45.62
1921	23.47	20.91	20.86	15.38	15.29	14.83	14.07	14.64	13.97	13.16	15.35	20.73	16.89
1922	20.51	24.76	25.54	23.21	21.20	17.13	17.30	16.24	18.07	23.06	23.23	23.71	21.16
7-year average	31.36	32.25	32.26	32.62	32.65	31.00	31.74	32.97	31.09	29.36	29.57	30.67	31.46

FEED—Continued.

TABLE 195.—*Feed: Monthly and yearly average price per ton at New York, 1910–11 to 1922–23.*[1]

OIL MEAL.

Crop year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Average.
1910–11	$37.46	$36.90	$35.50	$35.50	$35.50	$35.50	$35.50	$34.12	$33.75	$33.50	$34.33	$35.71	$35.27
1911–12	40.00	40.75	40.12	39.00	39.65	40.17	39.75	38.80	38.10	37.30	36.57	35.50	38.81
1912–13	35.38	35.30	34.38	32.75	32.34	31.90	29.20	27.86	28.12	28.25	29.40	30.12	31.25
1913–14	32.50	32.00	31.40	31.25	31.25	31.35	31.25	31.50	31.50	32.27	32.80	34.60	31.97
Av. 1910–11 to 1913–14	36.34	36.24	35.35	34.60	34.68	34.73	33.92	33.07	32.87	32.83	33.28	33.98	34.32
1914–15	33.62	32.83	32.75	35.10	38.75	41.00	37.13	35.50	32.50	32.50	35.31	37.71	35.39
1915–16	39.70	38.75	38.50	40.50	40.60	39.50	36.63	32.86	31.50	32.12	33.00	37.00	36.72
1916–17	39.50	42.28	45.45	47.50	48.50	48.50	48.33	47.00	49.44	49.25	51.08	53.50	47.53
1917–18	53.00	54.00	54.42	57.00	58.15	58.50	58.50	57.00	52.50	50.00	52.80	54.00	54.99
1918–19	55.00	56.00	55.75	56.50	62.15	63.35	65.50	65.50	70.50	75.50	82.30	90.25	66.53
1919–20	81.58	73.80	78.75	80.75	81.50	71.75	70.40	62.50	60.00	60.00	60.00	60.00	70.09
1920–21	60.00	60.00	56.80	52.00	48.38	43.12	43.75	46.00	36.25	37.00	41.60	46.88	47.65
Av. 1914–15 to 1920–21	51.77	51.09	51.77	52.76	54.00	52.25	51.46	49.48	47.53	48.05	50.87	54.19	51.27
1921–22	46.30	40.00	40.75	48.00	51.00	51.62	55.00	49.50	47.62	49.20	46.88	45.50	47.61
1922–23	43.50	43.50	(2)	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....

[1] From Annual Statistical Review of New York Produce Exchange and the Oil, Paint, and Drug Reporter.
[2] Nominal.

TABLE 196.—*Feed: Monthly and yearly price per ton, Memphis, 1910–11 to 1922–23.*[1]

COTTONSEED MEAL (36 PER CENT PROTEIN).

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1910–11	$26.00	$25.75	$25.38	$24.38	$24.38	$23.88	$23.25	$23.25	$23.88	$23.88	$24.50	$25.63	$24.51
1911–12	26.50	25.75	24.63	24.63	24.63	24.38	25.13	26.00	27.25	28.00	27.25	26.75	25.91
1912–13	26.75	25.63	24.38	24.63	25.50	25.75	25.13	25.13	26.75	28.00	28.75	30.63	26.42
1913–14	31.75	27.00	27.13	27.38	27.25	26.75	26.13	26.75	27.63	27.75	27.50	27.75	27.56
Average, 1910–11 to 1913–14	27.75	26.03	25.38	25.26	25.44	25.19	24.91	25.28	26.38	26.91	27.00	27.69	26.10
1914–15	28.00	23.75	22.75	22.38	23.50	24.75	27.25	26.88	26.50	26.00	25.25	25.13	25.18
1915–16	25.63	27.13	30.50	32.00	34.00	32.25	29.00	28.38	28.88	27.75	27.25	27.25	29.17
1916–17	28.25	30.75	35.25	39.25	39.00	37.50	36.25	36.25	38.50	39.50	42.25	44.50	37.27
1917–18	45.50	43.00	45.50	49.75	46.50	46.50	46.50	46.50	46.50	46.50	46.50	46.50	46.31
1918–19	46.50	46.50	46.50	54.00	54.00	54.00	54.00	54.00	54.00	54.00	59.13	69.75	53.87
1919–20	76.25	63.00	66.50	70.25	69.25	71.00	65.00	65.75	64.81	65.13	63.63	59.40	66.66
1920–21	55.00	51.25	39.50	34.13	28.00	28.33	26.50	25.17	23.50	28.92	29.75	34.00	33.67
Average, 1914–15 to 1920–21	43.59	40.77	40.93	43.11	42.04	42.05	40.64	40.42	40.38	41.11	41.97	43.79	41.73
1921–22	36.44	36.00	34.50	33.44	34.20	34.75	36.12	41.12	43.00	43.75	42.50	39.80	37.97
1922–23	34.00	32.60	37.60	42.80	42.10	.....	.....	.....	.....	.....	.....	.....	.....

[1] Figures prior to 1919 from Cotton Oil Press.

FEED—Continued.

TABLE 197.—*Feed: Monthly average price per ton (bagged) at 17 markets, 1922.*

COTTONSEED MEAL (36 PER CENT PROTEIN).

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Atlanta	$35.70	$36.80	$41.40	$43.00	$44.00	$44.00	$40.25	$34.00	$34.10	$39.75	$44.00	$42.90	$40.00
Baltimore	43.00	45.25	47.00	.....	.....	.....	44.50	.....	.....	.....	.....	.....	.....
Boston	43.80	45.90	48.60	50.60	52.60	50.00	46.40	41.50	41.80	47.25	51.90	51.60	47.70
Buffalo	41.00	43.60	47.75	49.40	.....	50.25	43.75	40.50	.....	.....	.....	.....	[1]45.20
Chicago	39.60	41.90	45.70	47.50	48.50	48.00	46.60	39.20	37.60	42.50	47.10	47.80	44.30
Cincinnati	39.10	41.60	45.75	48.50	49.70	47.10	42.90	37.60	37.10	42.25	47.40	45.50	43.70
Jacksonville	37.50	38.70	43.00	45.00	45.50	45.90	43.40	36.00	35.50	40.75	35.40	45.50	41.60
Kansas City	40.90	42.75	.....	.....	.....	54.00	43.00	39.25	.....	.....	.....	51.00	.....
Los Angeles	.....	.....	.....	42.00	42.00	46.00	48.00	.....	.....	.....	.....	.....	.....
Memphis	34.75	36.10	41.10	43.00	43.75	42.50	39.80	34.00	32.60	37.60	42.80	42.10	39.20
New Orleans	39.00	43.00	45.00	46.00	.....	.....	.....	.....	35.00	41.00	47.00	47.00	[2]42.90
New York	43.40	45.20	47.80	49.90	51.50	50.25	47.30	42.80	42.40	46.70	51.10	51.25	47.50
Philadelphia	42.70	45.50	47.80	49.80	50.90	49.30	45.50	39.30	40.25	45.75	50.80	51.00	46.60
Pittsburgh	41.70	43.40	48.10	49.20	50.60	50.00	46.50	38.10	38.75	44.25	48.90	49.10	45.70
Richmond	43.00	43.75	47.75	45.00	.....	.....	45.70	.....	.....	41.50	.....	50.25	[1]45.30
San Francisco	.....	.....	.....	47.00	48.00	.....	48.00	.....	48.00	.....	.....	.....	.....
Savannah	37.50	38.00	43.00	45.75	45.50	.....	45.70	40.50	36.00	38.00	44.50	45.60	[3]41.80

[1] Average for 7 months. [2] Average for 8 months. [3] Average for 11 months.

TABLE 198.—*Feed: Monthly average price per ton (bagged) at 12 markets, 1922.*

LINSEED MEAL.

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Boston	$51.60	$54.00	$57.40	$54.40	$54.90	$52.50	$48.60	$46.10	$45.90	$53.60	$54.00	$56.90	$52.50
Buffalo	46.50	50.25	54.00	51.75	.....	46.50	45.25	43.00	.....	.....	.....	.....	[1]48.20
Chicago	46.30	49.60	53.75	52.10	50.80	47.25	45.70	44.90	41.50	48.10	51.40	52.40	48.60
Cincinnati	48.40	50.20	56.70	55.40	51.00	48.90	47.00	48.00	43.80	50.30	55.25	55.40	50.90
Jacksonville	.....	.....	.....	59.50	.....	59.10	54.50	52.00	50.50	.....	53.00	61.00	[1]55.70
Kansas City	47.60	49.90	54.75	54.40	53.75	49.00	50.00	47.60	45.00	51.25	54.00	54.50	51.00
Minneapolis	43.10	46.50	52.10	51.10	49.00	48.20	45.00	42.30	39.00	46.75	49.20	50.40	46.90
New York	51.10	54.40	58.00	55.90	56.75	53.60	51.20	48.40	46.90	53.60	55.70	56.10	53.50
Omaha	.....	.....	.....	.....	53.00	52.30	48.75	47.25	43.10	50.40	53.40	54.60	[2]50.40
Philadelphia	49.70	53.00	57.00	54.20	54.20	51.60	48.20	45.70	45.20	52.90	54.90	56.25	51.90
Pittsburgh	50.00	52.00	56.30	55.00	.....	50.70	48.70	46.00	44.50	50.60	54.50	56.50	[3]51.30
San Francisco	55.00	51.70	53.70	49.50	50.70	.....	52.00	55.00	51.25	48.00	48.00	50.75	[3]51.40

[1] Average for 7 months. [2] Average for 8 months. [3] Average for 11 months.

FEED—Continued.

TABLE 199.—*Oil cake and oil-cake meal: International trade, calendar years 1909–1921.*

[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. See "General note," Table 161.]

Country.	Average, 1909–1913.		1919		1920		1921	
	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	.....	114,024	.....	49,055	.....	75,719
Austria-Hungary	53,673	124,873	.....	.....	[1] 6,528	[1] 4,281	[1] 1,924	[1] 2,871
British India	1,262	268,648	2,192	305,134	4,331	258,686	3,299	208,181
Canada	7,752	51,370	12,312	41,222	14,060	19,260	15,201	35,785
China	[2] 174	147,468	.....	281,651	.....	195,959	.....	217,258
Egypt	.....	161,624	.....	148,246	60	181,782	.....	205,894
France	288,968	476,863	15,604	19,310	16,057	97,001	42,833	202,529
Italy	10,550	55,115	99	34,468	69	78,100	1,614	139,016
Mexico	.....	33,764	.....	.....	.....	.....	.....	.....
Russia	.....	1,453,413	.....	.....	.....	.....	.....	.....
United States	.....	1,704,124	112,406	1,087,228	228,853	589,562	88,406	1,206,484
PRINCIPAL IMPORTING COUNTRIES.								
Belgium	543,648	155,373	39,209	76,802	51,927	70,602	266,307	51,732
Denmark	1,002,329	15,777	292,103	1	569,272	23	937,633	.....
Dutch East Indies	2,509	13,242	257	119,322	365	163,542	241	35,144
Finland	25,333	2,125	69,631	.....	22,031	.....	18,114	.....
Germany	1,686,416	525,108	.....	.....	111,101	7,590	.....	.....
Japan	189,868	.....	295,673	11,948	307,347	5,683	267,444	1,334
Netherlands	707,116	219,819	223,859	13,460	197,312	203,258	512,464	69,624
Norway	55,112	2,889	45,341	.....	29,987	.....	68,331	6
Sweden	346,755	1,535	151,736	.....	137,265	7,989	161,753	.....
Switzerland	69,352	1,413	91,795	4	53,923	2,382	90,234	2,407
United Kingdom	790,865	161,798	601,604	11,359	460,766	48,711	712,333	76,368
Other countries	30,320	62,610	9,035	59,242	31,675	126,572	28,086	83,907
Total	5,812,002	5,681,538	1,962,856	2,323,421	2,242,929	2,110,038	3,216,217	2,614,259

[1] Austria only. [2] Three-year average.

CLOVER AND TIMOTHY SEED.

TABLE 200.—*Clover seed: Acreage, production, and value, by States, 1921–22, and totals, 1916–1922.*

State and year.	Thousands of acres.		Average yield per acre (bushels).		Production (thousands of bushels).		Average farm price per bushel Nov. 15.		Total value, basis Dec. 1 price (thousands of dollars).	
	1921	1922 [1]	1921	1922	1921	1922 [1]	1921	1922	1921	1922 [1]
New York	9	11	1.9	2.5	17	28	$13.00	$10.00	221	280
Pennsylvania	18	18	1.4	1.4	25	25	10.25	10.00	256	250
Ohio	172	206	1.2	1.1	206	227	10.70	10.70	2,204	2,429
Indiana	57	100	1.2	1.2	68	120	10.30	9.80	700	1,176
Illinois	143	210	1.4	1.5	200	315	10.05	9.60	2,010	3,024
Michigan	115	150	1.5	1.6	172	240	9.75	10.50	1,677	2,520
Wisconsin	98	127	1.7	1.8	167	229	9.90	10.20	1,653	2,336
Minnesota	74	72	2.1	2.1	155	151	10.00	9.40	1,550	1,419
Iowa	108	132	1.6	1.7	173	224	9.70	10.40	1,678	2,330
Missouri	17	21	1.7	1.7	29	36	10.55	9.00	306	324
Nebraska	9	8	2.2	2.7	20	22	9.00	10.00	180	220
Kansas	3	4	2.3	1.5	7	6	9.00	8.00	63	48
Kentucky	18	21	1.9	2.2	34	46	10.00	10.70	340	492
Tennessee	4	5	1.7	1.8	7	9	11.00	11.00	77	99
Mississippi	18	20	8.0	6.0	144	120	17.50	10.00	2,520	1,200
Idaho	18	16	5.0	4.5	90	72	9.75	9.70	878	698
Oregon	8	5	3.0	1.0	24	5	9.00	12.00	216	60
Total	889	1,126	1.7	1.7	1,538	1,875	10.75	10.08	16,529	18,905
1920	1,082		1.8		1,944		11.95		23,227	
1919	942		1.6		1,484		26.75		39,700	
1918	820		1.5		1,197		19.80		23,705	
1917	821		1.8		1,488		12.84		19,107	
1916	939		1.8		1,706		9.18		15,661	

[1] Preliminary estimate.

CLOVER AND TIMOTHY SEED—Continued.

TABLE 201.—*Clover seed: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	September.	October.	November production estimate.	Final estimate.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1917	1,179	1,078	1,356	1,488
1918	1,404	1,383	1,248	1,197
1919	994	1,015	967	1,484
1920	1,452	1,576	1,593	1,944
1921	1,315	1,360	1,214	1,538
1922	1,905	2,033	1,865	[1] 1,875

[1] Preliminary estimate.

TABLE 202.—*Clover seed: Farm price per bushel, 15th of each month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	$8.26	$8.26	$8.15	$7.91	$7.47	$7.24	$7.17	$7.53	$8.27	$8.13	$7.70	$7.94	$7.84
1911	8.27	8.37	8.56	8.79	8.74	8.80	8.83	9.65	10.19	10.33	10.37	10.62	9.29
1912	10.89	12.22	12.89	12.91	12.53	11.69	10.64	9.80	9.39	9.37	9.06	9.00	10.87
1913	9.41	10.28	10.42	11.00	10.74	9.77	9.78	9.37	7.31	7.00	7.33	7.70	9.18
1914	7.99	8.07	8.17	8.06	7.87	7.96	8.12	8.76	9.10	8.24	8.02	8.12	8.21
1915	8.51	8.60	8.55	8.36	8.14	7.90	7.96	7.94	8.49	9.70	9.67	10.01	8.65
1916	10.27	10.47	10.76	10.58	9.98	9.47	9.15	9.12	8.65	8.54	9.20	9.40	9.63
1917	9.60	9.87	10.32	10.41	10.40	10.29	10.50	10.53	10.89	11.92	12.91	13.53	10.93
1918	14.48	16.46	17.49	17.86	16.56	15.88	14.71	15.20	16.61	19.01	20.03	20.67	17.08
1919	21.55	21.79	22.61	24.81	24.48	23.37	23.25	24.33	25.38	26.47	26.53	27.63	24.35
1920	28.06	31.21	31.88	32.23	29.84	26.21	25.52	19.97	17.77	13.18	11.64	10.28	23.15
1921	10.82	10.61	10.98	10.80	10.71	10.20	10.00	10.37	10.25	10.21	10.09	10.38	10.45
1922	10.69	11.88	13.00	13.13	12.84	11.60	11.00	9.88	8.85	9.66	10.18	10.88	11.13
Average, 1913–1922	13.14	13.92	14.42	14.72	14.16	13.26	13.00	12.55	12.33	12.39	12.62	12.86	13.28

TABLE 203.—*Timothy seed: Farm price per bushel, 15th of each month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	.....	.....	.....	.....	.....	.....	.....	.....	$3.77	$4.03	$4.08	$4.11	.....
1911	$4.12	$4.51	$4.93	$5.17	$5.24	$5.24	$5.48	$6.52	6.65	6.91	6.90	6.72	$5.70
1912	6.99	7.26	7.33	7.27	7.16	6.68	5.96	3.20	2.09	1.95	1.82	1.79	4.96
1913	1.79	1.78	1.72	1.74	1.76	1.77	1.94	2.01	2.13	2.02	2.08	2.10	1.90
1914	2.07	2.12	2.30	2.28	2.38	2.23	2.32	2.43	2.46	2.34	2.34	2.18	2.29
1915	2.63	2.66	2.78	2.69	2.75	2.65	2.57	2.56	2.62	2.72	2.91	2.86	2.70
1916	3.05	3.19	3.28	3.51	3.33	3.26	3.08	2.36	2.22	2.27	2.25	2.31	2.84
1917	2.44	2.46	2.70	2.76	3.09	3.09	3.04	3.23	3.31	3.61	3.25	3.37	3.03
1918	3.57	3.78	3.84	3.74	3.84	3.56	3.67	3.87	3.79	4.08	4.26	4.21	3.85
1919	4.34	4.51	4.54	4.69	5.05	4.63	4.49	4.58	4.55	4.78	4.67	4.98	4.65
1920	5.35	5.62	5.61	5.63	5.61	5.46	5.44	4.44	3.52	3.25	3.09	3.16	4.62
1921	3.04	2.75	2.97	2.84	2.90	2.99	2.98	2.71	2.31	2.70	2.41	2.57	2.79
1922	2.70	2.82	2.95	3.11	3.21	2.81	2.53	2.20	2.28	2.48	2.49	2.69	2.69
Average, 1913–1922	3.10	3.17	3.27	3.30	3.39	3.24	3.18	3.04	2.92	3.02	2.98	3.04	3.14

CLOVER AND TIMOTHY SEED—Continued.

TABLE 204.—*Field seeds: Average price per 100 pounds, paid to growers for crops of 1918 to 1921.*

[Weighted average price based on reports received annually from seed shippers.]

ALFALFA SEED.

State or State subdivision.	1918	1919	1920	1921	State or State subdivision.	1918	1919	1920	1921
Southern Arizona	$17.00	$35.50	$17.00	$14.35	Montana	$17.50	$26.00	$17.00	$17.85
California	15.50	30.00	15.90	14.00	Nebraska	14.25	26.00	15.80	10.10
Colorado	16.00	27.00	13.00	11.85	Eastern New Mexico	13.00	27.50	14.00	10.80
Southern Idaho	16.50	31.65	11.80	12.00	Western Oklahoma	13.50	22.30	12.85	11.20
Northeastern Kansas	14.10	25.05	13.60	11.10	Western Oregon	17.00	28.70	18.00	13.00
Northwestern Kansas	13.20	26.75	14.25	10.65	South Dakota	16.75	31.45	18.75	13.20
Southeastern Kansas	13.80	28.30	16.40	13.60	Western Texas	14.50	23.50	20.65	14.75
Southwestern Kansas	13.70	26.60	14.70	11.35	Northern Utah	16.75	33.50	16.00	11.75

ALSIKE CLOVER SEED.

Southern Idaho	$25.85	$40.15	$22.00	$14.50	Western New York	$25.00	$39.20	$21.10	$14.50
Northern Illinois	26.00	39.60	22.05	14.65	Northwestern Ohio	25.25	40.80	22.30	13.30
Northern Indiana	24.85	41.70	21.75	14.80	Western Oregon	29.50	40.45	23.50	13.65
Iowa	25.00	40.35	19.95	15.15	Northeastern Wisconsin	25.00	40.25	18.95	14.30
Southern Michigan	26.15	44.90	20.90	13.50	Southeastern Wisconsin	25.25	41.20	20.20	14.20
Minnesota	26.00	39.25	19.25	13.65					

RED CLOVER SEED.

Idaho	$36.50	$45.60	$13.95	$15.10	Missouri	$29.75	$39.25	$15.85	$16.05
Northern Illinois	31.90	43.30	18.70	16.30	Nebraska	30.00	41.25	14.65	15.35
Central Illinois	32.25	43.70	18.40	16.55	Northwestern Ohio	33.65	44.40	19.05	17.20
Northern Indiana	33.05	45.50	19.10	17.00	Western Oregon	35.50	47.50	22.35	15.30
Central Indiana	33.20	45.50	18.50	16.55	Washington	33.00	45.00	18.00	15.25
Southern Indiana	29.30	42.50	16.05	16.45	Northeastern Wisconsin	35.80	43.80	16.30	16.65
Northeastern Iowa	31.75	42.10	17.80	16.45	Southeastern Wisconsin	35.50	45.60	18.40	17.55
Southeastern Iowa	31.50	40.50	18.30	15.40	Southwestern Wisconsin	32.20	43.55	16.75	16.85
Southwestern Iowa	32.25	42.70	17.25	15.90					
Kansas	30.00	40.50	15.65	15.30					
Southern Michigan	34.20	45.00	17.10	16.60					
Minnesota	32.80	43.10	16.75	15.50					

SWEET CLOVER SEED.

Colorado	$14.00	$21.60	$9.90	$4.25	Nebraska	$18.00	$25.00	$12.50	$6.55
Idaho	18.00	24.75	10.00	6.50	North Dakota	18.00	23.00	9.60	4.40
Illinois	25.00	24.00	16.30	10.15	Oklahoma	20.00	22.00	9.00	5.00
Kansas	16.40	23.50	8.15	5.10	South Dakota	17.00	21.00	9.50	5.00
Minnesota	17.50	21.00	8.00	4.50	Utah	18.00	26.00	8.50	3.00
Montana	19.00	23.25	11.50	5.00					

TIMOTHY SEED.

Southern Idaho	$9.15	$11.25	$5.25	$4.10	Northeastern Missouri	$8.40	$10.55	$5.75	$4.30
Northern Illinois	8.35	9.85	6.50	4.50	Northwestern Missouri	9.35	10.60	5.50	3.95
Central Illinois	8.55	10.50	6.30	4.85	Southwestern Missouri	10.00	10.35	4.55	3.70
Southern Illinois	7.60	10.15	6.75	4.95	Nebraska	9.35	9.60	5.50	5.50
Indiana	9.45	10.75	6.25	4.70	North Dakota	7.65	9.35	5.80	5.20
Northeastern Iowa	8.15	10.10	5.40	4.20	Northeastern Ohio	9.20	11.05	6.65	4.85
Northwestern Iowa	8.00	9.76	5.90	4.15	Northwestern Ohio	8.80	10.70	5.85	4.70
Southeastern Iowa	8.60	10.60	6.05	4.50	Northeastern South Dakota	7.60	9.55	5.05	4.45
Southwestern Iowa	8.80	10.65	5.50	4.10	Southeastern South Dakota	7.90	9.95	5.65	4.05
Kansas	8.50	10.00	5.25	5.60	Wisconsin	8.25	10.00	5.90	4.80
Northwestern Minnesota	8.00	9.56	5.10	4.35					
East central Minnesota	8.05	9.65	5.75	4.40					
Southern Minnesota	7.80	9.70	5.50	4.45					
West central Minnesota	8.15	9.90	5.25	4.75					

CLOVER AND TIMOTHY SEED—Continued.

TABLE 205.—*Forage plant seed: Imports into United States, 1911 to 1921.*[1]

Kind of seed.	For fiscal years ending June 30—										
	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
	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.*
Alfalfa	1,272	3,394	6,104	5,203	6,930	3,252	3,170	45	770	18,831	942
Canada bluegrass	786	306	791	567	1,043	698	495	1,229	739	552	1,148
Kentucky bluegrass	25	1	5	3	1	1	.....	5	.....	.....	.....
Awnless brome grass	165	6	75	139	7	(4)	1	.....	.....	169	9
Alsike clover	1,524	1,324	766	2,688	778	1,113	4,329	3,528	7,032	5,648	4,121
Crimson clover	3,529	3,407	5,377	8,534	11,690	4,504	5,776	1,603	1,484	10,053	5,566
Red clover	6,143	19,674	5,333	5,921	8,932	32,509	5,344	768	1,051	19,268	16,333
White clover	473	543	979	640	373	149	158	53	1	189	516
Biennial white sweet clover	13	23	33	42	194	(3)	195	71	941	2,215	3,133
Biennial yellow sweet clover	.....	15	.....	243	201	(3)	9	.....	1	202	235
Clover mixtures	.....	.....	.....	.....	.....	.....	26	169	550	265	23
Grass mixtures	.....	.....	.....	.....	.....	.....	124	6	(4)	3	6
Spring vetch and oats mixtures	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Meadow fescue	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....
Broom-corn millet	2,254	3,376	1,194	1,520	1,305	1,102	786	1,584	.....	225	152
Foxtail millet	482	276	291	523	338	118	260	9	138	146	434
Orchard grass	548	137	119	1,939	701	754	1,286	58	177	2,771	.....
Rape	1,516	1,266	1,194	2,981	3,966	4,019	2,286	11,316	639	5,766	4,245
Redtop	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	(4)
Perennial rye grass	605	1,626	1,117	1,429	1,342	1,510	1,668	1,584	831	1,958	1,523
Italian rye grass	251	321	345	311	485	383	481	606	208	980	577
Timothy	320	378	40	23	18	119	4	22	155	37	391
Hairy vetch	965	646	1,948	2,477	466	68	296	231	257	1,220	1,387
Spring vetch	2,076	531	1,390	682	221	62	30	118	435	1,048	542

[1] Imports of all seeds up to and including the fiscal year 1913, also of perennial and Italian rye grass and hairy vetch up to and including 1917, and sweet clover for all years, are based on information furnished by U. S. Customs Service. All other figures represent imports of seed permitted entry under the seed importation act.
[2] Preliminary.
[3] Figures missing.
[4] Less than 500 pounds.

TABLE 206.—*Clover seed: Monthly and yearly receipts and shipments, Chicago, 1910–11 to 1922–23.*[1]

RECEIPTS.

Season.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Crop year 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.*
1910–11	1,340	1,375	865	231	94	524	751	378	364	405	59	270	6,656
1911–12	519	198	176	95	331	337	357	307	213	194	343	574	3,644
1912–13	271	950	521	295	493	545	901	279	109	165	41	40	4,610
1913–14	188	225	939	1,446	1,035	418	837	412	210	836	429	1,180	8,155
Average 1910–11 to 1913–14	580	687	625	517	488	456	711	344	224	400	218	516	5,766
1914–15	789	596	1,136	1,723	1,773	1,993	900	438	55	.....	48	327	9,778
1915–16	2,190	1,921	1,953	1,205	980	1,236	1,123	974	294	.....	53	138	12,067
1916–17	1,356	1,308	995	1,416	660	1,192	833	798	393	307	2	602	9,862
1917–18	1,346	945	1,149	587	1,079	1,688	797	217	298	108	22	135	8,371
1918–19	192	1,597	1,337	1,146	1,974	1,002	1,175	464	88	.....	271	798	10,044
1919–20	1,539	1,816	1,941	1,606	2,840	2,557	2,239	884	7	200	195	213	16,037
1920–21	1,549	2,448	1,033	1,314	2,762	3,150	3,996	1,570	418	319	84	365	19,008
Average 1914–15 to 1920–21	1,280	1,519	1,364	1,285	1,724	1,831	1,581	764	222	133	96	368	12,167
1921–22	739	1,235	2,040	2,064	1,585	1,692	2,448	1,050	352	169	77	997	15,448
1922–23	1,368	1,299	1,479	1,214	.....	.....	.....	.....	.....	.....	.....	.....	.....

[1] Chicago Board of Trade and The Seed World.

CLOVER AND TIMOTHY SEED—Continued.

TABLE 206.—*Clover seed: Monthly and yearly receipts and shipments, Chicago, 1910–11 to 1922–23*—Continued.

SHIPMENTS.

Season.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Crop year 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.*
1910–11	165	183	244	224	480	682	504	252	185	52	12	118	3,101
1911–12	51	111	204	131	426	621	420	363	106	48	144	59	2,684
1912–13	141	309	862	372	502	835	1,525	707	90	78	33	65	5,519
1913–14	138	152	264	668	882	1,576	1,591	740	544	301	381	264	7,501
Average 1910–11 to 1913–14	124	189	394	349	572	928	1,010	516	231	120	142	126	4,701
1914–15	309	124	484	1,665	1,197	1,583	1,290	792	188	13	69	104	7,818
1915–16	714	596	1,506	879	1,125	1,438	2,027	1,481	415	39	78	88	10,386
1916–17	279	602	1,021	962	1,065	1,696	2,086	1,606	583	157	309	429	10,795
1917–18	423	483	430	1,144	908	1,923	1,116	182	246	4	60	167	7,086
1918–19	191	527	1,447	787	984	1,139	1,109	653	18	94	25	136	7,110
1919–20	271	386	952	888	2,589	1,619	926	842	248	98	118	61	8,998
1920–21	107	589	691	769	1,554	2,997	3,104	1,694	370	167	239	528	12,809
Average 1914–15 to 1920–21	328	472	933	1,014	1,346	1,771	1,665	1,036	295	82	128	216	9,285
1921–22	371	781	691	1,236	1,728	2,167	2,416	1,030	818	147	133	230	11,748
1922–23	547	1,172	1,187	1,169	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE 207.—*Red clover seed: Monthly and yearly average spot price per 100 pounds, prime contract grade, Chicago, 1910–11 to 1922–23.*[1]

Crop year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Average.
1910–11	$16.13	$15.13	$14.45	$14.86	$15.04	$14.80	$15.25	$15.13	$15.81	$16.10	$15.75	$19.25	$15.64
1911–12	20.10	20.63	20.63	20.75	21.81	23.13	22.50	21.63	20.55	20.13	20.00	16.00	20.66
1912–13	17.56	18.38	18.05	18.88	19.90	19.88	19.25	21.38	18.40	16.00	15.50	14.70	18.16
1913–14	11.00	13.35	13.96	14.88	14.75	14.46	14.04	13.00	13.00	13.50	14.15	17.81	13.99
Av., 1910–11 to 1913–14	16.20	16.87	16.77	17.34	17.88	18.07	17.76	17.78	16.94	16.43	16.35	16.94	.....
1914–15	17.19	15.08	15.00	15.59	15.84	15.29	14.30	13.80	13.50	13.50	13.50	15.19	14.82
1915–16	18.40	21.05	20.06	20.72	19.59	21.19	18.00	16.69	16.00	14.60	14.00	15.63	17.99
1916–17	14.85	16.00	17.50	17.91	18.19	19.38	18.81	17.90	18.33	18.39	19.08	20.33	18.06
1917–18	22.36	25.16	26.81	27.45	31.40	34.35	33.72	32.15	30.51	30.45	.....	.....	29.44
1918–19	35.00	35.50	36.00	37.50	42.60	42.60	51.60	50.00	46.60	45.80	49.10	50.00	43.53
1919–20	50.00	53.10	51.20	52.00	54.23	55.73	54.22	44.96	35.00	35.00	35.00	29.85	45.86
1920–21	26.58	22.28	21.67	20.00	21.52	18.55	18.19	17.85	19.00	19.00	19.00	19.00	20.22
Av., 1914–15 to 1920–21	26.34	26.88	26.89	27.31	29.05	29.58	29.83	27.62	25.56	25.25	24.95	25.00	.....
1921–22	18.01	18.32	18.50	18.50	20.84	22.49	24.52	22.00	21.77	19.38	18.00	16.22	19.88
1922–23	16.4	19.40	20.22	20.12	.....	.....	.....	.....	.....	.....	.....	.....	.....

[1] Compiled from Chicago Board of Trade and The Seed World.

TABLE 208.—*Alsike clover seed: Monthly and yearly average spot price per bushel, Toledo, 1914–15 to 1922–23.*[1]

Crop year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Average.
1914–15	.....	.....	.....	.....	.....	$8.96	$8.59	$8.17	$8.05	[2]$7.90	$8.52	$9.13	.....
1915–16	$9.59	$10.27	$10.35	$10.33	$10.26	10.07	9.40	9.15	9.10	9.48	9.53	9.88	$9.78
1916–17	9.83	10.24	10.72	11.10	11.30	11.62	11.51	11.56	11.50	11.40	11.62	11.74	11.18
1917–18	12.57	13.34	14.35	14.46	15.31	.....	15.59	15.31	15.22	12.37	.....	.....	14.28
1918–19	.....	18.17	.....	19.66	18.70	16.92	20.09	25.41	.....	.....	24.23	25.00	21.02
1919–20	25.30	28.72	29.97	31.47	34.57	35.17	35.71	[2]30.89	24.37	25.52	23.95	19.24	28.74
1920–21	16.84	17.35	17.70	16.96	16.00	15.34	14.98	13.93	13.50	12.43	10.82	10.71	14.71
1921–22	10.62	10.72	10.64	11.05	11.64	12.37	11.92	11.46	11.27	11.71	10.82	9.81	11.17
1922–23	10.11	10.50	10.74	10.91	.....	.....	.....	.....	.....	.....	.....	.....	.....

[1] Compiled from The Seed World.

[2] Price based on very few sales.

CLOVER AND TIMOTHY SEED—Continued.

TABLE 209.—*Timothy seed: Monthly and yearly average spot price per 100 pounds, prime contract grade, Chicago, 1910–11 to 1922–23.*[1]

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1910–11	$6.36	$9.45	$9.32	$9.64	$9.97	$10.41	$11.40	$12.03	$12.00	$12.00	$11.55	$13.50	$10.64
1911–12	14.31	15.20	15.81	16.00	16.45	16.25	16.25	15.60	14.50	13.70	11.63	10.25	14.66
1912–13	6.13	4.81	4.44	4.05	4.13	4.13	3.88	3.76	3.88	4.16	4.69	5.28	4.45
1913–14	5.59	5.58	5.51	5.41	5.55	5.53	5.45	5.19	5.30	5.47	5.63	5.87	5.51
Av. 1910–11 to 1913–14	8.10	8.76	8.77	8.78	9.02	9.08	9.24	9.14	8.92	8.83	8.38	8.72	8.81
1914–15	6.31	6.34	5.64	5.48	6.61	7.89	7.45	7.35	8.84	6.88	7.25	7.40	6.95
1915–16	8.19	9.19	8.35	8.46	8.73	8.70	8.75	8.55	8.50	8.94	9.20	8.75	8.69
1916–17	7.00	4.99	5.43	5.50	5.74	5.55	5.55	5.78	6.81	8.20	8.14	8.01	6.39
1917–18	8.25	8.44	8.56	7.82	7.63	8.25	8.94	8.55	8.25	8.41	7.81	8.88	8.32
1918–19	8.90	10.00	10.00	10.30	11.00	11.00	10.00	10.50	11.00	12.00	12.00	12.00	10.73
1919–20	11.75	11.50	11.25	11.50	12.25	13.62	14.30	13.07	11.76	12.00	12.00	11.85	12.24
1920–21	8.89	7.50	6.71	6.69	6.13	5.78	5.05	4.65	5.04	5.30	5.27	5.07	6.01
Av. 1914–15 to 1920–21	8.47	8.28	7.99	7.96	8.30	8.68	8.58	8.35	8.60	8.82	8.81	8.85	8.48
1921–22	4.50	4.30	4.85	5.31	5.53	5.94	6.00	5.69	5.22	5.19	4.67	4.50	5.14
1922–23	4.59	4.96	5.89	6.26	6.25	.....	.....	.....	.....	.....	.....	.....	.....

[1] Compiled from Chicago Board of Trade and the Seed World.

TABLE 210.—*Timothy seed: Monthly and yearly receipts and shipments, Chicago, 1910–11 to 1922–23.*

RECEIPTS.

Season.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Crop year 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.*
1910–11	1,878	7,509	3,778	1,741	1,563	1,311	1,560	1,205	368	106	55	87	21,161
1911–12	4,451	5,829	4,011	2,649	1,120	792	879	868	557	388	242	158	21,944
1912–13	2,916	6,875	5,505	3,608	2,182	2,361	3,019	2,831	3,964	1,509	1,764	2,647	39,181
1913–14	3,601	5,947	4,232	3,421	2,131	2,191	1,763	4,393	1,977	828	1,446	2,410	34,340
Av. 1910–11 to 1913–14	3,212	6,540	4,381	2,855	1,749	1,664	1,805	2,324	1,716	708	877	1,326	29,157
1914–15	4,914	11,208	3,469	2,650	3,487	3,050	3,087	4,129	1,165	1,101	403	752	39,415
1915–16	1,201	9,894	5,578	4,039	2,416	1,431	2,203	2,167	1,019	1,039	704	296	31,987
1916–17	2,487	10,565	5,631	3,989	3,051	2,149	2,478	6,279	3,367	2,442	1,117	924	44,479
1917–18	3,810	6,525	5,172	2,966	1,915	2,006	2,242	2,554	1,434	1,250	392	677	30,943
1918–19	764	3,198	5,175	3,242	1,463	1,578	2,234	2,985	3,772	2,398	1,348	891	29,048
1919–20	7,450	13,191	6,124	2,582	1,643	3,186	3,381	3,118	1,338	1,093	641	1,135	44,882
1920–21	3,313	12,777	9,013	5,269	3,445	2,343	3,386	4,056	2,601	2,368	1,249	531	50,351
Av. 1914–15 to 1920–21	3,420	9,622	5,737	3,534	2,489	2,249	2,716	3,613	2,099	1,670	836	744	38,729
1921–22	10,849	6,269	4,586	3,197	2,669	2,404	2,899	2,827	780	1,215	472	119	38,286
1922–23	8,985	9,600	4,516	2,048	1,050	.....	.....	.....	.....	.....	.....	.....	.....

SHIPMENTS.

1910–11	1,825	4,198	1,701	676	899	2,078	2,109	2,751	1,004	159	4	3	17,407
1911–12	2,452	5,038	2,035	2,051	688	482	958	1,356	761	360	54	158	16,393
1912–13	1,951	7,504	4,373	4,912	2,224	3,313	3,152	4,426	4,629	2,229	1,521	1,344	41,578
1913–14	1,774	3,735	3,285	1,896	1,893	2,065	2,021	3,977	1,955	888	786	2,592	26,867
Av. 1910–11 to 1913–14	2,000	5,119	2,849	2,384	1,426	1,934	2,060	3,128	2,087	909	591	1,024	25,561
1914–15	2,056	4,845	2,511	2,124	3,549	2,565	1,877	2,430	2,623	1,727	955	1,205	28,467
1915–16	1,372	5,344	5,283	3,796	2,485	1,892	2,326	4,203	2,715	1,212	162	395	31,185
1916–17	2,826	7,956	5,363	4,071	3,128	2,921	4,082	7,775	4,321	2,288	779	729	46,239
1917–18	2,605	3,887	2,816	1,511	1,291	1,720	2,049	5,160	1,459	147	509	427	23,581
1918–19	1,218	1,774	2,674	3,903	2,688	1,659	3,178	3,621	4,579	1,817	780	1,253	29,144
1919–20	2,340	6,301	3,142	1,964	2,588	4,007	3,737	3,404	1,852	2,497	735	1,057	33,624
1920–21	2,233	4,072	4,150	1,787	1,594	3,810	4,531	5,410	2,708	1,550	587	1,001	33,433
Av. 1914–15 to 1920–21	2,093	4,883	3,705	2,737	2,475	2,653	3,111	4,572	2,894	1,605	644	867	32,239
1921–22	5,233	8,567	3,750	2,340	2,846	2,551	4,108	5,187	2,129	2,598	336	352	39,997
1922–23	3,896	6,303	4,580	3,943	1,895	.....	.....	.....	.....	.....	.....	.....	.....

[1] From Chicago Board of Trade and the Seed World.

ALFALFA SEED.

TABLE 211.—*Alfalfa seed: Farm price per bushel, 15th of each month, 1912–1922.*

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.	Average.
1912	.....	.....	.....	.....	.....	$8.47	$8.32	$8.58	$9.02	$7.87	$8.23	$7.86	$8.34
1913	$7.66	$8.15	$8.19	$8.36	$8.21	8.08	8.20	7.96	7.42	6.96	6.36	6.60	7.68
1914	6.55	6.48	6.60	6.77	6.77	6.83	6.92	6.81	7.21	7.29	7.29	7.57	6.92
1915	7.61	7.86	7.92	8.45	8.38	8.31	8.51	8.30	7.94	8.37	8.65	8.88	8.27
1916	8.84	9.20	10.02	10.39	10.70	10.10	10.30	9.33	9.27	8.61	8.30	8.56	9.47
1917	7.97	7.75	8.53	9.03	8.85	8.61	8.71	8.69	9.04	9.04	9.43	9.58	8.77
1918	10.14	9.90	10.60	10.53	10.09	10.13	9.67	9.88	10.04	9.91	9.38	9.65	9.99
1919	10.07	10.48	10.64	11.18	12.13	11.79	10.88	11.34	12.34	14.90	15.23	16.68	12.30
1920	16.60	19.57	21.43	21.80	22.40	20.42	19.41	16.03	14.89	13.35	12.25	10.24	17.37
1921	9.95	9.01	9.31	8.71	8.97	8.73	7.89	8.54	8.53	8.33	8.09	7.63	8.64
1922	7.39	8.45	7.50	9.00	8.89	8.48	9.00	7.74	8.00	7.94	8.50	9.45	10.03
Av., 1913–1922	9.28	9.68	10.07	10.42	10.54	10.15	9.95	9.46	9.47	9.47	9.35	9.48	9.94

TABLE 212.—*Alfalfa seed: Monthly and yearly average spot price per 100 pounds, Kansas City, 1910–11 to 1922–23.*[1]

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Average.
1910–11	(2)	(2)	$13.34	$12.88	$12.88	$12.88	$12.88	$12.88	$12.88	(2)	(2)	(2)	.....
1911–12	(2)	(2)	11.50	10.48	10.00	10.17	11.03	10.90	10.91	$10.45	$10.25	$10.41	$10.61
1912–13	$10.50	$10.27	9.84	9.64	10.00	10.00	9.90	9.81	9.88	10.09	10.25	11.71	10.16
1913–14	10.00	9.57	8.25	8.12	7.70	7.75	8.00	8.00	8.00	8.42	9.35	9.50	8.56
Av., 1910–11 to 1913–14	.....	.....	10.73	10.28	10.14	10.20	10.45	10.40	10.42	9.65	9.95	10.54	.....
1914–15	9.50	10.20	11.88	10.34	10.00	10.37	11.87	13.15	13.11	12.53	12.25	12.25	11.45
1915–16	(2)	14.17	14.98	15.69	15.57	16.08	17.40	16.23	17.25	17.25	17.25	17.25	16.28
1916–17	17.81	17.58	12.63	11.23	10.50	10.66	10.62	11.00	11.00	11.18	11.80	12.00	12.33
1917–18	12.00	12.52	13.25	13.51	14.00	14.00	13.50	13.50	13.50	14.38	15.00	12.42	13.47
1918–19	12.90	13.91	13.02	13.12	13.45	13.31	13.58	13.75	13.75	13.04	14.27	14.21	13.53
1919–20	14.50	17.70	20.00	23.50	27.72	30.00	30.00	33.77	20.73	25.00	25.00	25.00	24.41
1920–21	25.00	25.00	14.79	14.67	12.50	14.00	15.00	14.62	13.25	13.75	13.25	12.75	15.72
Av., 1914–15 to 1920–21	15.28	15.87	14.36	14.58	14.82	15.49	16.00	16.57	14.66	15.30	15.55	15.13	15.31
1921–22	12.75	12.75	12.12	11.50	11.50	11.00	11.12	12.25	13.88	14.25	13.00	13.00	12.43
1922–23	(2)	13.12	14.50	14.25	16.00	17.50	.....	.....	.....	.....	.....	.....	.....

[1] Compiled from Kansas City Price Current and the Seed World. [2] No quotations.

GERMINATION AND WEIGHT OF SEEDS.

TABLE 213.—*Average purity and germination tests of best commercial grade of seed and commonly accepted weight per bushel.*[1]

Kind of seed.	Purity.	Germination.	Weight per bushel.	Kind of seed.	Purity.	Germination.	Weight per bushel.
	Per ct.	*Per ct.*	*Pounds.*		*Per ct.*	*Per ct.*	*Pounds.*
Red clover	99.4	92.4	60	Hungarian millet	97.5	92.4	48–50
Alsike clover	98.3	91.5	60	Japanese millet	96.4	88.9	32–35
White clover	96.9	90.8	60	Broom-corn millet	99.3	92.1	50
Crimson clover	98.2	91.2	60	Amber sorgo	97.9	88.2	50
Sweet clover (hulled)	98.9	89.6	60	Orange sorgo	97.9	88.5	50
Bur clover (unhulled)	.....	.....	10	Sumac sorgo	98.3	90.5	50
Lespedeza	93.9	82.1	25	Sudan grass	98.0	91.1	32
Alfalfa	99.5	91.4	60	Kafir	98.1	91.3	56
Timothy	99.6	93.5	45	Milo	97.7	91.2	56
Redtop [2]	93.2	90.5	14	Feterita	97.9	91.1	56
Orchard grass	86.9	86.6	14	Rape	99.2	91.8	50
Kentucky bluegrass [3]	83.0	78.3	14	Wheat	98.8	94.4	60
Bermuda grass	91.5	77.9	35	Corn (field) [4]	99.3	94.0	56
Bromus inermis	87.7	91.8	14	Barley	98.2	93.5	48
Meadow fescue	97.8	91.2	22–24	Oats	98.6	95.0	32
Italian rye grass	97.9	83.5	24	Rye	97.8	91.8	56
Perennial rye grass	97.9	83.6	24	Flax	98.5	87.3	56
Hairy vetch	98.7	89.0	60	Buckwheat	98.6	92.7	48–52
Spring vetch	98.7	92.3	60	Cotton	98.0	85.0	30–32
Golden millet	98.8	92.9	50	Cowpeas	96.1	91.4	60
Common millet	98.0	93.5	50	Canada field peas	99.3	94.8	60
Siberian millet	97.9	92.7	50	Soy beans	98.7	93.8	60

[1] Farmer's Bulletin 1232, Seed Marketing Hints for the Farmer.
[2] Fancy recleaned, solid redtop seed weighs 30 to 38 pounds, or more, per measured bushel.
[3] Fancy recleaned Kentucky bluegrass seed weighs 19 to 28 pounds, or more, per measured bushel.
[4] Shelled.

VEGETABLE SEED.

TABLE 214.—*Vegetable seed: Commercial acreage, average yield per acre, and production in the United States, 1917–1922.*

COMMERCIAL ACREAGE PLANTED FOR SEED.

Kind of seed.	1917	1918	1919	1920	1921	1922 [1]
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 paunds.*	*1,000 pounds.*
Beans, dwarf, snap	63,524	70,867	48,658	30,059	12,625	33,488
Beans, garden, pole [2]	4,029	6,297	7,957	11,573	3,911	4,430
Beet, garden	826	2,748	2,666	400	380	633
Beet, mangel	20	424	619	123	(3)	112
Beet, sugar	4,638	6,014	11,139	7,919	3,699	1,129
Cabbage	737	974	1,978	1,135	636	730
Carrot	1,965	4,622	3,465	538	196	493
Celery	84	176	135	60	100	70
Corn, sweet	12,975	14,759	14,565	12,024	4,064	7,495
Cucumber	4,694	3,053	3,582	3,598	3,577	4,180
Kale	18	71	106	61	39	132
Lettuce	1,979	2,291	2,283	2,010	1,185	1,929
Muskmelon	1,827	1,671	1,467	1,898	2,223	1,935
Watermelon	8,929	10,507	5,508	5,914	6,558	9,480
Onion, seed	3,782	7,260	6,730	2,392	1,108	1,295
Onion, sets	2,637	3,818	3,708	3,998	3,225	3,183
Parsley	109	155	146	186	90	84
Parsnips	137	267	303	111	48	121
Peas, garden	110,129	102,095	104,172	113,844	35,680	54,462
Pepper	686	720	160	431	1,308	671
Pumpkin	1,512	1,380	1,156	2,164	905	992
Radish	3,521	8,760	10,870	3,396	1,717	2,485
Salsify	131	124	205	52	9	33
Spinach	1,415	4,259	1,139	141	32	655
Squash, summer	836	1,004	1,153	1,000	1,128	612
Squash, winter	1,328	2,539	2,912	2,109	1,310	836
Tomato	3,204	3,832	3,604	2,711	1,296	3,824
Turnip, English	24	936	1,207	239	336	200
Turnip, Swede	21	279	205	136	(3)	90

AVERAGE YIELD PER ACRE.

Kind of seed.	1917	1918	1919	1920	1921	1922 [1]
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds*	*Pounds.*
Beans, dwarf, snap	233	412	516	501	712	585
Beans, garden, pole [2]	315	820	552	474	660	920
Beet, garden	562	913	697	295	474	678
Beet, 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
Carrot	575	460	451	541	388	371
Celery	333	227	400	467	460	471
Corn, sweet	640	807	902	1,070	1,029	1,181
Cucumber	219	179	214	161	136	169
Kale	278	239	406	180	769	341
Lettuce	456	326	298	292	262	444
Muskmelon	160	117	102	89	178	186
Watermelon	71	91	91	104	112	127
Onion, seed	259	232	389	335	301	347
Onion, sets	11,850	12,066	5,906	11,106	8,304	9,802
Parsley	771	471	767	629	311	524
Parsnips	496	625	733	622	542	702
Peas, garden	444	569	460	767	762	855
Pepper	31	78	75	63	76	70
Pumpkin	71	96	95	114	117	120
Radish	176	221	233	181	150	299
Salsify	427	250	454	308	333	455
Spinach	212	387	317	716	781	479
Squash, summer	145	99	193	131	166	185
Squash, winter	70	50	152	121	110	79
Tomato	71	80	67	80	62	62
Turnip, English	125	215	378	142	176	75
Turnip, Swede	429	97	600	287	(3)	511

[1] Preliminary. [2] Not including lima beans. [3] Not reported for 1921.

VEGETABLE SEED—Continued.

TABLE 214.—*Vegetable seed: Commercial acreage, average yield per acre, and production in the United States, 1917–1922*—Continued.

PRODUCTION.

Kind of seed.	1917	1918	1919	1920	1921	1922 [1]
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Beans, dwarf, snap	14,809	29,216	25,093	15,069	8,985	19,600
Beans, garden, pole [2]	1,268	5,166	4,395	5,480	2,582	4,074
Beet, garden	464	2,509	1,858	118	180	429
Beet, mangel	30	287	621	69	(3)	102
Beet, sugar	5,076	5,900	6,700	6,770	3,575	1,056
Cabbage	292	162	1,383	157	224	368
Carrot	1,129	2,125	1,562	291	76	183
Celery	28	40	54	28	46	33
Corn, sweet	8,303	11,917	13,143	12,870	4,183	8,749
Cucumber	1,026	548	766	580	487	707
Kale	5	17	43	11	30	45
Lettuce	903	747	680	587	310	856
Muskmelon	293	196	150	169	395	359
Watermelon	633	960	500	614	732	1,200
Onion, seed	980	1,685	2,618	801	334	450
Onion, sets	31,249	46,069	21,900	44,402	26,780	31,200
Parsley	84	73	112	117	28	44
Parsnips	68	167	222	69	26	85
Peas, garden	48,868	58,127	47,968	87,310	27,197	46,588
Pepper	21	56	12	27	99	47
Pumpkin	108	133	110	247	106	119
Radish	621	1,935	2,537	614	258	743
Salsify	56	31	93	16	3	15
Spinach	300	1,650	361	101	25	314
Squash, summer	121	99	223	131	187	114
Squash, winter	93	128	443	255	144	66
Tomato	227	308	243	218	81	238
Turnip, English	3	201	456	34	59	15
Turnip, Swede	9	27	123	39	(3)	46

[1] Preliminary. [2] Not including lima beans. [3] Not reported for 1921.

TABLE 215.—*Average wholesale prices per pound of standard varieties of vegetable seeds in United States.*

Kind of seed.	1917	1918	1919	1920	1921	1922	Average 1917–1922.
Beans, dwarf snap	$0.18	$0.26	$0.21	$0.16	$0.15	$0.13	$0.18
Beans, garden, pole [1]	.14	.24	.23	.21	.19	.15	.19
Beet, garden	.90	1.45	1.07	.64	.48	.38	.82
Beet, mangel	.35	.90	.68	.36	.31	.27	.48
Cabbage	1.90	3.80	8.00	2.75	2.40	2.00	3.48
Carrot	1.00	1.75	.90	.50	.50	.40	.84
Celery, domestic	1.50	2.25	1.85	1.60	2.00	1.60	1.80
Celery, imported	10.00	10.00	5.00	4.00	4.00	3.00	6.00
Cucumber	.54	.83	.85	.86	.80	.81	.78
Lettuce	.65	.85	.90	.72	.76	.76	.77
Muskmelon	.54	.78	.81	.73	.79	.76	.74
Watermelon	.42	.70	.54	.46	.45	.46	.50
Onion seed	1.90	4.50	2.65	1.80	1.60	1.20	2.28
Parsley	.35	.60	1.00	.60	.60	.50	.61
Parsnip	.30	.....	1.00	.40	.35	.35	.48
Peas, garden	.12	.19	.19	.24	.19	.14	.18
Radish	.40	1.60	1.30	.60	.50	.50	.82
Spinach	.60	2.00	.75	.35	.20	.20	.68
Squash, summer	.65	.80	1.05	1.00	.90	.75	.86
Squash, winter	.55	1.00	1.10	1.10	1.00	.80	.92
Sweet corn	.20	.25	.17	.15	.13	.10	.17
Tomato	2.75	3.60	4.00	3.25	3.10	2.80	3.25
Turnip, English	.35	1.75	1.35	.65	.50	.35	.82
Turnip, Swede	.32	1.50	1.25	.45	.37	.27	.69

[1] Not including lima beans.

VEGETABLE SEED—Continued.

TABLE 216.—*Vegetable seed: Average yearly import price, in cents per pound, 1910–1921.*[1]

Kind of seed.	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Beet, garden	9.4	10.3	16.4	15.7	15.0	11.0	12.0	17.2	49.2	67.2	21.1	14.2
Beet, sugar	6.5	6.6	9.7	7.2	7.6	8.8	11.2	11.6	.....	.....	22.2	19.6
Cabbage	22.9	34.1	37.6	47.6	49.0	35.0	42.2	44.4	170.8	211.8	76.6	57.0
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
Cauliflower	534.0	400.0	562.0	537.0	381.0	343.0	524.0	606.0	458.7	382.3	820.9	813.4
Celery [2]	9.4	9.3	25.1	87.2	21.4	18.3	26.6	18.8	38.0	40.0	19.6	14.3
Collard	19.6	12.4	14.3	13.1	17.0	13.4	24.0	77.0	.....	.....	26.0	23.1
Corn salad	15.6	12.7	20.7	14.6	12.6	13.5	15.0	16.8	38.1	49.1	44.9	47.3
Eggplant	78.6	71.9	61.1	80.8	80.6	80.5	86.2	68.7	157.1	219.7	187.6	143.5
Kale	22.9	15.5	14.8	19.3	25.8	20.9	17.3	27.1	75.3	63.9	26.7	26.7
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
Parsley	8.5	9.0	19.2	28.1	18.6	11.0	12.2	14.4	19.7	39.3	11.9	12.5
Parsnip	7.2	7.6	10.4	8.6	8.2	7.0	8.1	8.4	49.2	60.4	21.9	13.2
Pepper	42.3	41.4	40.9	44.0	38.2	41.0	41.0	57.0	88.4	151.9	109.5	68.3
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
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
Turnip and rutabaga	8.5	8.6	7.9	9.3	9.1	8.7	8.9	11.8	31.5	36.9	22.8	14.6

[1] Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce.
[2] Imported for planting and other purposes.

TABLE 217.—*Vegetable seed: Retail catalogue prices, 1917–1922.*[1,2]

Kind of seed.	1917		1918		1919		1920		1921		1922	
	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, dwarf snap	.....	$0.32	.....	$0.43	.....	$0.41	.....	$0.39	.....	$0.39	.....	$0.37
Beans, garden pole[3]	.....	.26	.....	.41	.....	.43	.....	.40	.....	.41	.....	.39
Beet, garden	$0.15	1.30	$0.20	2.35	$0.20	1.75	$0.15	1.35	$0.15	1.15	$0.14	1.00
Beet, mangel	.10	.55	.15	1.30	.15	1.20	.10	.90	.10	.80	.10	.70
Cabbage	.25	3.00	.45	5.05	.90	11.10	.50	5.25	.35	3.90	.30	3.15
Carrot	.15	1.40	.20	2.25	.20	1.70	.15	1.30	.15	1.10	.13	1.00
Celery, domestic	.25	2.60	.30	2.85	.35	2.90	.30	3.20	.30	3.00	.27	2.75
Celery, imported	1.45	17.00	1.40	15.35	1.30	13.55	.95	10.45	.85	9.85	.85	9.05
Cucumber	.10	.95	.15	1.75	.15	1.30	.15	1.30	.15	1.40	.15	1.35
Lettuce	.15	1.35	.15	1.40	.15	1.50	.15	1.55	.20	1.60	.17	1.55
Muskmelon	.15	1.10	.15	1.30	.15	1.35	.15	1.50	.15	1.50	.17	1.50
Watermelon	.10	.80	.10	.95	.15	1.15	.15	1.10	.15	1.15	.14	1.05
Onion Seed	.25	2.50	.55	5.15	.35	3.80	.30	3.15	.30	3.00	.26	2.55
Parsley	.10	.90	.15	1.05	.15	1.25	.15	1.10	.15	1.10	.14	1.10
Parsnip	.10	.70	.20	1.75	.20	1.80	.15	1.25	.15	1.05	.14	1.00
Peas, garden	.....	.23	.....	.37	.....	.38	.....	.45	.....	.42	.....	.37
Radish	.10	.65	.15	1.65	.15	1.65	.15	1.30	.15	1.15	.14	1.10
Spinach	.10	.90	.20	2.10	.15	1.25	.10	.80	.10	.70	.10	.60
Squash, summer	.10	.95	.15	1.40	.15	1.50	.15	1.65	.20	1.65	.17	1.50
Squash, winter	.10	.95	.15	1.50	.15	1.60	.20	1.70	.20	1.60	.17	1.40
Sweet corn	.....	.26	.....	.38	.....	.35	.....	.36	.....	.36	.....	.32
Tomato	.30	2.95	.40	4.10	.40	4.45	.40	4.45	.40	4.25	.37	3.90
Turnip, English	.10	.70	.20	1.95	.20	2.05	.15	1.40	.15	1.15	.13	.95
Turnip, Swede	.10	.65	.20	2.35	.20	2.05	.15	1.35	.15	1.00	.13	.90

[1] Represents average of prices quoted for standard varieties of vegetable seed by a number of representative mail-order dealers.
[2] From Weather, Crops, and Markets.
[3] Not including lima beans.

VEGETABLE SEED—Continued.

TABLE 218.—*Vegetable seeds: Imports into United States, 1910 to 1922.*

Kind of seed.	Fiscal year ending June 30—									Calendar years.		
	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
	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.*
Beet, sugar	10,309	11,109	11,390	14,783	10,490	15,893	9,048	14,466	15,637	9,830	23,446	7,726
Beet, all other	624	639	872	887	1,077	991	786	483	448	161	238	257
Cabbage	162	261	311	273	255	425	278	108	83	169	391	253
Carrot	176	155	97	149	172	87	38	15	33	16	69	48
Castor bean[1]	37,240	39,512	48,913	41,229	52,196	46,230	53,598	38,353	52,201	60,413	61,961	36,565
Cauliflower	6	10	7	9	11	13	9	8	8	12	17	12
Celery[1]	189	341	39	23	406	640	608	756	168	768	594	426
Collard	1	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	32	38	49	40	16	8	19	77	40
Kohl-rabi	50	17	11	14	16	16	10	9	17	17	23	14
Mushroom spawn	368	423	168	240	195	124	66	48	17	23	19	23
Mustard[1]	9,124	8,512	12,198	12,720	11,544	10,158	16,402	9,962	13,036	14,227	9,063	7,564
Parsley	75	75	56	129	255	139	70	38	66	53	180	151
Parsnips	89	57	55	117	130	100	100	65	7	44	17	57
Pepper	16	16	18	10	12	15	15	5	22	6	2	9
Radish	470	581	373	504	527	550	309	119	103	112	320	213
Spinach	935	972	1,218	1,698	1,386	1,136	838	634	805	367	1,139	1,222
Turnips and rutabaga	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] Imported for planting and for other purposes. [2] Less than 500 pounds.

COTTON.

TABLE 219.—*Cotton: Area and production in undermentioned countries, 1909–10 to 1922–23.*[1]

[Picking seasons, Aug. 1–July 31.]

Country.	Area.				Poduction (bales of 478 pounds net).			
	Average, 1909–10 to 1913–14.	1920–21	1921–22	1922–23[2]	Average, 1909–10 to 1913–14	1920–21	1921–22	1922–23[2]
NORTHERN HEMISPHERE.								
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
United States[3,4]	34,152	35,878	30,509	33,742	13,033,235	13,439,603	7,953,641	9,964,000
Mexico[3,5]	.....	[6] 265	[6] 230	[6,7] 167	193,000	[6] 188,000	[6] 126,000	[6] 120,000
Total North America[3]	34,152	35,878	30,739	.....	13,226,235	13,627,603	8,079,641	.....
CENTRAL AND SOUTH AMERICA AND WEST INDIES.								
Guatemala	.....	.....	.....	.....	[8] 144	.....	.....	.....
Dutch West Indies[3,9]	(10)	.....	.....	.....	[11] 161	202	45	.....
Haiti[9]	.....	.....	.....	.....	8,792	.....	.....	.....
Dominican Republic[9]	.....	.....	.....	.....	[12] 1,066	150	.....	.....

[1] Official sources unless otherwise stated.
[2] Figures for 1922–23 compiled from reports received up to Jan. 6, 1923.
[3] Countries reporting for all periods except 1922–23 either as listed or as part of some other country.
[4] Linters not included. Production of linters 1909–13, 502, 711 bales; 1919, 607,969 bales; 1920, 440,313 bales; and 1921, 400,371 bales.
[5] From an unofficial source.
[6] Laguna District and Lower California only. These two localities produce practically the entire crop of Mexico.
[7] Not including about 35,000 acres of volunteer cotton in the Laguna District.
[8] One year.
[9] Exports.
[10] Less than 500 acres.
[11] Four years.
[12] Three years.

COTTON—Continued.

TABLE 219.—*Cotton: Area and production in undermentioned countries, 1909–10 to 1922–23* [1]—Continued.

Country.	Area.				Production (bales of 478 pounds net).			
	Average, 1909–10 to 1913–14.	1920–21	1921–22	1922 [2]–23	Average, 1909–10 to 1913–14.	1920–21	1921–22	1922–23
CENTRAL AND SOUTH AMERICA AND WEST INDIES—continued.								
Porto Rico [3]	[4] 1	2	3	.....	[4] 1,319	1,400	[5] 920	.....
St. Croix (U. S. Virgin Islands) [5]	.....	.....	.....	.....	519	61	.....	.....
British West Indies:								
Antigua	1	1	.....	.....	246	79	.....	.....
Montserrat [3, 5]	2	3	2	.....	657	826	732	.....
St. Kitts-Nevis [3]	5	6	3	.....	1,347	1,615	732	.....
Grenada [5]	.....	.....	3	.....	703	688	.....	.....
St. Lucia [5]	([6])	.....	.....	.....	15	12	.....	.....
St. Vincent [3]	5	8	5	.....	1,026	1,363	523	.....
Bahamas [5]	.....	.....	.....	.....	[7] 24	.....	.....	.....
Barbados	4	2	.....	.....	1,061	.....	.....	.....
Jamaica [5]	([6])	.....	.....	.....	71	.....	.....	.....
Trinidad and Tobago [5]	.....	.....	.....	.....	[7] 16	.....	.....	.....
Virgin Islands [5]	.....	.....	.....	.....	81	.....	.....	.....
Guadeloupe	[4] 3	.....	.....	.....	.....	.....	.....	.....
Total Central and South America [3]	13	19	13	.....	4,510	5,406	2,952	.....
EUROPE.								
Italy	.....	.....	.....	9	.....	.....	.....	.....
Yugoslavia	.....	([6])	([6])	.....	.....	273	266	.....
Greece	[4] 22	.....	23	.....	[4] 13,000	.....	.....	.....
Bulgaria [3]	[8] 2	5	4	7	[8] 842	1,212	1,841	.....
Malta [3]	1	1	1	.....	433	240	488	.....
Russia, European (Northern Caucasia)	[9] 2	.....	.....	.....	[9] 680	.....	.....	.....
Turkey, European	[4] 16	.....	.....	.....	[4] 10,000	.....	.....	.....
Total Europe [3]	3	6	5	.....	1,275	1,452	2,329	.....
AFRICA.								
Algeria [3]	[10] 2	1	1	1	[10] 572	356	293	293
Dahomey [5]	[10] 5	.....	.....	.....	664	1,932	.....	.....
French Guinea [5]	.....	.....	.....	.....	[4] 230	.....	.....	.....
Ivory Coast [5]	.....	.....	.....	.....	[4] 28	94	.....	.....
French Sudan [5]	.....	.....	.....	.....	[7] 235	.....	.....	.....
French Togo [3, 11]	.....	49	49	.....	.....	4,300	4,600	.....
Italian Somaliland [5]	.....	.....	.....	.....	510	.....	.....	.....
Eritrea [5]	.....	.....	.....	.....	980	.....	.....	.....
Egypt [3]	1,743	1,897	1,341	1,868	1,453,000	1,251,000	[12] 684,000	1,015,000
Anglo-Egyptian Sudan [3]	.....	.....	69	.....	13,000	23,000	20,000	.....
Gold Coast [5]	.....	.....	.....	.....	39	40	.....	.....
Kenya [3]	.....	([6])	([6])	.....	519	111	192	.....
Nigeria [3]	.....	.....	.....	.....	9,000	26,000	[13] 2,000	.....
Seychelles [5]	.....	.....	.....	.....	[4] 18	.....	.....	.....
Uganda [3]	58	200	175	.....	20,000	63,000	31,000	.....
Former German Togo [3, 5, 11]	.....	.....	.....	.....	[7] 2,312	.....	.....	.....
Total Africa [3]	1,803	2,098	1,517	.....	1,498,403	1,367,767	752,085	.....

[1] Official sources unless otherwise stated.
[2] Figures for 1922–23 compiled from reports received up to Jan. 6, 1923.
[3] Countries reporting for all periods except 1922–23 either as listed or as part of some other country.
[4] One year.
[5] Exports.
[6] Less than 500 acres.
[7] Four years.
[8] Pre-war territory.
[9] Two years.
[10] Three years.
[11] The former German Colony is now divided between Great Britain and France.
[12] This figure is the official estimate issued in November, 1921. It is now generally considered underestimated, receipts at Alexandria indicating a crop of over 800,000 bales.
[13] From an unofficial source.

COTTON—Continued.

TABLE 219.—*Cotton: Area and production in undermentioned countries, 1909-10 to 1922-23* [1]—Continued.

Country.	Area.				Production (bales of 478 pounds net).			
	Average, 1909-10 to 1913-14.	1920-21	1921-22	1922-23 [2]	Average, 1909-10 to 1913-14.	1920-21	1921-22	1922-23
ASIA.								
Cyprus [3]		9	7		1,983	2,024	1,446	
Turkey, Asiatic	[4] 416				133,000			
India:								
British	14,434							
Native States	1,530							
Total [3, 5]	22,311	21,341	18,436	19,845	3,584,000	3,013,000	3,735,000	4,016,000
Ceylon	1	(6)			[4] 17			
Russia, Asiatic [3]	[7] 1,490	[8] 297	[8] 245	[8] 175	[7] 953,000	[8] 115,000	[8] 100,000	[8] 50,000
Persia [9]					[10] 111,485			
China [11]		4,300	4,284			1,883,000	1,517,000	
Japanese Empire:								
Japan	8	6			4,704	4,784		
Chosen (Korea) [3]	146	359	362	366	25,006	111,110	92,448	85,397
French Indo-China					[12] 9,000	6,000		
Siam	[10] 12	16						
Total Asia [3]	23,947	21,997	19,043		4,563,989	3,241,134	3,928,894	
OCEANIA.								
Hawaii	(6)				[4] 12			
North Borneo [9]					[10] 125			
Total Northern Hemisphere [3]	59,918	59,998	52,256		19,294,412	18,243,362	12,765,901	
SOUTHERN HEMISPHERE.								
Peru		163	161		[4] 110,000	164,000	157,000	
Chile	(6)				[4] 247			
Brazil		805	1,420		[8] 322,000	451,000	612,000	
Paraguay						1,400	1,500	
Argentina	[10] 6	59			[10] 3,000	28,000		
Belgian Congo						[8] 3,000	[8] 5,000	
Tanganyika Territory [3]	[13] 30		30		[9] 6,855	[9] 2,402	6,000	
Nyasaland [3]	[10] 29	17	22		3,800	1,600	2,900	
Union of South Africa [3]	(6)	7			76	1,670	[8] 2,000	
Angola [9]					428			
Mozambique [9]					[10] 280	997		
Dutch East Indies [9]					13,981			
French Establishments in Oceania [9]					168			
New Hebrides [9]					[4] 303	3,606		
Australia (Queensland) [3]	(6)	2	20		91	[8] 640	2,500	
Fiji Islands	(6)				[12] 4			
Papua (British New Guinea) [9]					[12] 90			
Solomon Islands [9]					[10] 25			
Total Southern Hemisphere [3]	29	19	42		442,822	621,312	782,400	
Total world countries [3]	59,947	60,017	52,298		19,737,234	18,864,674	13,548,301	
Total all countries as far as reported	60,473	65,699	58,574		20,053,225	20,798,790	15,072,067	

[1] Official sources unless otherwise stated.
[2] Figures for 1922-23 compiled from reports received up to Jan. 6, 1923.
[3] Countries reporting for all periods except 1922-23 either as listed or as part of some other country.
[4] One year.
[5] The figure for British Provinces and native States do not add to the total. The latter had been taken from a different source and includes territory not included in the former.
[6] Less than 500 acres.
[7] Including Khiva and Bokhara.
[8] From an unofficial source.
[9] Exports.
[10] Three years.
[11] Estimates by the Chinese Mill Owners' Association which probably represent the commercial crop. As the home hand loom consumption of cotton in China is believed to be large this is only part of the total crop of China. Estimates of the total crop, ranging between 2,000,000 and 7,000,000 bales have been made by various agencies from time to time but are considered unreliable.
[12] Two years.
[13] Four years.

COTTON—Continued.

TABLE 220.—*Cotton: World production so far as reported, 1900–1921.*

[In bales of 478 pounds net weight.]

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
1900	15, 893, 591	1906	22, 183, 148	1912	19, 578, 095	1918	17, 186, 107
1901	15, 926, 048	1907	18, 328, 613	1913	21, 271, 902	1919	18, 349, 464
1902	17, 331, 503	1908	23, 688, 292	1914	23, 804, 422	1920	20, 798, 790
1903	17, 278, 881	1909	20, 679, 334	1915	17, 659, 126	1921	15, 072, 067
1904	21, 005, 175	1910	22, 433, 269	1916	18, 008, 804		
1905	18, 342, 075	1911	21, 754, 810	1917	16, 323, 395		

TABLE 221.—*Cotton: Acreage, production, value, exports, etc., in the United States, 1866–1922.*

Year.	Acreage.	Average yield per acre.	Production.	Average farm price per pound Dec. 1.	Farm value Dec. 1.	New York closing prices per pound, on middling upland.				Domestic exports, fiscal year beginning July.	Imports, fiscal year beginning July 1.
						December.		May of following year.			
						Low.	High.	Low.	High.		
	1,000 acres.	*Pounds.*	*1,000 bales.*	*Cents.*	*1,000 dollars.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Bales.*[1]	*Bales.*[1]
1866–1875	8, 810	176. 2	3, 250	.....	.....	19½	20⅜	21¼	22½	2, 151, 216	4, 507
1876–1885	15, 209	170. 7	5, 652	9. 1	243, 808	10 9/16	11 3/16	10 9/16	11½	3, 707, 071	8, 462
1886–1895	19, 421	176. 9	7, 637	7. 7	260, 415	8¾	9	8 9/16	9 3/16	5, 176, 306	50, 266
1896	23, 273	184. 9	8, 533	6. 7	286, 169	7 1/16	7 11/16	7⅝	7 15/16	6, 207, 510	103, 798
1897	24, 320	182. 7	10, 898	6. 7	296, 816	5 11/16	5 15/16	6 5/16	6 9/16	7, 725, 572	105, 321
1898	24, 967	220. 6	11, 189	5. 7	315, 449	5⅝	5⅞	6⅛	6¼	7, 575, 438	100, 316
1899	24, 327	183. 8	9, 345	7. 0	326, 215	7½	7¾	9	9⅞	6, 252, 451	134, 797
1900	24, 933	194. 4	10, 123	9. 2	463, 310	9¾	10 5/16	8 1/16	8 5/16	6, 718, 125	93, 263
1901	26, 774	170. 0	9, 510	7. 0	334, 088	8	8¾	9⅝	9¾	7, 057, 949	197, 431
1902	27, 175	187. 3	10, 631	7. 6	403, 718	8½	8⅞	10. 75	12. 15	7, 138, 284	149, 749
1903	27, 052	174. 3	9, 851	10. 5	516, 763	11. 95	14. 10	12. 75	13. 90	6, 179, 712	97, 681
1904	31, 215	205. 9	13, 438	9. 0	603, 438	6. 85	9. 00	7. 85	8. 85	8, 678, 644	121, 017
1905	27, 110	186. 6	10, 575	10. 8	569, 791	11. 65	12. 60	11. 25	12. 00	7, 268, 090	141, 927
1906	31, 374	202. 5	13, 274	9. 6	635, 534	10. 45	11. 25	11. 50	12. 90	9, 036, 434	209, 584
1907	29, 660	179. 1	11, 107	10. 4	575, 226	11. 70	12. 20	10. 20	11. 50	7, 633, 997	142, 146
1908	32, 444	194. 9	13, 242	8. 7	575, 092	9. 10	9. 35	10. 85	11. 80	8, 895, 970	173, 036
1909	30, 938	154. 3	10, 005	13. 9	697, 681	14. 65	16. 15	14. 50	16. 05	6, 413, 416	172, 075
1910	32, 403	170. 7	11, 609	14. 1	820, 407	14. 80	15. 25	15. 35	16. 15	8, 067, 882	227, 537
1911	36, 045	207. 7	15, 693	8. 8	687, 888	9. 20	9. 65	11. 30	11. 90	11, 070, 251	219, 560
1912	34, 283	190. 9	13, 703	11. 9	817, 055	12. 75	13. 20	11. 80	12. 10	9, 124, 591	243, 704
1913	37, 089	182. 0	14, 156	12. 2	862, 708	12. 50	13. 50	12. 90	14. 50	9, 521, 881	246, 694
1914	36, 832	209. 2	16, 135	6. 8	549, 036	7. 25	7. 80	9. 50	10. 40	8, 807, 157	370, 409
1915	31, 412	170. 3	11, 192	11. 3	631, 460	11. 95	12. 75	12. 30	13. 35	6, 168, 140	465, 602
1916	34, 985	156. 6	11, 450	19. 6	1, 122, 295	16. 20	20. 30	19. 60	22. 10	6, 176, 162	294, 123
1917	33, 841	159. 7	11, 302	27. 7	1, 566, 198	29. 85	31. 85	25. 70	30. 10	4, 641, 023	206, 651
1918	36, 008	159. 6	12, 041	27. 6	1, 663, 633	27. 50	33. 00	25. 90	34. 00	5, 525, 894	207, 184
1919	33, 566	161. 5	11, 421	35. 6	2, 034, 658	38. 00	40. 25	40. 00	43. 00	7, 087, 487	690, 628
1920	35, 878	178. 4	13, 440	13. 9	933, 658	14. 50	16. 70	12. 45	13. 15	5, 622, 777	251, 878
1921	30, 509	124. 5	7, 954	16. 2	643, 933	17. 50	19. 45	18. 95	21. 80	6, 717, 757	358, 330
1922[2]	33, 742	141. 6	9, 964	23. 8	1, 192, 461	24. 55	26. 80	.....	.....	.....	.....

[1] Bales of 500 pounds gross weight.

[2] Preliminary estimate.

COTTON—Continued.

TABLE 222.—*Cotton: Acreage harvested, by States, 1913–1922.*

State.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922[1]
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Virginia	47	45	34	42	50	44	42	42	34	53
North Carolina	1,576	1,527	1,282	1,451	1,515	1,600	1,490	1,587	1,403	1,626
South Carolina	2,790	2,861	2,516	2,780	2,837	3,001	2,835	2,964	2,571	2,058
Georgia	5,318	5,433	4,825	5,277	5,195	5,341	5,220	4,900	4,172	3,466
Florida	188	221	193	191	183	167	103	100	65	124
Alabama	3,760	4,007	3,340	3,225	1,977	2,570	2,791	2,858	2,235	2,810
Mississippi	3,067	3,054	2,735	3,110	2,788	3,138	2,848	2,950	2,628	3,078
Louisiana	1,244	1,299	990	1,250	1,454	1,683	1,527	1,470	1,168	1,185
Texas	12,597	11,931	10,510	11,400	11,092	11,233	10,476	11,898	10,745	12,125
Arkansas	2,502	2,480	2,170	2,600	2,740	2,991	2,725	2,980	2,382	2,844
Tennessee	865	915	772	887	882	902	758	840	634	1,007
Missouri	112	145	96	133	153	148	125	136	103	198
Oklahoma	3,009	2,847	1,895	2,562	2,783	2,998	2,424	2,749	2,206	2,951
California[2]	14	47	39	52	136	173	185	275	140	203
Arizona	.....	.....	.....	.....	41	95	107	230	90	100
All other	.....	20	15	25	15	12	10	24	18	36
United States	37,089	36,832	31,412	34,985	33,841	36,008	33,566	35,878	30,509	33,742

[1] Preliminary estimate.
[2] Lower California (122,000 acres in 1922, 85,000 in 1921, 125,000 in 1920, 100,000 in 1919, and 88,000 in 1918) included in California figures but excluded from United States totals.

TABLE 223.—*Cotton: Production of lint (excluding linters) in 500-pound gross weight bales, by States, 1913 to 1922.*

[Thousands of bales, as finally reported by U. S. Bureau of the Census.]

State.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922[1]
Virginia	23	25	16	27	19	25	23	22	17	25
North Carolina	792	931	699	655	618	898	830	925	776	852
South Carolina	1,378	1,534	1,134	932	1,237	1,570	1,426	1,623	755	530
Georgia	2,317	2,718	1,909	1,821	1,884	2,122	1,660	1,415	787	725
Florida	59	81	48	41	38	29	16	18	11	25
Alabama	1,495	1,751	1,021	533	518	801	713	663	580	835
Mississippi	1,311	1,246	954	812	905	1,226	961	895	813	1,010
Louisiana	444	449	341	443	639	588	298	388	279	357
Texas	3,945	4,592	3,227	3,726	3,125	2,697	3,099	4,345	2,198	3,290
Arkansas	1,073	1,016	816	1,134	974	987	884	1,215	797	1,040
Tennessee	379	384	303	382	240	330	310	325	302	400
Missouri	67	82	48	63	61	62	64	79	70	149
Oklahoma	840	1,262	640	823	959	577	1,016	1,336	481	635
California	23	50	29	44	58	67	56	75	34	34
Arizona	.....	.....	.....	.....	22	56	60	103	45	42
All other	10	14	7	14	5	6	5	13	9	15
United States	14,156	16,135	11,192	11,450	11,302	12,041	11,421	13,440	7,954	9,964

[1] Preliminary estimate of the Department of Agriculture.

TABLE 224.—*Cotton: Condition of crop, United States, monthly, 1901–1922.*

Year.	May 25.	June 25.	July 25.	Aug. 25.	Sept. 25.	Year.	May 25.	June 25.	July 25.	Aug. 25.	Sept. 25.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*		*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1901	81.5	81.1	77.2	71.4	61.4	1912	78.9	80.4	76.5	74.8	69.6
1902	95.1	84.7	81.9	64.0	58.3	1913	79.1	81.8	79.6	68.2	64.1
1903	74.1	77.1	79.7	81.2	65.1	1914	74.3	79.6	76.4	78.0	73.5
1904	83.0	88.0	91.6	84.1	75.8	1915	80.0	80.2	75.4	69.2	60.8
1905	77.2	77.0	74.9	72.1	71.2	1916	77.5	81.1	72.3	61.2	56.3
1906	84.6	83.3	82.9	77.3	71.6	1917	69.5	70.3	70.3	67.8	60.4
1907	70.5	72.0	75.0	72.7	67.7	1918	82.3	85.8	73.6	55.7	54.4
1908	79.7	81.2	83.0	76.1	69.7	1919	75.6	70.0	67.1	61.4	54.4
1909	81.1	74.6	71.9	63.7	58.5	1920	62.4	70.7	74.1	67.5	59.1
1910	82.0	80.7	75.5	72.1	65.9	1921	66.0	69.2	64.7	49.3	42.2
1911	87.8	88.2	89.1	73.2	71.1	1922	69.6	71.2	70.8	57.0	50.0

COTTON—Continued.

TABLE 225.—*Cotton: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	July.	August.	September.	October.	December production estimate.	Final estimate (census).
	1,000 bales.	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*
1915	12,381	11,876	11,697	10,950	11,161	11,192
1916	14,266	12,916	11,800	11,637	11,511	11,450
1917	11,633	11,949	12,499	12,047	10,949	11,302
1918	15,327	13,619	11,137	11,818	11,700	12,041
1919	10,986	11,016	11,230	10,696	11,030	11,421
1920	11,450	12,519	12,783	12,123	12,987	13,440
1921	8,433	8,203	7,037	6,537	8,340	7,954
1922	11,065	11,449	10,575	10,135	[1] 9,964	.....

[1] Preliminary estimate.

TABLE 226.—*Cotton: Yield per acre, price per pound December 1, and value per acre by States.*

State.	Yield per acre (pounds of lint).						Farm price per pound (cents).											Value per acre (dollars).[1]	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
Va.	242	270	255	230	230	225	19.5	13.1	7.3	11.4	19.4	27.8	26.5	35.0	15.0	16.4	23.0	56.61	51.75
N. C.	265	268	266	275	264	250	19.5	12.6	6.9	11.2	19.4	27.7	26.4	35.2	14.5	16.4	24.5	60.26	61.25
S. C.	203	250	240	260	140	123	19.7	12.7	6.9	11.3	19.6	28.4	27.6	35.7	14.5	16.0	24.3	54.77	29.89
Ga.	134	190	152	138	90	100	19.9	12.8	6.9	11.4	19.9	28.8	27.5	35.8	15.3	16.6	23.9	38.51	23.90
Fla.	84	85	74	86	80	97	26.8	17.0	12.2	14.8	31.0	50.5	43.0	42.0	17.0	18.0	23.0	29.43	22.31
Ala.	130	149	122	111	124	142	19.5	12.7	6.7	11.1	19.5	28.0	27.0	34.8	15.0	16.0	24.0	30.84	34.08
Miss.	159	187	160	145	148	157	20.1	12.6	6.8	11.5	20.5	28.5	27.8	37.5	15.3	16.6	24.1	40.58	37.84
La.	129	167	93	126	114	144	19.1	11.7	6.9	11.2	19.1	26.7	27.5	35.0	14.2	15.0	24.0	33.91	34.56
Tex.	131	115	140	174	98	130	19.2	11.5	6.8	11.1	19.4	26.7	28.2	35.0	13.2	16.1	23.5	31.24	30.55
Ark.	169	158	155	195	160	175	19.5	11.6	6.6	11.6	19.6	28.2	27.8	36.4	13.3	16.1	23.6	40.41	00.30
Tenn.	195	175	195	185	228	190	19.1	12.7	6.4	11.3	19.5	27.3	26.7	33.5	13.0	16.0	24.5	41.61	46.55
Mo.	283	200	257	275	325	360	18.6	11.5	6.5	11.0	19.0	27.5	27.0	34.0	13.5	15.0	21.5	55.90	77.40
Okla.	145	92	195	230	104	103	18.4	11.4	6.5	11.3	19.0	26.5	25.5	35.2	10.5	15.4	23.0	35.20	23.69
Calif.	252	270	268	266	258	200	22.5	13.0	7.0	11.2	20.0	28.0	30.0	43.0	30.0	17.0	26.0	79.53	52.00
Ariz.	243	280	270	224	242	200	37.2	....	....	....	....	....	48.0	51.0	30.0	27.0	30.0	96.72	60.00
U. S.	153.1	159.6	161.5	178.4	124.5	141.6	19.5	12.2	6.8	11.3	19.6	27.7	27.6	35.6	13.9	16.2	23.8	40.03	35.21

[1] Based upon farm price Dec. 1.

TABLE 227.—*Cotton: Farm price, cents per pound, on 1st of each month, 1908–1921.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[1]
1908	10.7	10.8	11.0	10.2	9.6	10.6	10.9	10.3	9.4	9.0	8.7	8.7	9.6
1909	8.4	9.0	9.0	9.1	9.6	10.1	10.3	11.3	11.7	12.6	13.7	13.9	11.6
1910	14.6	14.0	14.0	14.1	14.0	14.2	13.9	14.3	14.4	13.3	14.0	14.1	14.0
1911	14.4	14.3	13.9	13.9	14.2	14.6	14.4	13.2	11.8	10.2	8.9	8.8	11.4
1912	8.4	9.0	9.8	10.1	10.9	11.0	11.2	12.0	11.3	11.2	10.9	11.9	10.5
1913	12.2	11.9	11.8	11.8	11.6	11.5	11.6	11.5	11.8	13.3	13.0	12.2	12.4
1914	11.7	11.9	12.6	11.9	12.2	12.4	12.4	12.4	8.7	7.8	6.3	6.8	9.1
1915	6.6	7.4	7.4	8.1	9.1	8.6	8.6	8.1	8.5	11.2	11.6	11.3	9.7
1916	11.4	11.5	11.1	11.5	11.5	12.2	12.5	12.6	14.6	15.5	18.0	19.6	15.1
1917	17.1	16.8	15.9	18.0	18.9	20.2	24.7	24.3	23.4	23.3	27.3	27.7	22.7
1918	28.9	29.7	30.2	31.8	28.5	27.4	28.6	27.8	32.2	31.8	29.3	27.6	29.4
1919	28.7	24.9	24.0	24.5	26.0	29.5	31.1	32.5	30.3	31.3	36.5	35.6	31.3
1920	35.9	36.2	36.2	37.3	37.7	37.2	37.4	36.8	31.1	25.5	19.4	13.9	26.6
1921	11.5	11.8	10.3	9.4	9.4	9.8	9.6	9.8	12.6	19.8	17.7	16.2	14.7
1922	16.3	15.5	15.9	16.0	15.9	18.7	20.4	20.7	21.1	20.0	22.4	23.8	19.8
Average 1913–1922	18.0	17.8	17.5	18.0	18.1	18.8	19.7	19.6	19.4	20.0	20.2	19.5	19.1

[1] Weighted average.

COTTON—Continued.

TABLE 228.—*Cotton production prevented by all causes and by boll weevil.*

Crop year beginning in—	Lint picked.		Farm value of lint and seed picked.	Picked-lint production prevented. by—		Percentage of potential production prevented by—		Value, at farm prices, of picked production prevented by—			
								All causes.		Boll weevil.	
	Quantity.[1]	Farm value.		All causes.	Boll weevil.	All causes.	Boll weevil.	Lint.	Lint and seed.	Lint.	Lint and seed.
	1,000 bales.[2]	*1,000 dolls.*	*1,000 dolls.*	*1,000 bales.*[2]	*1,000 bales.*[2]	*Per ct.*	*Per ct.*	*1,000 dolls.*	*1,000 dolls.*	*1,000 dolls.*	*1,000 dolls.*
1909	10,005	697,681	812,090	9,369	1,368	48.4	7.1	651,146	755,244	95,076	113,693
1910	11,609	820,407	963,180	8,702	1,297	42.8	6.4	613,491	722,385	91,438	105,950
1911	15,693	749,890	869,690	6,893	338	30.5	1.5	329,485	382,664	16,156	17,394
1912	13,703	786,800	904,130	7,143	714	34.3	3.4	410,008	470,148	40,984	45,206
1913	14,156	885,350	1,026,700	7,937	1,579	35.9	7.1	495,269	574,952	98,530	112,937
1914	16,135	591,130	720,080	5,937	1,381	26.9	6.3	217,225	266,430	50,614	64,807
1915	11,192	627,940	795,840	7,346	1,983	39.6	10.7	412,111	525,254	111,246	143,251
1916	11,450	994,060	1,253,130	9,505	2,994	45.4	14.3	821,232	1,040,098	258,682	325,814
1917	11,302	1,532,690	1,866,240	8,954	2,095	44.2	10.3	1,214,162	1,474,330	284,082	354,586
1918	12,041	1,737,710	2,087,200	9,136	1,325	43.1	6.3	1,313,757	1,586,272	190,535	229,592
1919	11,421	2,030,960	2,371,430	8,825	2,780	43.6	13.7	1,560,260	1,826,001	491,504	569,143
1920	13,440	1,067,240	1,204,230	8,975	4,595	40.0	20.5	710,820	806,834	363,924	409,438
1921	7,954	672,083	772,583	10,712	6,277	57.4	33.6	905,164	1,042,987	530,406	610,341

[1] Data from Census Bureau. [2] Bales weighing 500 pounds gross.

TABLE 229.—*Percentage of loss of cotton due to boll weevil, 1909–1921.*

[Expressed in percentage of a normal or full yield per acre.]

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.58
South Carolina	.....	.....	.....	.....	.....	.....	0.02	0.02	0.01	0.07	3.00	13.26	31.48
Georgia	.....	.....	.....	.....	0.10	.....	.28	3.44	9.06	10.73	19.36	30.56	45.12
Florida	.....	.....	.....	0.30	11.80	.....	13.14	20.98	27.07	23.85	40.46	32.10	27.62
Tennessee	.....	.....	.....	.....	.10	0.08	.04	1.23	1.74	.37	.17	.57	7.21
Alabama	0.10	0.05	0.20	1.50	4.80	6.02	16.16	27.91	28.88	12.14	28.77	36.03	32.39
Mississippi	4.20	14.66	5.10	18.00	33.90	24.14	24.68	31.73	22.22	10.41	19.56	32.25	30.38
Louisiana	41.70	40.80	11.40	13.70	25.10	17.66	19.85	24.31	11.89	9.79	24.84	25.99	34.80
Texas	12.10	6.52	.90	2.80	6.80	7.86	16.28	18.53	7.26	4.43	13.96	19.90	33.66
Oklahoma	3.00	1.27	.20	.50	.40	.79	2.70	3.70	4.35	1.30	1.48	8.81	41.36
Arkansas	6.10	7.23	2.00	2.40	2.80	2.93	4.60	7.49	8.96	3.14	4.79	9.41	21.84
U. S. average[1]	6.13	5.30	1.28	3.26	6.69	5.91	9.93	13.36	9.34	5.83	13.20	19.95	30.98

[1] Average is weighted and includes cotton States in which there was no damage by boll weevil.

TABLE 230.—*Loss of cotton production per acre, in pounds, by causes, 1909–1921.*

Year.	Deficient moisture	Excessive moisture.	Other climatic.	Total climatic.	Plant diseases.	Insect pests.	Defective seed.	Other or unknown.	Total.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1909	49.3	22.0	26.5	97.8	14.6	28.3	0.3	3.9	144.9
1910	39.3	23.3	20.9	83.5	17.6	22.1	1.0	4.3	128.5
1911	35.0	8.9	12.2	56.1	2.9	22.3	1.2	9.0	91.5
1912	24.5	23.8	15.1	63.4	13.3	19.2	.9	2.9	99.7
1913	45.3	6.5	18.1	69.9	1.5	27.2	1.2	2.6	102.4
1914	24.0	8.8	9.4	42.2	.7	29.5	.5	4.1	77.0
1915	21.8	15.7	20.6	58.1	6.0	37.3	.4	10.1	111.9
1916	26.6	29.6	21.6	77.8	2.7	47.8	.3	1.4	130.0
1917	45.2	5.7	2.78	78.7	4.2	35.7	.4	7.6	126.6
1918	71.0	2.7	14.4	88.1	6.1	23.5	.3	3.4	121.4
1919	8.1	45.9	9.7	63.7	4.1	56.4	.4	1.2	125.8
1920	6.6	27.0	6.7	40.3	3.5	73.5	.6	1.8	119.7
1921	26.5	13.2	9.6	49.3	3.1	109.1	.3	1.3	163.1
Average, 1909–1920	32.5	17.9	16.4	66.8	6.2	40.9	.6	4.1	118.7

COTTON—Continued.

TABLE 231.—*Cotton: Monthly marketings by farmers, 1912–1922.*

Year.	Per cent of year's sales.												
	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Season.
1912–13	.....	17.2	25.8	20.3	12.8	8.0	5.2	4.5	2.6	1.5	1.1	[1] 1.0	100
1913–14	.....	18.2	24.4	19.7	13.3	8.3	5.3	4.4	2.7	1.5	1.2	[1] 1.0	100
1914–15	1.2	6.8	14.8	18.0	16.1	11.0	8.3	7.7	6.1	2.5	[2] 7.5	.....	100
1915–16	2.7	11.3	19.3	20.4	16.4	8.4	5.4	5.2	3.9	3.6	[2] 3.4	.....	100
1916–17	3.9	14.6	23.0	21.6	15.0	6.4	4.0	3.9	3.0	2.5	1.6	.5	100
1917–18	2.5	11.3	23.0	22.7	16.2	8.2	5.8	4.5	2.6	1.3	1.0	.9	100
1918–19	3.3	10.9	18.1	16.4	13.6	5.4	4.4	4.6	4.6	7.5	6.8	4.4	100
1919–20	1.4	9.5	21.0	22.2	17.4	8.8	5.6	4.9	3.2	2.7	1.7	1.6	100
1920–21	3.1	10.0	16.2	15.7	11.0	6.4	5.6	6.0	6.7	6.9	6.8	5.6	100
1921–22	3.6	14.0	22.3	17.1	12.1	5.9	4.3	4.6	4.6	5.9	3.0	2.6	100
Average, 10-year	2.1	12.4	20.8	19.4	14.4	7.7	5.4	5.0	4.0	3.6	3.4	1.8	100

[1] Includes August. [2] Includes July.

TABLE 232.—*Cotton: Average closing prices, cents per pound, for future delivery, New York, 1921–22.*[1]

During—	Delivery in—											
	Aug.[2]	Sept.[2]	Oct.	Nov.[2]	Dec.	Jan.	Feb.[2]	Mar.	Apr.[2]	May.	June.[2]	July.
1921.												
August	12.82	13.57	13.77	13.98	14.17	14.18	14.27	14.38	14.42	14.47	14.50	[2] 14.69
September	18.85	19.04	19.54	19.61	19.79	19.68	19.58	19.58	19.47	19.41	19.26	19.12
October	17.64	17.29	19.16	19.13	19.19	18.94	18.86	18.76	18.56	18.36	18.14	17.90
November	16.53	16.23	15.94	17.38	17.61	17.45	17.44	17.41	17.28	17.19	16.99	16.76
December	16.82	16.59	16.35	.....	17.77	17.86	17.83	17.81	17.63	17.49	17 27	17.05
1922.												
January	16.59	16.34	16.11	15.93	[2] 15.86	17.99	17.57	17.57	17.40	17.21	16.99	16.76
February	16.59	16.40	16.23	16.17	16.12	[2] 16.04	17.25	17.59	17.44	17.30	17.14	16.79
March	17.09	16.90	16.75	16.68	16.61	16.46	.....	18.14	17.87	17.89	17.56	17.25
April	17.43	17.38	17.36	17.35	17.34	17.27	17.30	17.29	17.59	17.90	17.61	17.45
May	19.80	19.70	19.72	19.70	19.68	19.54	19.51	19.49	.....	20.26	19.60	19.80
June	21.70	21.57	21.50	21.41	21.33	21.17	21.10	21.04	21.00	20.91	21.52	21.58
July	22.02	22.04	22.02	21.96	21.90	21.68	21.63	21.59	21.49	21.40	.....	22.19
Crop-year average	17.82	17.75	17.87	18.12	18.11	18.19	18.39	18.39	18.20	18.32	17.87	18.11
August	21.14	21.47	21.60	21.61	21.63	21.48	21.50	21.51	21.45	21.42	21.27	[2] 21.25
September	.....	21.17	21.08	21.21	21.33	21.18	21.22	21.26	21.22	21.19	21.09	[2] 21.00
October	.....	.....	22.01	22.58	22.72	22.52	22.58	22.63	22.60	22.56	22.45	22.35
November	24.36	23.90	23.37	25.40	25.49	25.37	25.36	25.34	25.25	25.17	25.01	24.85
December	24.91	24.34	23.76	.....	25.14	25.43	25.52	25.63	25.64	25.64	25.50	25.37

[1] Compiled from New York Cotton Exchange reports. [2] Based on nominal prices.

TABLE 233.—*Cotton, middling: Monthly average spot price, cents per pound.*[1]

NORFOLK.

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1914–15	.....	.....	.....	.....	.....	.....	7.89	8.33	9.38	9.12	8.97	8.43	.....
1915–16	8.77	10.30	11.87	11.39	11.76	11.92	11.53	11.63	11.76	12.61	12.83	13.04	11.62
1916–17	14.32	15.39	17.40	19.37	17.87	17.50	16.54	18.41	19.73	20.09	24.33	25.21	18.85
1917–18	25.33	21.92	26.99	28.35	29.18	30.47	30.36	32.42	32.99	29.26	28.95	29.59	28.82
1918–19	31.51	33.28	30.23	27.59	27.83	26.23	24.38	25.27	25.87	28.32	31.18	33.18	28.74
1919–20	30.79	29.58	33.70	37.47	37.99	38.84	38.60	39.20	40.11	40.50	40.50	40.50	37.32
5-year average	22.14	22.09	24.04	24.83	24.93	24.99	24.28	25.39	26.09	26.16	27.56	28.30	25.07
1920–21	37.00	29.06	21.23	17.39	14.46	14.85	12.89	11.37	11.20	11.60	10.76	11.31	16.93
1921–22	12.57	19.10	18.66	17.12	17.28	16.96	16.83	17.27	17.12	19.46	21.44	22.17	18.00
1922–23	21.50	20.99	22.48	25.40	25.44	.....	.....	.....	.....	.....	.....	.....	.....

[1] Compiled from daily reports, Bureau of Agricultural Economics.

COTTON—Continued.

TABLE 233.—*Cotton, middling: Monthly average spot price, cents per pound*—Con.

AUGUSTA.

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1914–15	.....	.....	.....	.....	.....	.....	7.90	8.27	9.40	9.17	8.92	8.56	.....
1915–16	8.55	10.22	11.88	11.47	11.73	11.95	11.49	11.66	11.74	12.54	12.65	12.79	11.56
1916–17	14.18	15.31	17.70	19.61	18.64	17.76	16.46	18.74	20.08	20.41	24.60	25.32	19.07
1917–18	24.59	21.63	26.93	28.42	29.37	31.16	31.15	33.44	33.08	28.61	30.45	29.34	29.01
1918–19	31.14	32.88	30.46	27.98	28.24	27.33	25.43	26.17	26.78	28.96	31.55	33.59	29.21
1919–20	30.72	29.41	34.72	38.34	38.46	39.67	38.48	40.04	41.06	41.44	42.13	40.65	37.93
5-year average	21.84	21.89	24.34	25.16	25.29	25.57	24.60	26.01	26.55	26.39	28.28	28.34	25.36
1920–21	35.03	28.17	21.60	17.75	14.62	14.46	12.67	10.82	11.00	11.36	10.62	11.29	16.62
1921–22	12.83	19.49	18.74	16.93	17.17	16.74	16.60	17.09	16.88	19.30	21.49	22.38	17.97
1922–23	21.55	20.93	22.38	25.18	25.46	.....	.....	.....	.....	.....	.....	.....	.....

SAVANNAH.

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1914–15	.....	.....	.....	.....	.....	.....	8.14	8.36	9.29	9.36	9.03	8.66	.....
1915–16	8.62	10.24	11.95	11.60	12.11	12.20	11.79	11.90	11.90	12.61	12.75	13.00	11.72
1916–17	14.21	15.40	17.54	19.69	19.27	18.45	.....	18.82	20.15	20.62	24.83	25.95	[1] 19.54
1917–18	25.20	21.87	27.05	28.26	29.28	31.12	30.94	32.53	33.42	31.50	30.24	30.10	29.29
1918–19	31.22	32.91	30.53	29.43	29.52	31.00	27.23	27.04	26.96	29.11	31.92	33.61	30.04
1919–20	31.64	29.66	34.56	38.45	38.91	39.89	39.43	40.31	41.60	41.53	41.74	40.87	38.22
5-year average	22.18	22.02	24.33	25.49	25.82	26.53	[2] 27.35	26.12	26.81	27.07	28.30	28.71	25.76
1920–21	34.69	28.74	22.12	18.38	15.68	15.62	13.95	11.75	11.48	11.83	10.91	11.31	17.20
1921–22	12.74	19.64	19.30	17.17	17.39	17.06	16.72	17.36	17.03	19.39	21.52	22.09	18.12
1922–23	21.29	20.88	22.37	25.19	25.61	.....	.....	.....	.....	.....	.....	.....	.....

MONTGOMERY.

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1914–15	.....	.....	.....	.....	.....	.....	7.70	8.04	9.04	8.82	8.70	8.38	.....
1915–16	8.42	10.02	11.74	11.27	11.65	11.75	11.32	11.37	11.52	12.28	12.46	12.69	11.37
1916–17	13.92	15.21	17.43	19.34	18.33	17.78	16.81	18.64	19.88	20.14	24.06	24.82	18.86
1917–18	24.67	21.47	26.98	28.43	29.49	31.28	31.30	33.36	33.88	29.48	29.80	29.63	29.15
1918–19	29.60	32.39	30.24	28.56	28.19	28.48	27.00	25.98	26.81	28.54	31.10	33.36	29.19
1919–20	30.68	29.20	34.26	38.16	38.26	39.29	38.39	39.41	40.90	40.67	40.88	40.15	37.52
5-year average	21.46	21.66	24.13	25.15	25.18	25.72	24.96	25.75	26.60	26.22	27.66	28.13	25.22
1920–21	36.38	27.84	21.24	17.97	14.40	13.86	12.32	10.39	10.53	10.89	10.09	10.53	16.37
1921–22	11.89	18.73	18.46	16.68	16.92	16.46	16.18	16.55	16.15	18.66	21.08	22.05	17.48
1922–23	21.28	20.17	21.75	24.86	25.02	.....	.....	.....	.....	.....	.....	.....	.....

MEMPHIS.

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1914–15	.....	.....	.....	.....	.....	.....	7.87	8.26	9.24	9.17	8.99	8.69	.....
1915–16	8.91	10.32	12.15	11.55	12.12	12.29	11.79	11.82	12.00	12.81	13.07	13.15	11.83
1916–17	14.35	15.56	17.40	19.60	18.96	17.88	17.00	18.17	19.97	20.34	24.02	25.75	19.08
1917–18	25.96	22.97	27.54	28.91	29.57	31.07	31.36	32.82	33.57	30.08	30.00	30.00	29.49
1918–19	30.98	33.89	31.56	30.17	29.42	29.29	27.18	26.86	26.90	29.08	32.16	33.80	30.11
1919–20	33.48	30.96	35.94	41.17	39.88	40.35	39.22	40.04	41.69	41.31	40.73	39.60	38.70
5-year average	22.74	22.74	24.92	26.28	25.99	26.18	25.31	25.94	26.83	26.72	28.00	28.46	25.84
1920–21	36.35	31.00	21.68	18.28	14.75	14.46	13.48	11.65	11.25	11.63	11.06	11.82	17.28
1921–22	12.17	19.46	19.71	18.27	18.15	17.80	17.01	17.28	17.00	19.19	21.79	22.72	18.38
1922–23	22.07	21.19	22.09	25.31	25.80	.....	.....	.....	.....	.....	.....	.....	.....

[1] Average of 11 months.

[2] 4-year average.

COTTON—Continued.

TABLE 233.—*Cotton, middling: Monthly average spot price, cents per pound*—Con.

LITTLE ROCK.

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1914–15	.....	.....	.....	.....	.....	.....	7.67	8.15	9.04	9.07	8.89	8.58	.....
1915–16	8.61	10.08	12.32	11.68	12.15	12.28	11.94	11.88	12.25	12.80	12.96	13.07	11.84
1916–17	14.27	15.26	17.33	19.58	18.80	17.70	16.81	17.89	19.71	19.99	23.90	25.42	18.89
1917–18	25.49	22.14	26.72	28.26	29.55	31.02	30.96	32.53	33.32	30.00	29.28	29.35	29.05
1918–19	30.73	33.99	31.70	30.11	29.37	28.20	26.45	26.83	26.40	28.33	31.34	33.55	29.75
1919–20	31.73	30.31	35.32	40.08	39.94	39.98	39.10	40.19	42.57	41.45	40.31	39.60	38.38
5-year average	22.17	22.36	24.68	25.94	25.96	25.84	25.05	25.86	26.85	26.51	27.56	28.20	25.58
1920–21	34.89	28.28	21.38	18.23	14.96	14.45	13.35	11.49	10.63	11.35	10.68	10.58	16.69
1921–22	11.81	19.60	19.75	18.12	17.84	17.57	16.90	16.89	16.87	18.90	21.17	22.07	18.12
1922–23	21.47	20.76	21.80	25.22	25.53	.....	.....	.....	.....	.....	.....	.....	.....

DALLAS.

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1914–15	.....	.....	.....	.....	.....	.....	7.87	8.25	9.15	8.71	8.57	8.25	.....
1915–16	8.56	10.17	11.72	11.13	11.73	11.84	11.37	11.63	11.78	12.47	12.72	13.04	11.51
1916–17	14.14	14.83	16.81	19.18	17.63	17.17	15.75	17.77	19.09	19.58	24.17	25.04	18.43
1917–18	24.86	21.88	26.16	27.46	28.53	30.74	30.71	32.56	31.32	28.85	29.76	28.79	28.47
1918–19	31.09	33.34	30.89	28.78	29.33	27.72	25.84	25.71	27.02	29.75	32.10	34.16	29.64
1919–20	31.05	30.60	36.65	40.58	41.11	42.08	41.29	42.75	42.78	40.60	39.64	38.30	38.95
5-year average	21.94	22.16	24.45	25.43	25.67	25.91	24.99	26.08	26.40	26.25	27.68	27.87	25.40
1920–21	32.74	26.40	20.69	17.08	13.70	13.63	12.16	10.64	10.53	11.20	10.23	10.50	15.79
1921–22	12.11	19.25	19.17	17.10	17.12	16.75	16.44	16.93	16.69	19.08	21.37	22.05	17.84
1922–23	21.19	20.14	21.67	24.75	24.79	.....	.....	.....	.....	.....	.....	.....	.....

HOUSTON.

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1914–15	.....	.....	.....	.....	.....	.....	8.33	8.80	9.82	9.21	9.06	8.68	.....
1915–16	9.04	10.56	12.11	11.62	12.27	12.36	11.82	12.09	12.27	12.99	13.26	13.60	12.00
1916–17	14.79	15.39	17.42	19.80	18.10	17.64	16.05	18.18	19.43	20.13	24.60	25.54	18.92
1917–18	25.67	22.62	26.62	27.87	28.77	31.25	30.91	32.94	31.80	28.06	30.91	28.75	28.85
1918–19	31.26	33.70	32.05	30.01	30.26	28.56	27.00	26.43	27.33	30.18	32.04	34.24	30.26
1919–20	31.65	31.36	36.88	40.79	40.74	41.72	39.96	41.52	42.33	40.67	39.54	38.10	38.77
5-year average	22.48	22.73	25.02	26.02	26.03	26.31	25.15	26.23	26.63	26.41	28.07	28.05	25.76
1920–21	32.94	27.33	20.98	17.56	14.16	13.95	12.62	10.95	10.89	11.85	11.02	11.69	16.33
1921–22	13.06	20.02	19.64	17.65	17.73	17.20	17.05	17.52	17.23	19.67	22.18	22.51	18.46
1922–23	21.59	20.69	22.20	25.33	25.45	.....	.....	.....	.....	.....	.....	.....	.....

GALVESTON.

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1915–16	9.15	10.59	12.20	11.66	12.30	12.39	11.89	12.14	12.30	12.98	13.36	13.71	12.06
1916–17	14.77	15.48	17.48	19.82	18.43	17.79	16.30	18.31	19.63	20.18	24.58	25.99	19.06
1917–18	25.70	22.66	26.82	28.67	29.11	31.28	31.10	33.06	32.23	28.40	30.89	29.37	29.06
1918–19	31.56	34.19	32.25	30.30	30.64	29.45	28.26	26.94	27.63	30.59	32.87	34.62	30.78
1919–20	31.87	31.58	37.10	41.32	41.87	42.53	41.10	42.52	42.99	41.64	39.83	38.59	39.41
5-year average	22.61	22.90	25.17	26.23	26.47	26.69	25.73	26.59	26.96	26.76	28.31	28.46	26.07
1920–21	33.78	28.15	21.98	18.10	15.09	14.38	12.99	11.76	11.47	12.01	11.27	11.80	16.89
1921–22	13.33	20.33	20.05	17.99	17.92	17.32	17.10	17.59	17.39	19.75	22.23	22.67	18.64
1922–23	21.79	20.77	22.28	25.37	25.48	.....	.....	.....	.....	.....	.....	.....	.....

COTTON—Continued.

TABLE 233.—*Cotton, middling: Monthly average spot price, cents per pound*—Con.

NEW ORLEANS.[1]

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1900–01	.....	10.39	9.57	9.48	9.50	9.52	9.20	8.49	8.15	7.69	8.05	8.33	[2] 8.94
1901–02	8.28	8.15	7.99	7.32	7.93	7.88	8.08	8.54	9.13	9.39	9.15	8.94	8.40
1902–03	8.43	8.43	8.22	7.82	8.14	8.66	9.36	9.73	10.05	11.14	12.71	13.02	9.64
1903–04	12.70	10.72	9.66	10.72	12.52	14.06	14.38	15.07	14.45	13.41	11.38	10.86	12.49
1904–05	10.59	10.54	9.80	9.50	7.48	6.83	7.45	7.45	7.39	7.90	8.87	10.61	8.70
1905–06	10.48	10.26	10.16	11.28	11.88	11.56	10.67	10.84	11.28	11.33	10.99	10.96	10.97
1906–07	9.99	9.24	10.76	10.39	10.53	10.46	10.49	10.83	10.79	11.85	12.81	12.89	10.92
1907–08	13.13	12.41	11.19	10.84	11.54	11.84	11.63	10.93	10.20	10.86	11.59	10.81	11.41
1908–09	9.92	9.11	8.92	8.97	8.78	9.34	9.42	9.39	10.03	10.59	11.04	12.13	9.80
9-year average	[3] 10.44	9.92	9.59	9.59	9.81	10.02	10.08	10.14	10.16	10.46	10.73	10.95	10.14
1909–10	12.28	12.66	13.48	14.40	14.96	15.23	14.88	14.74	14.64	14.89	14.85	14.93	14.33
1910–11	14.92	13.49	14.21	14.50	14.85	14.95	14.62	14.54	14.70	15.48	15.26	14.30	14.65
1911–12	11.96	11.29	9.61	9.35	9.17	9.53	10.31	10.65	11.61	11.72	12.07	12.93	10.85
1912–13	12.07	11.37	10.95	12.15	12.81	12.58	12.51	12.45	12.44	12.29	12.44	12.34	12.20
1913–14	12.02	13.11	13.73	13.26	12.98	12.93	12.90	12.95	13.11	13.36	13.79	13.34	13.12
5-year average	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	([4])	[5] 8.42	7.02	7.43	7.18	7.87	8.01	8.34	9.43	9.04	9.12	8.71	[2] 8.23
1915–16	8.94	10.40	11.95	11.50	11.89	12.04	11.45	11.73	11.88	12.61	12.80	13.03	11.68
1916–17	14.26	15.27	17.24	19.45	18.34	17.33	17.14	17.94	19.50	20.06	24.17	25.41	18.84
1917–18	25.10	21.68	26.76	28.08	29.07	31.07	30.92	32.76	33.05	28.92	30.71	29.50	28.97
1918–19	30.23	33.28	31.19	29.75	29.44	28.84	26.97	26.84	26.70	29.35	32.09	33.93	29.88
5-year average	[6] 19.63	17.81	18.83	19.24	19.18	19.43	18.90	19.52	20.11	20.00	21.78	22.12	19.52
1919–20	31.38	30.38	35.30	39.58	39.89	40.28	39.40	40.69	41.41	40.32	40.49	39.41	38.21
1920–21	34.03	27.35	20.97	17.65	14.64	14.53	12.85	11.08	11.17	11.80	11.03	11.49	16.55
1921–22	12.78	19.35	18.99	17.27	17.16	16.53	16.36	16.74	16.80	19.31	21.68	22.01	17.92
1922–23	21.55	20.74	22.05	25.34	25.48	.....	.....	.....	.....	.....	.....	.....	.....

[1] 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 Commercial and Financial Chronicle; from February, 1915, compiled from daily reports, Bureau of Agricultural Economics.
[2] Average of 11 months.
[3] 8-year average.
[4] Market closed.
[5] No quotations prior to Sept. 23. Average for 7 days' business.
[6] 4-year average.

TABLE 234.—*Cotton: Prices per pound of American middling at Liverpool.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1912	11.16	11.90	12.34	13.09	13.03	13.37	14.46	13.83	13.55	12.59	13.82	14.31	13.12
1913	14.06	13.97	13.97	14.00	13.58	13.67	13.61	13.38	15.10	15.55	14.94	14.54	14.19
1914	14.34	14.25	14.28	15.02	15.20	15.71	14.74	13.23	12.22	10.53	9.25	8.93	13.14
1915	9.77	10.06	10.46	11.37	10.42	10.47	10.32	10.79	12.24	13.90	13.74	15.03	11.55
1916	15.99	15.61	15.48	15.47	16.77	16.47	15.94	17.54	18.99	20.69	23.05	22.16	17.85
1917	21.76	21.34	24.07	25.23	26.17	34.07	37.65	38.21	35.96	34.85	43.38	44.25	32.24
1918	46.16	45.88	47.19	46.52	42.28	43.89	43.09	45.26	48.44	46.46	43.97	42.30	45.12
1919	37.66	34.53	30.39	33.24	35.70	38.25	38.33	34.06	32.20	38.06	41.99	40.92	36.28
1920	43.61	41.61	45.16	44.17	42.51	44.48	41.83	38.31	31.33	24.41	19.18	14.74	35.94
1921	15.32	12.71	11.78	12.07	12.53	11.66	11.94	13.34	20.70	20.85	18.46	18.84	15.02
1922	18.12	17.75	19.21	18.89	21.42	23.46	24.98	24.90	23.98	24.55	27.96	28.26	22.82

[1] International Yearbook of Agricultural Statistics, p. 443, 1912–1921. London Economist, 1922. Average of weekly quotations.

COTTON—Continued.

TABLE 235.—*Cotton: Average spot prices per pound of Oomras No. 1 fully good at Bombay.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1912....	10.2	10.9	11.0	11.1	11.0	10.8	11.4	11.3	11.2	11.3	11.5	12.9	11.2
1913....	12.9	12.8	12.4	11.7	10.8	10.4	10.1	9.6	10.8	11.4	11.0	10.8	11.2
1914....	10.2	9.6	9.0	9.1	8.6	9.7	9.3	7.6	6.5	6.5	[2] 6.3	[2] 5.8	8.2
1915....	6.2	6.4	6.5	7.6	7.4	7.5	7.4	7.8	9.3	11.0	10.1	10.2	8.1
1916....	10.5	10.4	10.3	9.8	10.1	10.3	10.6	11.6	12.2	13.1	14.2	10.6	11.1
1917....	15.4	14.2	14.3	14.8	14.5	16.2	18.5	17.5	15.9	16.7	17.4	22.1	16.4
1918....	25.2	26.3	26.9	27.4	26.0	25.7	26.2	32.4	33.4	33.0	20.3	21.4	27.0
1919....	26.2	22.7	19.2	19.6	23.2	25.1	29.1	24.9	20.6	21.9	25.8	26.9	23.8
1920....	25.8	21.9	23.8	22.3	16.3	14.2	12.4	(3)	(3)	9.8	9.0	8.2	16.4
1921....	8.7	8.2	7.1	7.6	8.9	9.8	9.7	10.4	16.0	16.5	12.5	15.1	10.9
1922....	13.3	12.5	12.8	13.8	[4] 18.3	[4] 19.1	[4] 19.9	[4] 19.2	[4] 17.0	[4] 16.4	[4] 17.9	[4] 18.1	16.5

[1] Indian Trade Journal. Converted at par of exchange $0.3244 per rupee to 1919. Federal Reserve. Board Exchange Quotations 1919 to date.
[2] For January delivery. [3] No quotations. [4] Fully good broach, no quotations for Oomras No. 1.

TABLE 236.—*Cotton: Average spot prices per pound at Liverpool No. 1 Oomras fully good.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cts	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1912....	10.3	10.8	10.9	11.3	11.6	11.7	12.3	12.2	11.9	11.6	12.1	12.5	11.6
1913....	12.7	12.8	12.7	12.5	12.2	11.9	11.8	11.6	12.9	12.9	12.8	12.5	12.4
1914....	12.0	11.5	11.5	11.5	11.4	11.0	10.6	9.7	9.1	8.8	7.9	7.7	10.2
1915....	8.5	8.4	8.5	9.2	8.9	9.1	8.9	9.1	9.7	10.9	10.7	11.9	9.5
1916....	12.6	12.4	12.1	11.9	13.0	12.8	12.9	14.2	15.0	15.8	17.6	16.6	13.9
1917....	16.9	17.3	20.2	21.0	22.1	31.2	33.4	34.2	31.9	36.9	37.6	37.2	28.3
1918....	38.2	37.6	38.2	38.2	35.2	36.8	36.8	37.8	44.1	42.4	37.5	34.3	38.1
1919....	35.3	32.6	27.7	28.9	30.1	32.4	32.2	30.7	29.0	30.5	32.1	32.0	31.1
1920....	32.6	30.0	32.3	31.8	30.2	29.1	26.1	23.8	21.6	18.5	15.7	12.0	25.3
1921....	11.9	10.6	9.2	9.4	9.8	9.2	9.3	10.5	16.0	16.9	15.3	15.4	12.0
1922....	15.3	14.9	15.4	16.0	15.7	18.9	19.7	19.8	18.9	18.8	20.6	20.5	17.9

[1] London Economist. Average of weekly quotations.

TABLE 237.—*Cotton: Average monthly spot prices per pound in Alexandria, Egypt, 1912–1921.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1912....	15.8	16.6	16.8	17.6	18.1	18.9	19.4	18.5	17.2	15.8	17.0	18.1	17.5
1913....	18.6	18.7	19.0	19.4	19.0	18.5	18.2	17.8	18.5	18.6	18.6	18.0	18.6
1914....	17.4	17.0	16.4	17.0	16.8	16.7	16.3	(2)	(2)	9.6	11.2	10.5	14.9
1915....	11.1	11.9	13.0	14.3	13.2	13.1	12.5	12.6	(2)	(2)	16.2	(2)	13.1
1916....	19.2	21.1	21.0	20.3	20.6	21.4	20.7	20.6	23.3	27.5	34.5	35.4	23.8
1917....	35.1	37.3	39.6	48.7	49.3	51.7	60.1	45.1	29.6	32.4	35.6	38.5	41.9
1918....	37.9	36.6	38.0	38.3	36.5	37.6	40.5	(2)	(2)	(2)	(2)	(2)	.....
1919....	(2)	(2)	(2)	(2)	(2)	(2)	(2)	47.1	42.6	45.6	60.5	71.9	.....
1920....	85.2	94.6	87.2	94.0	82.7	69.8	61.2	54.9	41.9	32.5	24.2	19.5	62.3
1921....	19.9	15.1	16.3	16.3	15.3	14.2	14.9	14.9	25.7	30.9	26.0	27.3	19.7

[1] Monthly Agricultural Statistics, Ministry of Finance, Cairo, Egypt. Conversions made on the basis of the prevailing rate of exchange as quoted by international Institute of Agricultural Annual, 1921, p. 506.
[2] No quotations.

COTTON—Continued.

TABLE 238.—*Cotton: Average spot prices, per pound, at Liverpool, Egyptian Uppers—Good.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1912....	18.0	16.9	17.6	19.3	19.5	21.3	21.3	20.2	19.1	18.3	18.9	19.3	19.1
1913....	19.9	20.1	20.2	20.3	20.2	19.7	19.0	18.8	20.0	20.2	20.0	19.5	19.8
1914....	18.9	17.9	17.3	17.9	18.1	18.2	17.6	16.5	16.1	13.5	12.6	12.2	16.4
1915....	12.2	12.8	14.0	15.5	14.5	14.4	13.8	14.1	15.4	18.1	17.9	18.6	15.1
1916....	21.9	22.5	22.4	21.6	22.4	23.5	23.7	23.7	27.2	31.2	39.5	39.6	26.6
1917....	39.7	41.9	44.5	50.5	52.0	55.4	60.3	60.9	52.0	46.7	51.6	54.4	50.8
1918....	53.8	51.5	54.9	56.3	54.0	52.6	54.4	55.8	55.4	54.3	51.7	50.4	53.8
1919....	50.3	50.0	49.3	48.3	48.3	48.4	46.4	48.8	48.8	53.4	67.0	76.3	53.0
1920....	94.0	105.0	108.7	107.6	97.1	81.3	71.6	68.6	53.4	37.0	29.4	23.4	73.1
1921....	24.6	20.8	19.6	21.5	18.8	18.8	18.0	18.6	29.3	33.3	28.3	29.4	23.4
1922....	28.8	27.4	28.4	26.8	28.1	29.7	29.4	28.1	27.4	27.3	30.7	31.2	28.6

[1] London Economist, average of weekly quotations.

TABLE 239.—*Cotton: International trade, calendar years 1909–1921.*

[Expressing 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. See "General note," Table 161.]

Country.	Average, 1909–1913.		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*	*1,000 bales.*
Brazil	1	83	.....	56	.....	114	.....	90
British India	60	1,966	14	1,528	24	2,052	130	2,240
China	43	240	67	299	189	105	469	170
Egypt	(1)	1,442	(1)	1,390	.....	829	(1)	993
Persia	(1)	109	1	11	2	5	.....	.....
Peru	(1)	87	.....	183	2	160	.....	.....
United States	215	9,008	351	6,735	600	6,359	278	6,678
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary	906	12	.....	.....	[2] 55	.....	[2] 116	.....
Belgium	496	159	289	51	689	221	426	227
Canada	137	.....	179	.....	241	.....	182	.....
France	1,435	316	1,008	78	1,083	151	922	105
Germany	2,258	232	.....	.....	691	3	.....	.....
Italy	896	(1)	826	2	825	1	728	3
Japan	1,405	.....	2,190	.....	2,176	.....	2,420	.....
Mexico	23	[3] 1	.....	.....	.....	.....	.....	.....
Netherlands	277	145	114	4	124	8	120	2
Russia	886	(1)	.....	.....	.....	.....	.....	.....
Spain	382	1	341	1	375	3	380	4
Sweden	93	1	76	2	107	4	59	.....
Switzerland	113	.....	115	.....	97	.....	114	.....
United Kingdom	4,164	.....	3,843	.....	3,457	.....	2,137	.....
Other countries	215	154	156	65	240	86	110	69
Total	14,005	13,956	9,570	10,405	10,977	10,101	8,591	10,581

[1] Less than 500 bales. [2] Austria only. [3] Four-year average.

COTTONSEED.

TABLE 240.—*Cottonseed: Production, by States, 1918–1922.*

[As reported by the United States Bureau of the Census.]

State.	Production (thousands of tons).					Total value (thousands of dollars).				
	1918	1919	1920	1921	1922[1]	1918	1919	1920	1921	1922[1]
Virginia	11	10	9	7	11	$740	$740	$230	$220	$478
North Carolina	398	368	410	344	378	26,810	27,340	10,550	11,420	17,407
South Carolina	699	633	720	334	235	47,550	47,460	16,620	11,510	10,928
Georgia	947	736	628	349	322	64,170	55,260	16,640	11,070	14,603
Florida	17	8	8	5	11	1,130	530	220	160	374
Alabama	356	316	294	257	371	23,910	23,020	7,840	7,890	15,953
Mississippi	545	427	397	361	448	35,340	28,100	9,570	10,330	18,144
Louisiana	261	132	172	124	158	16,650	8,660	4,490	3,400	6,107
Texas	1,199	1,379	1,934	978	1,461	74,670	82,640	41,350	27,430	57,710
Arkansas	439	393	540	354	462	28,240	24,880	12,400	9,990	17,995
Tennessee	147	138	145	134	178	9,440	9,210	3,700	4,090	7,743
Missouri	28	28	35	31	66	1,760	2,040	790	970	2,343
Oklahoma	256	452	594	214	282	15,920	27,130	11,210	5,300	10,434
All other	57	54	85	39	41	3,160	3,460	1,380	780	1,325
United States	5,360	5,074	5,971	3,531	4,424	349,490	340,470	136,990	104,560	181,544

[1] Preliminary estimate by Department of Agriculture.

TABLE 241.—*Cottonseed: Farm price per ton on 15th of each month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	.....	.....	.....	.....	.....	.....	.....	.....	$26.23	$26.86	$25.36	$25.65	$26.02
1911	$26.35	$25.61	$25.49	$26.12	$25.46	$23.38	$22.70	$20.45	18.09	16.73	16.69	16.70	21.98
1912	16.57	16.81	18.21	18.62	19.21	19.24	19.04	18.02	17.61	18.04	18.57	21.42	18.45
1913	21.98	22.01	21.55	21.89	21.88	21.54	21.37	20.24	21.07	22.01	22.46	23.48	21.79
1914	22.70	23.37	23.60	24.17	23.56	23.62	22.78	20.16	13.88	15.28	14.01	17.73	20.40
1915	19.14	23.33	22.32	22.69	22.07	20.82	20.05	20.14	20.98	33.73	34.01	35.54	24.57
1916	36.85	36.75	36.56	38.13	37.91	35.79	36.06	35.22	41.13	47.19	55.82	56.35	42.81
1917	52.53	51.43	53.18	55.94	55.61	57.19	56.90	56.61	57.58	65.02	69.38	68.29	58.30
1918	67.51	66.95	68.27	68.08	68.16	66.03	64.11	61.34	67.90	65.85	64.97	65.05	66.18
1919	64.93	64.65	64.00	64.28	63.83	63.80	64.24	66.23	62.13	66.95	72.65	69.07	65.56
1920	69.88	69.34	67.18	68.71	69.88	66.16	61.64	43.22	29.96	28.94	26.00	19.83	51.73
1921	18.96	19.76	18.92	17.23	17.28	17.06	18.75	22.06	27.19	31.05	29.15	28.78	22.18
1922	29.24	30.17	32.72	40.79	40.21	37.71	36.92	32.44	25.37	31.79	40.18	42.93	42.45
Av. 1913–1922	40.37	40.78	40.83	42.19	42.04	40.97	40.28	37.77	36.72	40.78	42.86	42.70	41.60

COTTONSEED OIL.

TABLE 242.—*Cottonseed oil: Monthly average price, per hundredweight, of spot prime summer yellow, New York.*[1]

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Average.
1909–10	$5.46	$5.94	$6.60	$6.84	$7.32	$7.30	$7.14	$7.48	$7.76	$7.99	$7.96	$8.51	$7.19
1910–11	10.84	10.12	8.11	7.29	7.24	7.32	7.03	6.60	6.19	6.55	6.43	5.89	7.47
1911–12	5.85	6.96	5.97	5.73	5.37	5.39	5.54	5.69	6.46	7.18	6.86	6.67	6.14
1912–13	6.47	6.38	6.22	6.01	6.30	6.25	6.35	6.44	6.96	7.01	7.70	9.11	6.77
1913–14	8.88	7.67	7.00	7.05	6.86	6.98	7.12	7.38	7.51	7.18	7.30	7.18	7.34
Average	7.50	7.41	6.78	6.58	6.62	6.65	6.64	6.72	6.98	7.18	7.25	7.47	6.98
1914–15	6.67	5.87	5.22	5.55	5.83	6.56	7.08	6.70	6.61	6.40	6.18	6.06	6.23
1915–16	5.78	6.30	7.71	7.93	8.38	8.99	9.59	10.53	10.73	10.91	10.91	10.04	8.98
1916–17	9.27	10.17	11.75	12.53	12.38	12.32	12.51	13.62	15.30	16.23	16.26	14.52	13.07
1917–18	14.84	16.44	17.99	18.59	18.65	20.09	20.33	19.84	19.75	20.00	20.25	20.25	18.91
1918–19	20.25	20.25	20.25	20.25	20.25	20.25	20.25	20.25	21.25	21.25	25.03	27.37	21.41
Average	11.36	11.81	12.58	12.97	13.10	13.64	13.95	14.19	14.73	14.96	15.73	15.65	13.72
1919–20	25.88	21.33	23.00	22.75	21.50	21.86	19.67	19.07	18.54	19.21	16.70	13.21	20.23
1920–21	12.32	13.48	11.43	10.14	8.91	8.59	7.34	6.26	6.24	7.22	7.46	8.57	9.00
1921–22	8.69	9.88	8.39	8.30	8.28	8.62	9.86	11.48	11.57	11.71	11.33	10.97	9.96
1922–23	9.96	8.54	8.[illegible]8	9.51	9.81	.....	.....	.....	.....	.....	.....	.....	.....

[1] Compiled from New York Produce Exchange reports, except prices for current year, which are based on quotations in the Oil, Paint and Drug Reporter.

TABLE 243.—*Cottonseed oil: International trade, calendar years 1909–1921.*

[See "General note," Table 161.]

Country.	Average, 1909–1913.		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*
China	.....	281	.....	3,430	.....	1,606	.....	3,001
Egypt	257	476	5	67	30	427	4	506
United States	[1] 629	38,968	3,707	25,751	1,261	24,634	89	33,673
PRINCIPAL IMPORTING COUNTRIES.								
Algeria	364	157	134	.....	62	1	.....	.....
Australia	142	.....	29	.....	80	.....	.....	.....
Austria-Hungary	39	[2] 5	.....	.....	[3] 393	.....	[3] 61	.....
Belgium	2,251	1,086	446	316	720	159	563	225
Brazil	624	[4] 2	11	656	21	1,013	1	1,416
Canada	2,817	.....	5,515	.....	6,091	.....	5,865	.....
France	3,289	335	1,303	11	2,677	84	1,295	113
Germany	6,918	.....	.....	.....	.....	.....	.....	.....
Italy	4,600	1	1,095	43	4,029	1	3,936	1
Malta	265	[4] 27	.....	.....	.....	.....	.....	.....
Martinique	292	.....	.....	.....	.....	.....	.....	.....
Mexico	3,607	[5] 341	.....	.....	.....	.....	.....	.....
Netherlands	5,352	52	5,837	1,709	2,602	731	10,897	2,153
Norway	1,504	.....	1,584	.....	2,826	.....	1,499	.....
Rumania	633	(6)	41	.....	15	.....	.....	.....
Senegal	422	.....	.....	.....	.....	.....	.....	.....
Serbia	336	.....	.....	.....	.....	.....	.....	.....
Sweden	696	[1] 3	1,287	42	277	130	.....	.....
United Kingdom	5,899	7,189	8,035	2,930	2,802	5,162	5,432	3,098
Other countries	3,562	6	2,266	1,028	2,383	1,069	2,059	87
Total	44,498	48,929	31,295	35,983	26,269	35,017	31,701	44,273

[1] Three-year average.
[2] Four-year average.
[3] Austria only.
[4] One year only.
[5] Two-year average.
[6] Less than 500 gallons.

TOBACCO.

TABLE 244.—*Tobacco: Area and production in undermentioned countries, 1909–1922.*

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922 [1]	Average, 1909–1913.	1920	1921	1922 [1]
NORTHERN HEMISPHERE.								
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Canada	[2] 14	53	.....	.....	14,634	48,089	.....	.....
United States [3]	[2] 1,148	1,960	1,435	1,763	996,176	1,582,225	1,075,418	1,330,275
Mexico	.....	.....	.....	.....	34,711	.....	14,436	[4] 13,200
CENTRAL AMERICA AND WEST INDIES.								
Guatemala	.....	.....	.....	.....	674	.....	.....	.....
Cuba	.....	.....	.....	.....	57,490	126,577	40,300	30,400
Dominican Republic	.....	.....	.....	.....	29,200	50,044	14,990	[4] 15,000
Porto Rico	[5] 18	42	.....	.....	12,700	25,340	.....	.....
Jamaica	[2] 1	.....	.....	.....	418	.....	.....	.....
EUROPE.								
Sweden [3]	[5] 1	1	1	.....	1,657	1,690	1,440	.....
Denmark	[5] 1	.....	.....	.....	219	.....	.....	.....
Netherlands	[2] 1	1	1	1	1,829	.....	.....	.....
Belgium [3]	[2] 10	7	7	5	20,741	13,485	10,190	7,050
France [3]	[2] [6] 39	29	32	19	[6] 45,272	46,031	52,580	.....
Italy [3]	[2] 19	20	48	.....	22,120	28,260	43,150	.....
Switzerland [3]	[2] 1	1	1	1	1,444	860	820	790
Germany [3]	[2] [6] 39	32	25	.....	[6] 66,536	65,984	65,980	.....
Austria	[2] [6] 9	.....	.....	.....	[6] 14,169	.....	.....	.....
Czechoslovakia	.....	3	3	4	.....	3,891	[4] 2,620	.....
Hungary	[6] [7] 120	51	49	.....	[6] 143,123	.....	.....	.....
Yugoslavia [3]	.....	31	36	.....	.....	17,196	20,560	.....
Serbia, Croatia Slavonia and Bosnia Herzegovina [3]	[2] [6] 5	.....	.....	.....	[6] 13,928	.....	.....	.....
Greece	[5] 38	86	.....	.....	[5] 28,021	68,500	[4] 63,777	[4] 46,556
Bulgaria [3]	[2] [6] 24	95	96	54	[6] 15,220	64,604	87,040	39,380
Rumania [3]	[2] [6] 25	58	43	.....	[6] 16,426	37,700	23,120	.....
Russia, including Ukraine and Northern Caucasia	[6] 172	.....	.....	.....	[6] 232,949	.....	.....	.....
AFRICA.								
Algeria [3]	[7] 21	32	54	27	23,974	24,650	49,630	.....
Tunis	.....	1	1	1	[3] 259	671	880	.....
ASIA.								
India, British	[2] 1,026	1,101	.....	.....	450,000	.....	.....	.....
British North Borneo	.....	.....	.....	.....	2,891	.....	.....	.....
Ceylon	[7] 14	.....	13	13	[7] 4,273	.....	.....	51,690
Japanese Empire:								
Japan	[2] 72	93	.....	.....	93,717	137,194	132,280	.....
Chosen	[7] 46	.....	.....	.....	[7] 29,737	34,190	.....	.....
Formosa	[2] 1	.....	.....	.....	1,120	1,480	.....	.....
Russia, Asiatic	[2] [6] 37	.....	.....	.....	[6] 30,939	.....	.....	.....
Philippine Islands [3]	[7] 155	250	225	.....	63,907	143,064	116,400	.....

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 15, 1922.
[2] Three-year average.
[3] Countries reporting for all periods given except 1922 either as listed or as part of some other country.
[4] Commercial source.
[5] One year.
[6] Old boundaries.
[7] Two-year average.

TOBACCO—Continued.

TABLE 244.—*Tobacco: Area and production in undermentioned countries, 1909–1922*—Continued.

Country.	Area.				Production.			
	Average, 1908–09 to 1912–13.	1919–20	1920–21	1921–22[1]	Average, 1908–09 to 1912–13.	1919–20	1920–21	1921–22[1]
SOUTHERN HEMISPHERE.								
SOUTH AMERICA.	*1,000 acres.*	*1,000 acres*	*1,000 acres.*	*1,000 acres.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Chile	[2] 2	([3])	.....	2	3,377	2,641	.....	4,450
Brazil	.....	.....	.....	.....	59,991	.....	191,000	116,610
Uruguay [4]	[2] 3	1	4	.....	[2] 2,371	480	1,764	.....
Paraguay	.....	.....	.....	.....	[2] 13,000	.....	.....	21,280
Argentina	[2] 24	21	.....	.....	28,568	.....	24,900	18,300
AFRICA.								
Union of South Africa	[2] 19	26	.....	.....	[5] 13,789	14,073	[6] 16,621	12,110
Rhodesia [4]	[7] 5	10	8	9	901	2,948	3,747	1,980
Nyasaland	[2] 7	3	.....	21	2,416	4,000	.....	6,740
OCEANIA.								
Dutch East Indies:								
Java and Madura	432	.....	.....	.....	117,180	.....	.....	.....
Sumatra, east coast	.....	.....	47	.....	46,699	.....	[6] 27,735	.....
Australia	[2] 2	2	.....	.....	1,837	.....	.....	.....
Fiji	.....	.....	.....	.....	42	60	.....	.....
Total [4]	1,495	2,527	2,015	.....	1,290,673	2,029,177	1,551,839	.....
Total all countries reporting	3,551	4,010	2,129	.....	2,760,645	2,545,927	2,081,378	.....

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 15, 1922.
[2] Three-year average.
[3] Less than 500.
[4] Countries reporting for all periods given except 1922 either as listed or as part of some other country.
[5] Four-year average.
[6] Commercial source.
[7] One year.

TABLE 245.—*Tobacco: World production as far as reported, 1900–1921.*

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
	Pounds.		*Pounds.*		*Pounds.*		*Pounds.*
1900	2,201,193,000	1906	2,270,298,000	1912	1,274,319,000	1918	2,138,274,000
1901	2,270,213,000	1907	2,391,061,000	1913	2,149,258,000	1919	2,178,382,000
1902	2,376,054,000	1908	2,382,601,000	1914	2,254,087,000	1920	2,545,927,000
1903	2,401,268,000	1909	2,742,500,000	1915	2,153,395,000	1921	2,081,378,000
1904	2,146,641,000	1910	2,833,729,000	1916	1,547,867,000	1922	.....
1905	2,279,728,000	1911	2,566,202,000	1917	1,766,760,000		

TOBACCO—Continued.

TABLE 246.—*Tobacco: Acreage, production, value, condition, etc., in the United States, 1849–1922.*

[See note for Table 153.]

Year.	Acreage.	Average yield per acre.	Production.	Average farm price per pound Dec. 1.	Farm value Dec. 1.	Domestic exports of unmanufactured, fiscal year beginning July 1.	Imports of unmanufactured, fiscal year beginning July 1.	Condition of growing crop			
								July 1.	Aug. 1.	Sept. 1.	When harvested.
	1,000 acres.	*Lbs.*	*1,000 pounds.*	*Cts.*	*1,000 dollars.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1849	.....	.....	*199,753*	.....	.....	.....	.....	.....	.....	.....	.....
1859	.....	.....	*434,209*	.....	.....	.....	.....	.....	.....	.....	.....
1869	.....	.....	*262,735*	.....	.....	.....	.....	100.0	92.7	78.1	83.7
1879	*639*	793.1	506,663	6.0	30,200	.....	.....	88.0	77.0	87.0	.....
1889	*695*	658.5	457,881	6.9	31,696	.....	.....	89.9	84.4	76.2	80.7
1899	*1,102*	728.5	802,397	7.1	57,273	.....	.....	83.7	80.0	84.0	81.9
1900	1,046	778.0	814,345	6.6	53,661	315,787,782	26,851,253	88.5	82.9	77.5	76.1
1901	1,039	788.0	818,953	7.1	58,283	301,007,365	29,428,837	86.5	72.1	78.2	81.5
1902	1,031	797.3	821,824	7.0	57,564	368,184,084	34,016,956	85.6	81.2	81.5	84.1
1903	1,038	786.3	815,972	6.8	55,515	311,971,831	31,162,636	85.1	82.9	83.4	82.3
1904	806	819.0	660,461	8.1	53,383	334,302,091	33,288,378	85.3	83.9	83.7	85.6
1905	776	815.6	633,034	8.5	53,519	312,227,202	41,125,970	87.4	84.1	85.1	85.8
1906	796	857.2	682,429	10.0	68,233	340,742,864	40,898,807	86.7	87.2	86.2	84.6
1907	821	850.5	698,126	10.2	71,411	330,812,658	35,005,131	81.3	82.8	82.5	84.8
1908	875	820.2	718,061	10.3	74,130	287,900,946	43,123,196	86.6	85.8	84.3	84.1
1909	*1,295*	814.8	1,055,133	10.1	106,374	357,196,074	46,853,389	89.8	83.4	80.2	81.3
1910 [1]	1,366	807.7	1,103,415	9.3	102,142	355,327,072	48,203,288	85.3	78.5	77.7	80.2
1911	1,013	893.7	905,109	9.4	85,210	379,845,320	54,740,380	72.6	68.0	71.1	80.5
1912	1,226	785.5	962,855	10.8	104,063	418,796,906	67,977,118	87.7	82.8	81.1	81.8
1913	1,216	784.3	953,734	12.8	122,481	449,749,982	61,174,751	82.8	78.3	74.5	76.6
1914	1,224	845.7	1,034,679	9.8	101,411	348,346,091	45,764,728	66.0	66.5	71.4	81.8
1915	1,370	775.4	1,062,237	9.1	96,281	443,293,156	48,013,335	85.5	79.7	80.7	81.9
1916	1,413	816.0	1,153,278	14.7	169,672	411,598,860	46,136,347	87.6	84.4	85.5	85.6
1917	1,518	823.1	1,249,276	24.0	300,449	289,170,686	79,367,563	86.8	88.1	84.5	87.8
1918	1,647	873.7	1,439,071	28.0	402,264	629,287,761	83,951,103	83.1	83.6	82.4	87.4
1919	1,951	751.1	1,465,481	39.0	570,868	648,037,655	94,005,182	83.6	75.1	71.8	73.6
1920 [1]	1,960	807.3	1,582,225	21.2	335,675	506,526,449	58,923,217	84.3	84.1	84.6	83.3
1921	1,427	749.6	1,069,693	19.9	212,728	462,797,351	65,225,437	71.9	66.6	70.5	75.6
1922 [2]	1,725	768.0	1,324,840	23.1	306,179	.....	.....	82.4	80.9	76.2	78.9

[1] Figures adjusted to census basis. [2] Preliminary estimate.

TABLE 247.—*Tobacco: Acreage, production, and total farm value, by States, 1921–22.*

State.	Thousands of acres.		Production (thousands of pounds).		Total value, basis Dec. 1 price (thousands of dollars).	
	1921	1922 [1]	1921	1922 [1]	1921	1922 [1]
Massachusetts	10	9	13,700	11,925	4,932	3,578
Connecticut	31	28	45,074	35,000	18,480	9,450
New York	2	2	2,500	2,200	482	814
Pennsylvania	42	43	61,320	56,760	8,830	9,082
Maryland	26	35	18,590	26,950	3,532	4,582
Virginia	167	209	91,850	156,750	18,829	37,620
West Virginia	8	9	6,000	7,425	1,446	1,634
North Carolina	450	515	252,450	306,940	65,637	93,003
South Carolina	80	90	50,400	57,600	5,544	13,248
Georgia	14	11	7,896	5,940	1,974	1,544
Florida	4	3	3,600	3,300	1,440	1,551
Ohio	42	52	38,640	46,800	5,796	8,892
Indiana	14	18	12,250	16,200	1,838	2,754
Wisconsin	48	40	61,488	45,600	7,686	9,120
Missouri	3	5	2,775	4,500	555	1,305
Kentucky	385	525	325,710	446,250	50,485	87,019
Tennessee	100	130	75,000	94,250	15,000	20,735
Louisiana	1	1	450	450	248	248
United States	1,427	1,725	1,069,693	1,324,840	212,728	306,179

[1] Preliminary estimates.

TOBACCO—Continued.

TABLE 248.—*Tobacco: Acreage, yield per acre, production, and price to producers, 1920, 1921, and 1922, by types and districts.*

Type and district.	Acres (in thousands).			Yield per acre (in pounds).		
	1920	1921	1922 [2]	1920	1921	1922 [2]
Cigar types:						
New England	40	41	37	1,498	1,433	1,268
New York	2	2	2	1,280	1,250	1,100
Pennsylvania	43	42	43	1,510	1,460	1,320
Ohio, Miami Valley	40	30	35	932	956	898
Wisconsin	50	48	40	1,248	1,281	1,140
Georgia and Florida	6	5	4	1,057	942	1,090
Total, cigar types	181	168	161	1,290	1,297	1,164
Chewing, smoking, snuff, and export types:						
Burley	356	259	316	886	854	860
Paducah	90	59	93	775	826	789
Henderson	75	49	80	820	865	900
One Sucker	67	34	58	802	805	864
Clarksville and Hopkinsville	145	108	145	764	777	736
Virginia Sun Cured	12	7	9	754	575	775
Virginia Dark	57	40	53	800	615	815
Old Bright	480	333	390	665	523	618
New Bright	436	329	370	715	600	629
Maryland and Eastern Ohio Export	41	28	37	900	731	778
Total, chewing, smoking, snuff, and export types	1,759	1,246	1,551	758	678	727
All other	20	13	13	770	567	816
Aggregate	1,960	1,427	1,725	807.3	749.6	768.0

Type and district.	Production (in thousands of pounds).			Price (in cents per pound).[1]			Value (in thousands of dollars).		
	1920	1921	1922 [2]	1920	1921	1922	1920	1921	1922 [1]
Cigar types:									
New England	59,900	58,774	46,925	66.5	39.8	27.8	39,834	23,412	13,028
New York	2,560	2,500	2,200	27.0	19.3	37.0	691	482	814
Pennsylvania	64,930	61,320	56,760	12.0	14.4	16.0	7,792	8,830	9,082
Ohio, Miami Valley	37,282	28,814	31,090	25.0	13.0	15.0	9,320	3,746	4,664
Wisconsin	62,400	61,488	45,600	13.9	12.5	20.0	8,674	7,686	9,120
Georgia and Florida	6,340	5,040	4,850	53.0	40.0	50.0	3,360	2,016	2,425
Total, cigar types	233,412	217,936	187,425	29.8	21.2	20.7	69,671	46,172	39,133
Chewing, smoking, snuff, and export types:									
Burley	315,259	220,849	271,710	13.4	22.4	25.0	42,283	45,450	67,925
Paducah	69,750	49,045	73,805	9.5	13.0	13.2	6,653	6,375	9,742
Henderson	61,500	42,645	72,000	8.8	14.0	15.0	5,411	5,970	10,800
One Sucker	53,727	27,630	50,447	7.0	12.0	13.0	3,752	3,316	6,558
Clarksville and Hopkinsville	110,790	83,896	106,140	11.6	16.7	17.3	12,819	13,999	18,358
Virginia Sun Cured	9,048	4,025	6,975	10.0	19.0	18.5	905	765	1,290
Virginia Dark	45,600	24,600	43,195	9.9	18.7	19.0	4,514	4,600	8,207
Old Bright	319,112	174,202	240,681	21.7	23.2	29.0	69,308	40,547	69,913
New Bright	311,718	197,220	232,649	20.6	20.4	25.6	64,079	30,208	66,412
Maryland and Eastern Ohio Export	36,917	20,273	29,200	18.6	19.0	19.0	6,879	3,852	5,548
Total, chewing, smoking, snuff, and export types	1,333,421	844,385	1,126,802	16.2	20.0	23.5	216,603	165,082	264,753
All other	15,392	7,372	10,613	16.0	20.0	22.5	2,463	1,474	2,293
Aggregate	1,582,225	1,069,693	1,324,840	18.2	19.9	23.1	288,737	212,728	306,179

[1] Prices based on reported sales so far as available: 1922 prices subject to revision.
[2] Preliminary estimate.

TOBACCO—Continued.

TABLE 249.—*Tobacco: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	July.	August.	September.	October.	November production estimate.	Final estimate.
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1912	1,009,000	980,000	976,000	974,000	959,437	962,855
1913	926,000	896,000	861,000	877,000	903,875	953,734
1914	756,961	791,379	862,473	954,245	982,715	1,034,679
1915	1,104,709	1,082,644	1,120,149	1,098,804	1,050,025	1,062,237
1916	1,191,326	1,196,659	1,223,572	1,203,077	1,145,530	1,153,278
1917	1,226,912	1,270,056	1,221,186	1,243,023	1,185,478	1,249,276
1918	1,187,123	1,228,081	1,218,165	1,265,362	1,266,686	1,439,071
1919	1,453,102	1,335,052	1,279,012	1,278,062	1,316,553	1,465,481
1920	1,500,800	1,544,489	1,553,812	1,478,788	1,476,444	1,582,225
1921	932,157	889,266	948,324	991,564	1,020,874	1,069,693
Average	1,128,809	1,121,363	1,126,369	1,136,392	1,130,762	1,197,253
1922	1,414,641	1,424,622	1,352,637	1,355,456	1,330,275	[1] 1,324,840

[1] Preliminary estimates.

TABLE 250.—*Tobacco: Condition of crop, United States, on 1st of months named, 1901–1922.*

Year.	July.	Aug.	Sept.	Oct.	Year.	July.	Aug.	Sept.	Oct.
	P.ct.	*P.ct.*	*P.ct.*	*P.ct.*		*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*
1901	86.5	72 1	78.2	81.5	1912	87.7	82.8	81.1	81.8
1902	85.6	81.2	81.5	84.1	1913	82.8	78.3	74.5	76.6
1903	85.1	82.9	83.4	82.3	1914	66.0	66.5	71.4	81.8
1904	85.3	83.9	83.7	85.6	1915	85.5	79.7	80.7	81.9
1905	87.4	84.1	85.1	85.8	1916	87.6	84.4	85.5	85.6
1906	86.7	87.2	86.2	84.6	1917	86.8	88.1	84.5	87.8
1907	81.3	82.8	82.5	84 8	1918	83.1	83.6	82.5	87.4
1908	86.6	85.8	84.3	84.1	1919	83.6	75.1	71.8	73.6
1909	89.8	83.4	80.2	81.3	1920	84.3	84.1	84.6	83.3
1910	85.3	78.5	77.7	80.2	1921	71.9	66.6	70.5	75.6
1911	72.6	68.0	71.1	80.5	1922	82.4	80.9	76.2	78.9

TABLE 251.—*Tobacco: Yield per acre, price per pound December 1, and value per acre, by States.*

State.	Yield per acre (pounds).						Farm price per pound (cents).											Value per acre (dollars).[1]	
	5-year average, 1918–1922.	1918	1919	1920	1921	1922	10-year average, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year average, 1917–1921.	1922
Mass.	1,457	1,500	1,540	1,550	1,370	1,325	31.0	21.0	17.7	14.5	25.0	38.4	40.0	46.3	40.6	36.0	30.0	594.62	397.50
Conn.	1,450	1,500	1,565	1,480	1,454	1,250	31.5	21.0	18.5	17.0	27.0	38.4	44.0	46.3	35.0	41.0	27.0	607.27	337.50
N. Y.	1,234	1,250	1,290	1,280	1,250	1,100	19.2	12.2	12.0	9.5	13.0	22.0	18.0	22.5	27.0	19.3	37.0	275.42	407.00
Pa.	1,406	1,420	1,320	1,510	1,460	1,320	14.2	7.5	8.5	9.2	14.2	21.0	14.0	17.0	20.0	14.4	16.0	245.73	211.20
Md.	773	830	675	875	715	770	18.7	9.3	8.0	8.5	16.0	20.0	30.0	30.0	29.0	19.0	17.0	199.82	130.90
Va.	666	770	530	730	550	750	21.6	13.9	9 0	9.4	14.6	26.5	27.0	47.4	24.0	20.5	24.0	186.51	180.00
W. Va.	759	720	700	800	750	825	23.2	12.0	11.0	10.0	15.0	26.0	36.6	50.0	25.0	24.0	22.0	240.30	181.50
N. C.	634	705	616	694	561	596	26.3	18.5	11.5	11.2	20.0	31.5	35.1	53.6	25.3	26.0	30.3	219.51	180.59
S. C.	672	720	722	650	630	640	17.0	13.8	9.7	7.0	14.0	23.1	31.1	22.8	15.0	11.0	23.0	143.87	147.20
Ga.	607	800	530	600	564	540	31.8	31.0	25.0	23.0	27.0	57.0	46.0	21.5	37.0	25.0	26.0	282.99	140.40
Fla.	992	960	950	1,050	900	1,100	40.6	31.0	30.0	23.0	30.0	57.0	46.0	54.5	48.0	40.0	47.0	490.07	517.00
Ohio	924	980	860	960	920	900	16.7	11.4	8.8	9.0	13.0	25.0	19.5	33.7	13.0	15.0	19.0	196.74	171.00
Ind.	881	930	800	900	875	900	16.2	11.0	9.0	7.3	13.0	20.0	20.7	35.2	14.0	15.0	17.0	184.27	153.00
Wis.	1,254	1,330	1,270	1,248	1,281	1,140	16.2	12.0	11.0	6.0	12.5	17.5	22.0	22.2	25.9	12.5	20.0	246.58	228.00
Mo.	945	900	1,000	1,000	925	900	21.7	12.7	13.0	12.0	15.0	21.2	25.0	36.0	33.0	20.0	29.0	259.86	261.00
Ky.	861	960	800	850	846	850	17.3	10.0	8.4	7.8	12.7	20.0	26.3	38.2	15.0	15.5	19.5	199.34	165.75
Tenn.	763	800	810	730	750	725	15.8	8.4	7.5	6.3	10.1	17.0	21.4	25.1	20.0	20.0	22.0	161.64	159.50
La.	451	420	434	500	450	450	43.3	25.0	35.0	30.0	28.0	35.0	65.0	65.0	40.0	55.0	55.0	225.02	247.50
U. S.	789.9	873.7	751.1	807.3	749.6	768.0	20.2	12.8	9.8	9.1	14.7	24.0	28.0	39.0	21.2	19.9	23.1	211.02	177.50

[1] Based upon farm price Dec. 1.

TOBACCO—Continued.

TABLE 252.—*Tobacco: Extent and causes of yearly crop losses, 1909–1921.*

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost and freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Defective seed.	Total.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1909	5.5	6.8	1.1	0.7	0.8	0.1	0.2	15.3	0.7	2.6	.....	(1)	19.6
1910	4.8	6.8	1.2	.4	.3	(1)	.1	14.4	.7	2.8	.....	0.1	20.6
1911	16.7	.9	.....	.8	.1	.6	.....	19.5	.3	1.0	.....	.2	22.6
1912	7.6	4.8	.8	.5	1.0	.2	.2	15.3	.7	2.8	.....	.1	21.2
1913	15.3	.7	.4	1.2	1.2	.3	.6	20.0	.1	3.0	.....	(1)	25.0
1914	18.1	.2	.1	.4	.6	.3	.1	20.1	(1)	2.7	.....	.1	24.8
1915	3.9	8.2	.9	1.2	.8	.1	.9	16.3	.6	4.0	.....	.1	23.5
1916	3.5	5.5	1.3	1.3	1.0	.1	.8	14.0	.3	2.8	.....	(1)	18.4
1917	3.3	2.2	.5	3.3	1.2	.1	.2	11.1	.2	2.1	.....	.1	15.2
1918	8.6	.4	.2	.7	1.1	.2	.2	11.4	.3	2.1	.....	.1	14.2
1919	8.9	7.9	.6	.2	1.1	.1	.2	19.2	.6	2.8	.....	(1)	23.0
1920	2.3	7.0	.6	.7	1.0	0	.1	11.7	5.5	2.6	0	0	21.0
1921	18.9	2.2	.1	.3	.7	.4	.2	22.9	1.6	3.2	.....	0	28.2
Average	9.0	4.1	.6	.9	.8	.2	.3	16.2	.9	2.7	0	.1	21.3

[1] Less than 0.05 per cent.

TABLE 253.—*Tobacco: Wholesale price per pound, 1907–1922.*[1]

Date.	Hopkinsville.			Louisville.			Richmond.			Baltimore.		
	Leaf, common to fine.			Leaf (burley, dark red), common to good.			Leaf, smokers', common to fine.			Leaf (Maryland), medium to fine red.		
	Low.	High.	Average.[2]	Low.	High.	Average.[2]	Low.	High.	Average.	Low.	High.	Average.[2]
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1907	6.50	16.00	11.19	6.50	14.50	10.65	8.00	13.00	10.50	6.50	12.00	9.48
1908	7.50	20.00	12.75	9.00	19.00	13.67	8.00	13.00	10.50	6.50	13.00	9.85
1909	6.00	14.00	9.85	12.00	18.50	15.35	7.00	13.00	10.28	8.50	13.00	10.75
1910	5.50	17.50	11.09	8.00	17.00	13.55	7.00	13.00	10.00	8.50	13.00	10.75
1911	7.00	18.00	12.10	6.00	12.75	9.39	7.00	13.00	10.00	8.50	13.00	10.75
1912	8.00	16.00	11.69	7.00	13.00	9.62	7.00	15.00	10.83	8.50	15.00	11.00
1913	7.00	14.00	11.02	7.00	16.00	11.23	7.00	20.00	11.58	8.50	15.00	11.75
1914	7.50	14.00	11.05	9.00	16.00	12.71	7.00	20.00	13.40	8.00	15.00	11.46
1915	4.00	12.50	8.08	8.00	15.00	11.88	6.00	18.00	11.07	8.00	14.00	10.83
1916	5.00	14.50	9.45	10.00	19.00	13.33	6.00	20.00	11.66	9.00	21.00	14.69
1917	10.00	20.50	13.61	13.00	32.00	20.71	9.00	30.00	17.06	17.00	28.00	22.21
1918	14.00	25.00	18.63	25.00	44.00	34.34	16.00	45.00	23.62	22.00	49.00	33.56
1919	12.14	36.50	23.68	10.00	48.00	26.92	15.00	45.00	27.31	26.00	53.00	37.22
1920	14.00	53.00	27.02	13.00	42.00	27.05	10.00	37.00	23.56	25.00	58.00	41.19
1921	8.00	55.00	24.47	7.00	30.00	17.83	7.00	30.00	12.66	18.00	58.00	30.52
1922	10.00	40.00	23.81	12.00	35.00	22.12	7.00	16.00	11.10	18.00	50.00	32.83
1922.												
January	12.00	38.50	24.83	16.00	30.00	23.50	7.00	14.00	10.50	18.00	45.00	31.50
February	12.00	40.00	24.69	14.00	30.00	22.25	7.00	14.00	10.50	18.00	45.00	31.50
March	12.00	37.50	23.80	14.00	30.00	22.00	7.00	14.00	10.50	18.00	45.00	31.50
April	10.00	35.00	22.00	14.00	30.00	22.00	7.00	14.00	10.50	18.00	45.00	31.50
May	.....	.....	.....	14.00	30.00	22.00	7.00	16.00	10.75	18.00	45.00	31.50
June	.....	.....	.....	14.00	30.00	22.00	7.00	16.00	11.50	18.00	50.00	32.50
July	.....	.....	.....	12.00	30.00	21.20	7.00	16.00	11.50	18.00	50.00	34.00
August	.....	.....	.....	12.00	30.00	21.00	7.00	16.00	11.50	18.00	50.00	34.00
September	.....	.....	.....	12.00	30.00	21.00	7.00	16.00	11.50	18.00	50.00	34.00
October	.....	.....	.....	12.00	30.00	21.00	7.00	16.00	11.50	18.00	50.00	34.00
November	.....	.....	.....	12.00	30.00	21.00	7.00	16.00	11.50	18.00	50.00	34.00
December	12.00	35.50	23.75	18.00	35.00	26.50	7.00	16.00	11.50	18.00	50.00	34.00

[1] Compiled from Western Tobacco Journal, Richmond Grain Exchange Price Current, and Baltimore Daily Price Current.
[2] 1907 to 1917, inclusive, based on monthly average of low and high.

TOBACCO—Continued.

TABLE 254.—*Tobacco (unmanufactured): International trade, calendar years 1909–1921.*

[Tobacco comprises leaf, stems, strippings, and tombac, but not snuff. See "General note," Table 161.]

Country.	Average, 1909–1913.		1919		1920		1921	
	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.*
Algeria	4,776	11,681	3,941	25,518	6,408	23,724	6,777	21,896
Brazil	620	59,991	1,476	93,862	2,176	67,376	2,024	71,718
British India	6,538	28,874	9,404	44,610	10,121	36,379	7,281	30,987
Bulgaria	(1)	4,310	.....	16,216	.....	38,793	.....	.....
Ceylon	.....	4,093	2	1,739	4	3,590	3	2,411
Cuba	141	38,035	.....	36,326	(1)	28,058	.....	.....
Dominican Republic	.....	22,395	.....	44,758	.....	36,225	.....	.....
Dutch East Indies	8,074	163,823	279	299,133	322	274,379	491	100,250
Greece	12,024	18,113	282	59,351	157	59,276	443	57,750
Mexico	1,845	1,998	.....	.....	.....	.....	.....	.....
Paraguay	.....	11,361	.....	22,759	.....	18,963	.....	.....
Persia	797	3,874	634	3,721	230	2,550	.....	.....
Philippine Islands	45	26,018	283	48,564	763	45,578	342	49,270
Russia	1,084	23,283	.....	.....	.....	.....	.....	.....
United States	52,768	381,127	85,986	776,678	82,221	479,900	52,994	522,756
PRINCIPAL IMPORTING COUNTRIES.								
Aden	11,619	7,739	3,593	5,830	9,603	6,452	.....	.....
Argentina	14,988	41	18,967	2,994	.....	17,434	.....	15,646
Australia	13,740	(1)	16,225	.....	21,955	(1)	.....	.....
Austria-Hungary	49,984	23,192	.....	.....	[2] 14,461	[2] 287	[2] 24,108	[2] 422
Belgium	22,094	33	30,096	66	36,400	419	35,980	220
Canada	17,891	433	24,891	1,506	21,121	778	19,925	884
China	15,113	25,487	21,310	49,044	30,310	36,982	29,504	26,891
Denmark	8,774	100	30,688	499	15,900	76	7,147	.....
Egypt	19,005	.....	18,028	310	19,287	244	17,394	13
Finland	9,597	.....	5,493	.....	4,947	.....	2,876	.....
France	63,914	26	108,153	375	76,615	971	84,207	2,599
Germany	168,437	116	.....	.....	496,162	924	.....	.....
Italy	47,732	3,008	63,093	648	74,246	79	63,417	.....
Netherlands	57,218	3,786	232,655	60,048	86,797	10,175	64,322	5,009
Nigeria	6,050	.....	.....	.....	.....	.....	.....	.....
Norway	3,994	.....	11,331	.....	6,874	.....	4,607	.....
Portugal	6,565	279	8,786	76	.....	.....	.....	.....
Spain	51,026	.....	70,422	.....	73,659	.....	42,766	.....
Sweden	9,772	1	12,899	(1)	12,778	110	.....	.....
Switzerland	17,949	47	27,742	173	29,003	112	5,792	.....
United Kingdom	117,956	4,603	339,517	5,997	209,721	4,850	211,500	5,273
Other countries	24,799	60,742	34,342	6,080	52,131	16,520	20,848	8,017
Total	846,929	928,609	1,180,518	1,606,881	1,394,372	1,211,204	704,748	922,012

[1] Less than 500.

[2] Austria only.

APPLES.

Table 255.—*Apples: Production and farm prices December 1, by States, 1918–1922.*

State.	Total crop (thousands of bushels).					Farm price per bushel Dec. 1 (cents).				
	1918	1919	1920	1921	1922 [1]	1918	1919	1920	1921	1922 [1]
Maine	2,010	4,829	1,680	4,060	1,250	95	117	120	115	107
New Hampshire	1,155	1,364	1,200	700	775	110	160	150	175	135
Vermont	990	960	993	600	960	140	175	150	195	160
Massachusetts	2,430	3,187	3,575	1,125	3,010	160	200	120	240	145
Rhode Island	189	334	390	63	200	155	195	200	250	110
Connecticut	999	1,395	2,375	758	1,300	155	170	125	240	120
New York	40,878	14,350	47,087	13,500	36,000	112	200	75	205	81
New Jersey	2,463	1,666	2,942	667	2,610	160	200	120	270	95
Pennsylvania	16,080	5,513	18,584	2,208	11,400	120	225	90	260	96
Delaware	714	606	822	68	980	125	200	95	220	90
Maryland	2,034	1,519	2,600	225	1,800	110	200	78	195	90
Virginia	10,068	8,943	13,744	570	8,360	124	160	90	255	90
West Virginia	5,856	4,189	8,040	420	5,625	117	180	125	260	102
North Carolina	3,588	2,000	6,320	593	5,570	130	187	105	250	90
South Carolina	1,407	216	440	293	383	205	280	184	230	140
Georgia	1,713	417	1,270	698	1,135	165	245	165	200	100
Ohio	7,005	2,976	13,960	3,390	7,298	153	262	115	225	130
Indiana	1,794	1,190	4,596	1,029	4,148	180	267	143	230	123
Illinois	3,459	4,673	5,866	2,381	9,720	185	230	140	250	105
Michigan	9,792	5,844	16,500	6,317	11,850	115	220	77	195	88
Wisconsin	2,811	1,545	2,250	1,050	2,024	155	220	170	242	118
Minnesota	996	1,336	1,350	900	1,020	209	250	200	280	200
Iowa	1,584	1,810	4,410	630	4,410	206	275	191	274	117
Missouri	4,245	5,132	4,724	480	9,400	164	190	170	255	82
South Dakota	273	168	180	126	263	235	300	260	280	170
Nebraska	525	907	797	125	1,620	230	250	230	270	120
Kansas	1,503	1,835	1,144	172	3,280	190	210	220	250	100
Kentucky	2,799	1,281	5,022	636	5,070	170	250	160	250	100
Tennessee	4,050	1,259	4,280	754	4,250	156	225	142	245	115
Alabama	1,662	577	1,186	890	1,098	170	250	175	200	135
Mississippi	.....	218	190	145	216	.....	235	190	240	170
Louisiana	.....	44	34	35	37	.....	200	200	200	225
Texas	273	487	274	274	2,640	160	190	200	190	150
Oklahoma	660	1,600	585	486	1,140	201	175	230	210	135
Arkansas	1,290	7,164	3,900	120	2,400	140	170	140	200	102
Montana	792	850	825	975	610	210	175	180	150	100
Wyoming	.....	30	18	19	45	.....	350	.....	250	200
Colorado	2,067	3,418	2,830	3,200	4,250	170	185	140	170	75
New Mexico	912	1,100	434	483	750	118	200	180	200	130
Arizona	138	125	80	47	77	240	225	250	250	205
Utah	786	760	1,064	1,037	1,085	140	170	120	130	80
Nevada	.....	53	36	24	35	.....	300	275	260	160
Idaho	1,200	3,800	3,420	4,500	3,900	170	180	145	130	72
Washington	16,491	25,295	21,502	29,062	25,678	125	155	140	125	100
Oregon	3,384	6,921	4,158	6,667	6,300	110	140	125	115	95
California	6,560	8,200	6,000	6,500	7,656	130	145	160	135	90
United States	169,625	142,086	223,677	99,002	203,628	132.8	183.6	114.8	168.0	99.3

[1] Preliminary estimate.

APPLES—Continued.

TABLE 256.—*Apples (commercial crop): Estimated annual production in the United States for the years 1918 to 1922, inclusive.*

[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.]

State.	1918	1919	1920	1921	1922 [1]	State.	1918	1919	1920	1921	1922 [1]
	1,000 barrels.	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*		*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*
Me	226	675	230	657	232	Mo	735	1,010	924	30	1,250
N. H	122	187	170	110	119	S. Dak	3	3	5	0	4
Vt	105	203	190	116	128	Nebr	72	180	110	17	130
Mass	300	335	375	172	461	Kans	333	459	286	29	546
R. I	20	65	75	8	12	Ky	108	57	218	31	169
Conn	108	119	215	70	108	Tenn	218	68	204	45	95
N. Y	5,950	2,975	6,500	3,300	6,000	Ala	26	9	20	15	18
N. J	514	456	848	132	522	Tex	11	37	21	21	150
Pa	1,116	759	1,547	221	1,216	Okla	17	43	29	21	38
Del	186	155	219	14	213	Ark	241	1,100	724	16	520
Md	315	177	399	20	300	Mont	75	140	128	175	115
Va	1,766	1,653	1,988	80	1,100	Colo	527	828	736	812	1,034
W. Va	1,092	648	1,340	130	881	N. Mex	117	264	108	123	158
N. C	184	92	250	25	236	Ariz	15	15	10	6	9
						Utah	163	121	196	198	198
Ga	117	35	106	58	95						
Ohio	932	280	1,445	360	608	Nev	.....	.....	.....	.....	1
Ind	266	137	542	109	277	Idaho	112	1,008	756	1,359	975
Ill	837	712	1,369	397	1,620	Wash	4,296	7,167	5,734	8,300	7,104
						Oreg	671	1,357	832	1,667	1,260
Mich	1,495	1,050	3,167	1,208	1,699	Calif	1,127	1,200	1,230	1,352	1,200
Wis	114	108	161	64	101						
Minn	40	61	78	64	41	U. S.	24,743	26,159	33,905	21,557	31,090
Iowa	101	211	420	25	147						

[1] Preliminary estimate.

TABLE 257.—*Apples: Total production in the United States, 1889–1922.*

State.	1889 [1]	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899 [1]
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Me	3,071	2,025	3,690	3,735	1,575	4,455	1,440	5,490	675	2,205	1,422
N. H	2,283	1,520	3,560	3,694	1,505	4,230	1,302	5,712	1,400	4,274	1,978
Vt	1,213	1,224	2,380	2,175	1,782	2,623	1,596	3,008	1,452	1,968	1,177
Mass	1,690	1,026	3,570	3,450	2,040	5,500	2,537	7,623	2,040	3,600	3,023
Conn	1,994	666	3,627	2,255	2,175	3,266	3,936	4,500	2,258	3,190	3,709
N. Y	8,494	8,060	29,410	24,448	17,138	24,516	25,480	54,178	19,670	13,156	24,111
N. J	604	510	2,870	1,844	2,240	2,394	3,965	2,376	2,285	1,321	4,641
Pa	7,553	3,052	20,790	13,475	14,190	14,144	15,675	26,522	14,040	14,625	24,061
Md	1,412	736	2,950	918	2,449	594	2,770	673	2,372	1,206	3,151
Va	8,391	4,256	12,638	5,436	12,640	2,550	14,580	4,180	14,000	5,670	9,836
W. Va	4,440	1,122	7,245	3,080	3,780	1,212	9,038	5,130	6,655	2,159	7,496
N. C	7,592	3,840	7,200	5,670	7,370	1,596	10,591	4,059	7,552	8,184	4,663
Ga	2,113	910	1,518	1,590	1,148	414	1,634	764	1,100	818	671
Ohio	13,789	3,900	15,657	785	2,889	10,791	24,716	19,778	7,656	4,260	20,617
Ind	8,784	3,332	9,594	2,667	1,179	4,050	12,788	7,810	5,840	1,500	8,626
Ill	9,601	4,158	8,645	2,641	1,450	6,384	11,692	11,152	14,022	3,717	9,178
Mich	13,155	7,917	8,364	8,200	7,210	13,041	5,408	22,990	3,780	11,816	8,932
Iowa	5,040	3,795	5,568	3,050	1,920	4,355	3,850	6,716	5,548	2,765	3,130
Mo	8,698	7,260	9,660	4,144	2,808	7,708	14,448	11,340	10,528	2,352	6,496
Kans	3,713	3,600	6,240	1,750	1,425	5,280	5,270	4,590	4,845	2,000	3,214
Ky	10,679	3,375	10,902	7,050	4,320	1,764	16,200	6,273	7,332	5,088	6,054
Tenn	7,284	4,818	8,228	6,848	8,192	1,972	12,060	4,125	8,037	4,205	5,388
Ark	1,894	1,585	2,730	2,302	2,702	1,616	5,023	2,276	4,522	2,911	2,811
Wash	295	522	693	611	821	819	1,146	972	1,700	2,058	724
Oregon	1,038	1,344	1,619	1,104	1,632	1,580	1,706	713	2,240	2,227	874
Calif	1,655	1,754	2,390	2,070	2,909	2,706	3,034	2,304	4,110	3,300	3,488
All other	6,630	3,835	7,169	5,544	5,284	5,088	7,715	7,346	8,069	7,486	5,920
U. S.	143,105	80,142	198,907	120,536	114,773	134,648	219,600	232,600	163,728	118,061	175,397

[1] Census figures.

APPLES—Continued.

TABLE 257.—*Apples: Total production in the United States, 1889–1922*—Continued.

State.	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909[1]	1910
	1,000 bushels	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*
Me.	5,000	2,550	3,780	4,170	5,600	2,800	3,800	4,950	1,800	3,636	3,550
N. H.	5,700	1,000	4,300	1,600	4,700	1,500	2,000	2,100	1,500	1,108	1,800
Vt.	3,800	1,700	3,000	1,550	3,900	1,700	2,200	2,100	2,200	1,460	2,700
Mass.	6,300	1,700	6,400	3,300	5,500	2,700	3,400	2,900	2,400	2,550	2,900
Conn.	3,800	1,100	4,700	2,000	2,900	2,400	2,500	2,200	1,000	1,541	1,800
N. Y.	47,000	11,000	41,000	46,000	55,000	21,000	31,000	28,000	33,000	25,409	17,000
N. J.	2,900	1,000	4,000	3,100	3,100	2,600	2,100	2,200	1,300	1,407	1,700
Pa.	18,000	9,000	19,000	18,500	25,000	13,500	17,500	13,800	14,800	11,049	11,600
Md.	2,700	1,900	2,000	2,700	2,100	2,800	2,000	2,000	2,200	1,823	2,700
Va.	8,500	9,500	6,700	13,100	6,000	10,100	5,500	5,200	8,900	6,107	12,100
W. Va.	4,200	6,100	4,300	3,800	6,500	4,800	5,900	2,700	5,300	4,225	7,100
N. C.	7,400	6,500	6,600	6,200	6,600	5,000	4,700	2,600	7,100	4,776	7,200
Ga.	900	700	1,000	1,100	1,200	700	1,300	500	1,500	896	1,400
Ohio	13,800	10,500	12,700	13,500	14,000	4,800	16,000	4,000	6,000	4,664	5,900
Ind.	4,500	6,500	6,300	5,800	5,900	4,100	9,000	2,000	2,200	2,759	4,900
Ill.	7,500	5,900	10,100	5,100	6,000	4,500	12,100	1,600	2,600	3,093	800
Mich.	11,800	5,200	18,000	15,400	18,700	6,300	13,700	9,500	7,000	12,333	4,200
Iowa	5,300	2,900	6,700	4,800	7,000	3,800	7,900	3,600	3,000	6,747	200
Mo.	8,300	10,500	11,700	6,200	9,700	6,300	20,000	1,300	6,100	9,969	7,600
Kans.	5,300	6,800	5,800	3,000	4,600	3,600	7,700	180	5,700	1,356	6,600
Ky.	6,400	8,300	4,700	7,100	7,000	5,700	9,100	3,000	4,000	7,369	5,300
Tenn.	6,500	7,300	4,600	6,400	5,300	3,400	7,100	1,600	5,400	4,640	5,200
Ark.	2,900	3,300	4,000	2,400	4,000	3,200	4,300	3,600	1,600	2,296	2,700
Wash.	1,950	1,870	2,300	2,600	2,700	2,500	3,000	3,800	3,200	2,672	5,800
Oreg.	2,300	1,500	2,200	2,400	2,600	1,800	2,700	2,100	2,600	1,931	3,800
Calif.	3,200	4,000	4,200	4,100	3,900	3,800	4,600	4,000	4,800	4,935	4,600
All other	9,980	7,180	12,250	9,760	14,130	10,820	15,620	8,030	11,740	15,371	10,498
U. S.	205,930	135,500	212,330	195,680	233,630	136,220	216,720	119,560	148,940	146,122	141,640

State.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
	1,000 bushels	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*	*1,000 bushels*
Me.	6,800	5,400	3,000	7,400	2,160	5,040	4,275	2,010	4,829	1,680	4,060	1,250
N. H.	1,600	2,200	800	2,000	1,058	1,596	1,035	1,155	1,364	1,200	700	775
Vt.	2,250	2,600	700	3,200	972	3,312	1,248	990	960	993	600	960
Mass.	3,000	3,300	2,300	4,400	2,655	3,450	2,163	2,430	3,187	3,575	1,125	3,010
Conn.	2,400	1,700	2,100	2,500	1,534	1,776	1,251	999	1,395	2,375	758	1,300
N. Y.	39,000	44,000	19,500	49,600	25,585	35,334	16,266	40,878	14,350	47,087	13,500	36,000
N. J.	3,100	1,700	2,100	3,400	2,331	2,250	2,058	2,463	1,666	2,942	667	2,610
Pa.	20,500	12,700	10,200	23,100	15,254	18,621	11,646	16,080	5,513	18,584	2,208	11,400
Md.	2,600	2,650	1,300	3,500	2,400	2,544	2,559	2,634	1,519	2,600	225	1,800
Va.	7,200	15,000	5,200	15,300	13,176	13,299	11,778	10,068	8,943	13,744	570	8,360
W. Va.	7,800	10,300	1,000	12,400	7,540	7,752	4,320	5,856	4,189	8,040	420	5,625
N. C.	3,600	7,600	3,000	9,000	5,916	5,589	4,500	3,588	2,000	6,320	593	5,570
Ga.	800	1,400	900	2,000	1,875	1,623	1,713	1,713	417	1,270	698	1,135
Ohio	18,700	10,600	4,800	13,300	17,952	8,601	5,760	7,005	2,976	13,960	3,390	7,298
Ind.	8,900	4,200	6,600	4,300	11,648	3,360	4,836	1,794	1,190	4,596	1,029	4,148
Ill.	10,600	5,800	8,200	3,700	14,148	4,848	7,518	3,459	4,673	5,866	2,381	9,720
Mich.	12,300	17,200	8,900	17,200	9,460	9,951	4,146	9,792	5,844	16,500	6,317	11,850
Iowa	9,500	1,500	7,100	1,600	9,660	3,573	3,795	1,584	1,810	4,410	630	4,410
Mo.	11,600	19,200	7,900	12,500	18,360	6,003	8,070	4,245	5,132	4,724	480	9,400
Kans.	2,400	6,700	2,700	3,100	6,375	2,268	2,853	1,503	1,835	1,144	172	3,280
Ky.	6,100	9,600	6,900	9,000	12,510	4,416	5,802	2,790	1,281	5,022	636	5,070
Tenn.	2,900	8,900	3,900	8,600	6,076	4,299	4,170	4,650	1,259	4,280	754	4,250
Ark.	3,000	5,100	4,000	5,000	3,550	1,593	2,574	1,290	7,164	3,900	120	2,400
Wash.	3,500	7,700	6,900	8,300	7,300	17,658	10,830	16,491	25,295	21,502	29,062	25,678
Oreg.	1,500	4,100	3,500	3,600	3,128	3,855	4,335	3,384	6,921	4,158	6,667	6,300
Calif.	4,700	5,700	3,000	6,000	4,690	6,930	6,804	6,560	8,200	6,900	6,500	7,656
All other	17,670	18,370	18,910	19,200	22,206	14,364	21,444	15,405	18,174	17,205	14,740	22,373
U. S.	214,020	235,220	145,410	253,200	230,011	193,905	166,749	160,625	142,086	223,677	99,002	203,628

[1] Census figures.

APPLES—Continued.

TABLE 258.—*Apples: Total aggregate production (bushels) in the United States, 1889–1922.*

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
1889 [1]	*143,105,000*	1898	118,061,000	1907	119,560,000	1915	230,011,000
1890	80,142,000	1899 [1]	*175,397,000*	1908	148,940,000	1916	193,905,000
1891	198,907,000	1900	205,930,000	1909 [1]	*146,122,000*	1917	166,749,000
1892	120,536,000	1901	135,500,000	1910	141,640,000	1918	169,625,000
1893	114,773,000	1902	212,330,000	1911	214,020,000	1919	142,086,000
1894	134,648,000	1903	195,680,000	1912	235,220,000	1920	223,677,000
1895	219,600,000	1904	233,630,000	1913	145,410,000	1921	99,002,000
1896	232,600,000	1905	136,220,000	1914	253,200,000	1922	203,628,000
1897	163,728,000	1906	216,720,000				

[1] Census figures.

TABLE 259.—*Apples: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	June.	July.	August.	September.	October.	November production estimate.	Final estimate.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1915	191,260	193,852	205,333	213,597	214,896	230,011	230,011
1916	216,726	217,593	214,572	203,037	198,507	202,245	193,905
1917	208,251	200,341	187,743	177,157	176,620	177,733	166,749
1918	203,164	195,419	198,514	195,828	198,389	197,360	169,625
1919	166,334	155,608	155,004	153,242	156,721	144,429	142,086
1920	198,968	200,421	213,187	223,241	227,978	236,187	223,677
1921	107,607	102,190	109,453	106,928	109,710	102,290	99,002
1922	179,810	189,549	201,726	206,567	203,667	205,539	[1] 203,628

[1] Preliminary estimate.

TABLE 260.—*Apples: Farm price, cents per bushel, on 1st of each month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	.....	108.0	112.6	114.2	120.7	119.6	94.4	75.4	73.7	75.5	83.4	89.6	97.1
1911	108.0	117.2	121.6	131.8	139.2	137.5	115.1	83.9	71.6	68.0	69.4	72.1	103.0
1912	89.4	95.8	101.2	109.2	121.8	118.4	95.2	75.0	64.8	61.8	62.4	66.3	88.4
1913	73.4	76.4	80.4	83.7	89.5	97.6	93.6	80.6	75.8	81.0	90.0	98.1	85.0
1914	107.1	116.8	126.0	133.0	141.8	141.0	113.4	79.9	65.1	58.8	56.6	59.4	99.9
1915	68.0	71.2	73.2	76.8	85.4	90.4	84.4	70.1	59.9	62.0	69.2	69.0	73.3
1916	79.7	88.0	92.0	94.9	98.0	105.4	108.1	80.4	77.7	83.1	87.6	91.2	90.5
1917	101.1	110.0	123.3	133.0	149.8	157.2	151.1	127.0	107.8	106.8	117.5	121.5	125.5
1918	128.8	140.1	145.3	151.9	154.8	158.2	150.4	128.1	123.7	133.5	138.6	132.8	140.5
1919	147.7	160.4	175.4	201.6	224.5	237.3	197.7	174.7	162.0	171.1	182.8	183.6	184.9
1920	213.8	214.7	231.8	260.1	285.5	297.0	280.7	198.4	137.4	132.8	130.0	114.8	208.1
1921	118.6	128.4	130.5	134.4	142.2	169.2	170.0	171.2	163.6	186.9	213.9	168.0	158.1
1922	180.6	181.7	197.4	199.4	209.1	213.4	199.3	133.6	109.8	109.6	98.5	99.3	193.2
Average 1913-1922	121.9	128.8	137.5	146.9	158.1	166.7	154.9	124.4	108.3	112.6	118.5	113.8	135.9

TABLE 261.—*Apples: Extent and causes of yearly crop losses, 1912–1921.*

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost and freeze.	Hail.	Hot winds.	Storms.	Total climatic.	Plant disease.	Insect pests.	Animal pests.	Total.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
1912	2.5	0.9	0.3	10.2	0.7	0.3	0.9	16.9	4.2	3.1	0.1	32.4
1913	10.3	.4	.4	25.3	.6	.9	.6	39.9	1.0	5.2	(1)	53.5
1914	6.5	.3	(1)	6.4	.6	.4	.6	15.1	.8	5.0	.1	28.2
1915	1.2	1.9	.2	15.8	.9	.1	1.2	21.8	5.2	3.0	.1	35.4
1916	5.4	3.2	.2	9.9	.9	.6	1.4	22.8	5.6	3.0	.1	38.6
1917	4.1	3.9	.1	15.2	1.1	.3	1.1	27.0	4.7	2.8	.1	44.2
1918	7.5	.7	.2	19.1	.8	1.0	.7	30.7	4.2	2.9	.2	44.9
1919	4.3	2.9	.1	29.1	.6	.6	1.0	39.1	5.1	2.7	.1	52.7
1920	2.2	.8	.2	10.2	.8	.2	.7	16.5	4.4	1.9	.1	25.9
1921	5.0	.7	.0	49.0	.6	.3	.6	57.7	3.0	1.9	.1	65.1
Average	4.9	1.6	.2	19.0	.8	.5	.9	28.7	3.9	3.1	.1	42.0

[1] Less than 0.05 per cent.

APPLES—Continued.

TABLE 262.—*Apples: Monthly average jobbing prices per barrel and per box, at 10 markets, 1920–21 to 1922–23.*[1]

BARRELS.

Market and year.	September.		October.		November average.	December average.
	Range.	Average.	Range.	Average.		
New York:						
1920–21	$2.75–$8.00	$4.86	$2.00–$9.00	$5.23	$5.66	$4.71
1921–22	5.50–13.00	8.09	5.00–11.00	7.72	7.18	7.82
1922–23	1.50– 7.50	3.53	2.00– 8.50	4.63	4.94	4.67
Chicago:						
1920–21	3.50– 8.00	5.86	3.50– 9.00	6.28	6.29	5.23
1921–22	7.00–10.00	8.26	6.00–10.50	8.00	7.97	8.10
1922–23	2.00– 6.00	3.58	2.25– 7.00	4.41	4.68	4.90
Philadelphia:						
1920–21	2.00– 7.50	5.00	2.50– 8.50	4.93	4.49	4.13
1921–22	4.50–10.50	7.44	4.00–12.00	6.63	6.57	6.65
1922–23	1.50– 5.50	3.39	2.00– 7.00	3.65	3.86	4.13
Pittsburgh:						
1920–21	3.00– 6.50	4.99	3.00– 6.00	4.46	4.81	4.68
1921–22	5.25– 9.00	7.22	5.00– 9.00	7.16	6.55	6.25
1922–23	2.50– 4.00	3.25	2.50– 5.00	3.51	3.99	4.38
St. Louis:						
1920–21	3.00– 7.25	5.34	2.75– 7.50	4.67	4.97	4.83
1921–22	.....	.....	4.85– 8.25	6.48	5.44	.....
1922–23	2.00– 4.85	3.40	1.75– 4.75	3.36	3.15	4.53
Cincinnati:						
1920–21	4.00– 6.00	5.40	2.75– 6.00	4.63	4.45	4.87
1921–22	7.00– 9.00	8.12	5.00– 8.50	7.64	6.98	6.72
1922–23	2.50– 4.00	3.15	2.00– 4.75	3.32	4.15	4.41
St. Paul:						
1920–21	7.00–12.50	8.79	5.50–10.00	7.81	5.85	5.53
1921–22	.....	.....	7.00– 8.50	7.37	7.73	7.97
1922–23	.....	.....	4.00– 6.50	5.11	4.55	4.34
Minneapolis:						
1920–21	6.50–11.50	9.63	5.75–11.00	8.88	7.85	5.84
1921–22	.....	.....	7.50–10.00	8.78	9.77	8.89
1922–23	3.25– 6.00	4.73	3.50– 6.50	5.12	4.80	5.05
Kansas City:						
1920–21	7.50– 9.00	8.45	5.00– 8.00	7.25	5.95	5.66
1921–22	10.00–12.00	11.00	.....	.....	.....	.....
1922–23	3.00– 4.00	3.62	3.75– 5.00	4.33	4.50	4.58
Washington:[2]						
1920–21	3.50– 7.50	5.90	3.00–14.00	5.74	5.46	5.52
1921–22	5.00–11.00	8.88	7.50–11.00	9.23	8.42	8.12
1922–23	3.00– 5.75	3.86	2.00– 6.50	4.79	4.76	4.42

BOXES.

Market and year.	Range.	Average.	Range.	Average.		
New York:						
1920–21	$4.00–$5.25	$4.40	$2.25–$5.50	$3.68	$3.29	$3.88
1921–22	2.25– 6.00	4.06	2.00– 5.50	3.36	2.80	3.12
1922–23	1.50– 4.50	2.65	1.40– 5.25	2.85	2.36	2.42
Chicago:						
1920–21	4.00– 5.25	4.62	.....	.....	3.67	3.75
1921–22	.....	.....	2.00– 4.75	3.43	3.05	3.00
1922–23	[3] 1.00– 2.80	[3] 1.89	1.50– 3.75	2.69	2.48	2.61
Philadelphia:						
1920–21	.....	.....	2.00– 4.75	3.16	2.72	2.52
1921–22	.....	.....	1.38– 5.00	2.88	2.41	2.49
1922–23	.....	.....	1.25– 3.50	2.34	1.93	2.10
Pittsburgh:						
1920–21	.....	.....	3.50– 5.50	4.26	3.64	.....
1921–22	.....	.....	2.00– 4.75	3.22	2.85	.....
1922–23	.....	.....	1.50– 3.00	2.17	2.00	2.32
Cincinnati:						
1922–23	.....	.....	.....	.....	.....	2.05
St. Paul:						
1920–21	.....	.....	3.25– 3.75	3.50	3.34	3.23
1921–22	2.25– 3.75	2.81	3.00– 4.25	3.62	3.56	3.62
1922–23	[4] 2.25– 2.50	[4] 2.38	1.80– 3.50	2.20	2.64	2.45
Minneapolis:						
1920–21	.....	.....	3.40– 4.40	3.80	3.74	3.59
1921–22	2.25– 4.75	3.22	2.90– 4.75	3.75	3.57	3.77
1922–23	[5] 2.40– 3.37	[5] 2.59	1.75– 3.50	2.50	2.70	2.62
Kansas City:						
1920–21	.....	.....	3.00– 4.50	3.61	3.60	3.07
1921–22	• 3.75	3.75	2.75– 4.50	3.54	3.63	3.52
1922–23	.....	.....	1.75– 3.50	2.76	2.78	2.75
Washington:[2]						
1921–22	.....	.....	2.25– 5.00	3.75	3.64	3.38
1922–23	.....	.....	.....	.....	2.79	2.54

[1] Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.
[2] Sales direct to retailers.
[3] Quotations began Sept. 26.
[4] Quotations began Sept. 21.
[5] Quotations began Sept. 20.

APPLES—Continued.

TABLE 262.—*Apples: Monthly average jobbing prices per barrel and per box, at 10 markets, 1920–21 to 1922–23* [1]—Continued.

BARRELS.

Market and year.	January average.	February average.	March average.	April.		May.	
				Range.	Average.	Range.	Average.
New York:							
1920–21	$4.80	$5.01	$6.01	$3.50–$10.00	$6.79	$4.00–$13.50	$8.03
1921–22	8.23	8.62	7.64	5.00– 12.00	7.44		
Chicago:							
1920–21	5.36	5.15	5.38	4.50– 8.00	5.55	5.00– 9.00	6.53
1921–22	8.48	9.07	8.49	6.00– 9.00	7.86		
Philadelphia:							
1920–21	4.05	4.17	4.44	2.85– 7.00	5.07	4.00– 7.50	6.00
1921–22	7.38	7.44	7.01	4.25– 8.90	6.64		
Pittsburgh:							
1920–21	4.59	4.73	5.06	3.25– 6.50	5.34	4.50– 8.50	6.31
1921–22	7.63	7.42	7.07	5.75– 8.00	7.02		
St. Louis:							
1920–21	4.68	4.88	5.23	4.75– 8.50	5.92	5.50– 10.00	6.68
Cincinnati:							
1920–21	4.46	4.65	5.31	4.25– 8.00	6.02	5.00– 7.75	6.70
1921–22	7.44	7.62	7.56	6.00– 8.50	7.76		
St. Paul:							
1920–21	5.31	5.69	5.87	4.75– 7.50	6.39		
Minneapolis:							
1920–21	6.13	6.17	6.14	6.00– 7.50	6.78	7.00– 8.25	7.51
1921–22	8.57	9.56	9.87				
Kansas City:							
1920–21	5.58	5.97	5.73	5.75– 7.00	5.91	5.75– 6.00	5.88
Washington: [2]							
1920–21	4.68	4.71	5.19	3.50– 7.50	5.56	4.00– 10.00	6.61
1921–22	8.28	8.24	8.43	6.00– 9.00	8.38		

BOXES.

New York:							
1920–21	$3.70	$3.90	$3.77	$2.50–$6.00	$3.98	$2.75–$5.00	$3.87
1921–22	3.01	3.35	3.41	2.75– 4.75	3.54		
Chicago:							
1920–21	3.14	3.30	3.62	2.25– 5.25	3.23	2.50– 4.50	3.23
1921–22	3.16	3.34	3.36	2.00– 4.50	3.45		
Philadelphia:							
1920–21	3.44	3.83	3.06			2.00– 4.00	3.11
1921–22	2.77	2.96	3.32	2.25– 3.75	3.13		
Pittsburgh:							
1920–21	2.60		3.11	2.25– 3.75	3.04	2.25– 4.00	3.18
1921–22	3.07	3.26	3.50	2.25– 4.50	3.13		
St. Louis:							
1921–22	2.70	3.09	2.97				
Cincinnati:							
1920–21	2.40						
St. Paul:							
1920–21	3.09	3.54	3.28	3.00– 3.75	3.29	3.00– 3.50	3.27
1921–22	3.32	3.15	3.33	3.00– 3.50	3.26		
Minneapolis:							
1920–21	3.18	3.45	3.41	3.00– 3.75	3.38	3.00– 3.75	3.38
1921–22	3.46	3.39	3.57	3.00– 4.00	3.46		
Kansas City:							
1920–21	2.84	3.29	3.53	3.50– 4.50	4.00	3.50– 4.50	4.00
1921–22	3.49	3.59	3.75	3.00– 4.50	3.48		
Washington: [2]							
1921–22	3.06	3.52	3.44	3.00– 4.50	3.54		

[1] Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.
[2] Sales direct to retailers.

APPLES—Continued.

TABLE 263.—*Apples: Monthly average wholesale prices per barrel at New York market, 1900–01 to 1922–1923.*[1]

Year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.
1900–1901	$1.93	$1.97	$2.53	$3.10	$2.75	$3.15	$3.55	$3.81	$3.72
1901–1902	3.41	3.62	4.78	5.00	5.00	5.06	4.90	4.25	4.40
1902–1903	1.91	1.97	2.20	2.00	2.37	2.59	2.12	2.00	2.52
1903–1904	2.69	2.43	2.94	2.71	2.90	2.97	3.06	3.02	2.91
1904–1905	2.00	2.03	1.96	2.25	2.38	2.44	2.75	2.43	2.97
1905–1906	3.18	2.97	3.75	3.75	3.75	4.50	4.82	6.06	5.59
1906–1907	2.67	3.32	3.06	2.62	2.88	3.25	3.22	3.66	5.00
1907–1908	3.72	3.56	3.55	3.34	3.46	3.52	3.22	3.00	2.60
1908–1909	2.68	3.04	3.16	3.50	4.09	4.53	4.68	5.00	5.02
1909–1910	3.72	4.22	3.81	3.69	3.82	3.21	3.28	3.48	3.71
1910–1911	3.50	3.65	3.75	4.14	4.12	4.50	4.75	5.35	5.31
1911–1912	2.55	3.06	2.71	3.12	2.84	2.96	3.39	4.20	4.00
1912–1913	2.66	3.06	2.75	2.62	2.71	2.78	2.70	3.12	4.00
1913–1914	3.29	3.44	3.75	4.00	4.06	4.79	4.75	5.34	5.14
1914–1915	2.38	2.22	2.78	3.12	2.80	2.91	2.84	3.56	3.65
1915–1916	2.38	2.95	3.12	3.06	3.05	3.19	3.33	3.12	2.96
1916–1917	3.30	3.38	4.18	4.60	5.00	5.38	5.91	5.53	5.28
1917–1918	4.08	4.44	4.94	5.10	5.00	4.88	4.92	5.75	6.75
1918–1919	5.38	6.03	5.98	6.31	6.50	7.88	9.55	10.00	10.80
1919–1920	6.12	7.81	7.55	7.50	7.00	8.06	7.50	7.08	9.25
1920–1921	5.38	6.25	6.33	6.38	5.40	4.88	5.56	6.32	5.38
1921–1922	6.06	8.10	6.91	6.80	6.62	.....	7.67	6.98	7.06
1922–1923	4.16	4.62	4.48	5.50	.....	.....	.....	.....	.....

[1] Compiled from the American Agriculturist.

TABLE 264.—*Apples: Wholesale prices per barrel at New York market for October 15, January 1, and March 1, 1881–82 to 1922–23.*[1]

Year.	Oct.15.	Jan. 1.	Mar 1.	Year.	Oct.15.	Jan. 1.	Mar. 1.	Year.	Oct.15.	Jan. 1.	Mar.1
1881–82	$3.00	$3.00	$2.75	1895–96	$1.62	$2.50	$3.02	1909–10	$4.00	$4.12	$3.25
1882–83	2.25	2.88	3.40	1896–97	1.38	1.31	2.38	1910–11	3.75	4.00	4.50
1883–84	2.25	3.25	3.48	1897–98	2.88	3.75	3.25	1911–12	3.25	2.75	2.88
1884–85	1.38	1.88	2.85	1898–99	3.00	3.75	4.25	1912–13	3.00	2.75	2.88
1885–86	1.50	1.94	1.56	1899–1900	2.38	2.62	3.12	1913–14	3.50	4.25	4.88
1886–87	2.00	4.00	3.00	1900–01	1.88	3.12	3.12	1914–15	2.50	2.88	3.25
1887–88	1.68	2.88	2.50	1901–02	3.50	5.00	5.25	1915–16	2.88	3.00	3.00
1888–89	2.25	1.88	1.38	1902–03	1.88	2.25	2.25	1916–17	3.12	4.88	5.62
1889–90	2.75	3.00	3.25	1903–04	2.50	2.75	3.00	1917–18	4.50	5.00	5.00
1890–91	3.00	4.00	4.25	1904–05	1.88	2.38	2.62	1918–19	5.38	6.50	9.25
1891–92	1.50	1.50	1.72	1905–06	3.00	3.75	4.62	1919–20	6.75	6.50	8.25
1892–93	2.00	3.00	2.50	1906–07	3.38	2.55	3.12	1920–21	6.75	5.00	4.25
1893–94	2.25	3.88	4.52	1907–08	3.75	3.38	3.50	1921–22	8.25	6.75	6.50
1894–95	2.00	2.50	4.00	1908–09	3.25	3.75	4.75	1922–23	5.00	5.50	.....

[1] Compiled from the American Agriculturist.

TABLE 265.—*Apples: Carlot shipments by States of origin, 1917–18 to 1921–22.*[1]

BOXED AREAS.

State.	1917–18	1918–19	1919–20	1920–21	1921–22
Montana	171	262	500	430	687
Colorado	2,064	1,984	3,225	2,861	3,887
New Mexico	636	407	959	279	615
Utah	355	441	199	619	735
Idaho	3,528	536	3,943	2,881	5,810
Washington	15,837	16,232	27,169	21,627	32,942
Oregon	3,448	2,246	5,443	3,170	6,526
California	1,630	3,473	4,153	4,503	5,068
Total	27,669	25,581	45,591	36,370	56,270

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

APPLES—Continued.

TABLE 265.—*Apples: Carlot shipments by States of origin 1917–18 to 1921–22* [1]—Contd.

BARRELED AREAS.

State.	1917–18	1918–19	1919–20	1920–21	1921–22
Maine	1,248	257	2,343	414	4,305
New Hampshire	276	120	507	249	321
Massachusetts	358	252	407	627	159
New York	5,867	22,900	10,286	33,860	17,806
New Jersey	1,001	936	737	856	179
Pennsylvania	913	1,794	1,266	3,402	224
Delaware	349	375	498	751	126
Maryland, Eastern Shore	[2] 436	29	36	139	46
Maryland, other	([3])	685	564	1,498	92
Virginia	4,589	4,227	7,075	8,762	314
West Virginia	1,280	2,919	2,849	4,880	801
Ohio	274	448	255	976	618
Illinois	5,554	2,676	2,935	3,471	445
Michigan	1,385	2,862	3,435	6,212	5,980
Missouri	2,660	1,167	2,155	1,725	([4])
Kansas	1,131	398	535	738	62
Arkansas	1,545	1,065	4,553	2,666	([4])
All other	1,931	939	1,008	1,684	593
Total	30,737	44,049	41,444	72,910	32,071
Total boxed and barreled areas	58,406	69,630	87,035	109,280	88,341

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.
[2] Includes Maryland "other." [3] Included in Maryland Eastern Shore. [4] Included in all other.

TABLE 266.—*Apples: Monthly and yearly carlot shipments by States, 1917–18 to 1922–23.* [1]

State and year.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June.	Total.
New York:														
1917–18	.....	.....	19	397	1,339	1,149	439	444	693	685	470	186	46	5,867
1918–19	.....	8	486	2,026	7,662	4,199	2,388	2,215	1,951	1,130	564	228	43	22,900
1919–20	.....	23	169	978	3,195	1,171	829	632	992	1,218	576	447	56	10,286
1920–21	.....	4	747	2,488	9,125	7,996	3,376	2,600	3,254	2,655	1,074	449	[2] 92	33,860
1921–22	.....	101	970	3,064	5,915	1,206	839	1,092	1,483	1,492	958	563	123	17,806
1922–23	.....	51	1,356	3,629	7,707	5,524	1,880	.....	.....	.....	.....	.....	.....	.....
Pennsylvania:														
1917–18	.....	.....	12	36	526	145	62	28	42	18	39	5	.....	913
1918–19	.....	25	39	253	839	247	124	143	73	45	6	.....	.....	1,794
1919–20	.....	2	14	176	699	121	76	93	62	21	3	5	.....	1,266
1920–21	.....	27	27	190	1,379	674	382	299	262	151	10	1	.....	3,402
1921–22	.....	.....	1	67	109	9	7	7	15	7	2	.....	.....	224
1922–23	.....	19	27	268	819	351	191	.....	.....	.....	.....	.....	.....	.....
Virginia:														
1917–18	6	36	115	1,091	1,887	548	131	131	250	211	156	27	.....	4,589
1918–19	.....	29	100	867	1,569	740	235	283	171	83	92	49	9	4,227
1919–20	.....	43	238	1,933	2,732	592	394	313	336	308	114	72	.....	7,075
1920–21	.....	46	102	1,523	3,143	1,275	811	680	468	354	219	116	25	8,762
1921–22	.....	.....	9	126	87	17	34	16	10	13	2	.....	.....	314
1922–23	5	32	278	1,554	2,085	944	392	.....	.....	.....	.....	.....	.....	.....
West Virginia:														
1917–18	.....	9	24	231	478	223	98	37	87	66	27	.....	.....	1,280
1918–19	.....	23	71	504	1,254	718	202	78	34	32	.....	3	.....	2,919
1919–20	.....	23	90	620	1,267	365	160	95	82	71	61	15	.....	2,849
1920–21	.....	63	75	744	2,269	874	209	179	118	146	109	84	10	4,880
1921–22	.....	4	18	412	176	19	27	15	42	59	27	2	.....	801
1922–23	10	28	74	451	888	256	115	.....	.....	.....	.....	.....	.....	.....
Illinois:														
1917–18	12	353	140	1,242	3,001	664	3	12	49	33	37	8	.....	5,554
1918–19	24	244	81	518	1,210	219	46	66	100	69	46	39	[3] 14	2,676
1919–20	36	340	79	807	1,142	131	11	73	90	111	47	55	13	2,935
1920–21	50	528	217	789	1,268	296	34	45	28	113	69	26	8	3,471
1921–22	35	24	51	114	94	8	9	33	46	12	7	12	.....	445
1922–23	305	526	253	1,214	1,206	371	48	.....	.....	.....	.....	.....	.....	.....
Michigan:														
1917–18	.....	.....	127	271	432	511	23	6	5	10	.....	.....	.....	1,385
1918–19	.....	88	414	480	1,532	307	27	5	4	4	1	.....	.....	2,862
1919–20	.....	12	608	1,040	1,587	175	7	2	.....	1	1	2	.....	3,435
1920–21	.....	55	1,152	1,188	2,102	1,300	175	51	92	70	26	1	.....	6,212
1921–22	.....	516	1,219	1,765	2,327	112	15	12	6	7	1	.....	.....	5,980
1922–23	.....	307	912	1,000	2,430	818	96	.....	.....	.....	.....	.....	.....	.....

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.
[2] Includes 3 cars in July.
[3] Includes 2 cars in July.

APPLES—Continued.

TABLE 266.—*Apples: Monthly and yearly carlot shipments by States, 1917–18 to 1922–23* [1]—Continued.

State and year.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Washington:														
1917–18	.....	.....	56	409	5,280	4,582	1,447	1,043	1,461	967	513	77	2	15,837
1918–19	.....	22	138	1,023	6,209	4,481	2,139	700	814	420	211	60	15	16,232
1919–20	.....	35	164	1,763	9,401	6,682	1,875	1,854	1,881	1,864	1,133	498	19	27,169
1920–21	.....	33	111	653	7,521	4,967	2,069	1,123	1,699	1,498	1,056	700	[2] 197	21,627
1921–22	.....	33	120	2,506	12,758	7,749	3,124	2,077	2,293	1,004	644	514	120	32,942
1922–23	.....	34	79	2,175	6,755	5,569	3,047	.....	.....	.....	.....	.....	.....	.....
Oregon:														
1917–18	.....	.....	4	43	629	1,207	627	219	260	335	117	7	.....	3,448
1918–19	.....	2	9	59	723	746	359	126	128	72	15	7	.....	2,246
1919–20	.....	4	10	192	1,354	1,478	781	798	406	232	108	80	.....	5,443
1920–21	.....	1	3	36	961	1,079	452	260	207	116	43	12	.....	3,170
1921–22	.....	9	11	300	2,340	1,897	1,032	477	298	111	44	6	1	6,526
1922–23	.....	1	1	98	780	1,235	705	.....	.....	.....	.....	.....	.....	.....
California:														
1917–18	.....	112	173	514	404	216	62	22	34	36	30	25	2	1,630
1918–19	6	66	468	486	797	585	501	198	226	81	42	12	5	3,473
1919–20	5	273	441	877	908	709	370	155	148	173	48	41	5	4,153
1920–21	6	244	723	967	1,018	765	373	106	84	73	79	56	9	4,503
1921–22	13	352	690	1,224	1,494	699	181	120	124	107	42	21	1	5,068
1922–23	2	206	998	780	852	832	481	.....	.....	.....	.....	.....	.....	.....
All other:														
1917–18	36	241	638	1,485	7,919	4,920	1,101	420	351	521	258	12	1	17,903
1918–19	148	642	553	1,854	4,885	1,321	299	230	178	127	29	32	3	10,301
1919–20	61	592	899	3,879	10,381	4,430	798	378	422	379	138	61	6	22,424
1920–21	107	854	704	2,465	8,498	3,861	994	703	486	519	134	50	18	19,393
1921–22	[3] 29	171	295	3,568	9,817	2,748	723	340	366	122	28	22	6	18,235
1922–23	536	1,356	921	3,618	8,530	3,612	1,274	.....	.....	.....	.....	.....	.....	.....
Total:														
1917–18	54	751	1,308	5,719	21,895	14,165	3,993	2,362	3,232	2,882	1,647	347	51	58,406
1918–19	178	1,149	2,359	8,070	26,680	13,563	6,320	4,044	3,679	2,063	1,006	430	89	69,630
1919–20	102	1,347	2,712	12,259	32,666	15,854	5,301	4,393	4,419	4,378	2,229	1,276	99	87,035
1920–21	163	1,855	3,861	11,043	37,284	23,087	8,875	6,046	6,698	5,695	2,819	1,495	[4] 359	109,280
1921–22	[3] 77	1,210	3,384	13,146	35,117	14,464	5,991	4,189	4,683	2,934	1,755	1,140	251	88,341
1922–23	858	2,560	4,899	14,787	32,052	19,512	8,229	.....	.....	.....	.....	.....	.....	.....

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.
[2] Includes 10 cars in July.
[3] Includes 1 car in May.
[4] Includes 15 cars in July.

TABLE 267.—*Apples: Cold storage holdings in thousands of barrels, on 1st of each month, 1915–16 to 1922–23.*[1]

Year.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.
	1,000 barrels.	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*
1915–16	.....	3,689	5,441	4,813	4,236	3,242	1,984	1,035	304
1916–17	.....	3,260	4,492	4,132	3,385	2,442	1,545	808	265
1917–18	.....	3,296	4,689	4,599	3,957	2,830	1,783	678	159
1918–19	.....	3,752	4,928	4,294	3,105	1,772	956	380	125
1919–20	971	4,523	5,923	5,529	4,524	3,162	1,699	806	213
1920–21	544	4,475	6,787	6,386	5,105	3,650	2,210	1,119	445
1921–22	792	3,643	5,739	5,429	4,313	3,090	1,930	944	314
1922–23	1,452	5,521	6,743	6,481	.....	.....	.....	.....	.....

[1] Barreled and boxed apples combined; 3 boxes equivalent to 1 barrel.

PEACHES.

TABLE 268.—*Peaches: Production and farm prices, by States, 1918–1922.*

State.	Total crop (thousands of bushels).					Farm price per bushel Sept. 15 (cents).				
	1918	1919	1920	1921	1922 [1]	1918	1919	1920	1921	1922 [1]
New Hampshire	0	39	0	29	32	.....	210	400	317	248
Massachusetts	0	213	4	185	200	.....	220	400	357	262
Rhode Island	.....	29	3	9	28	.....	350	415	357	270
Connecticut	0	195	10	290	262	.....	250	425	371	285
New York	700	1,262	2,600	1,700	3,400	310	270	225	255	110
New Jersey	832	1,653	2,134	347	2,000	280	270	220	335	185
Pennsylvania	720	1,100	2,000	350	1,560	275	300	250	345	180
Delaware	136	227	203	7	320	240	190	225	300	80
Maryland	235	564	692	59	495	240	190	210	300	170
Virginia	510	682	1,092	52	764	180	200	185	300	170
West Virginia	680	760	992	48	715	180	220	225	300	200
North Carolina	1,150	575	1,539	644	1,008	160	210	184	235	170
South Carolina	998	390	832	566	845	167	220	200	145	150
Georgia	6,092	5,895	3,799	6,550	4,900	150	250	171	160	146
Florida	.....	148	150	130	130	.....	250	300	210	350
Ohio	174	618	3,238	335	1,584	300	330	215	365	176
Indiana	0	82	405	26	650	340	330	258	352	178
Illinois	0	450	770	76	1,100	350	270	317	371	175
Michigan	85	448	1,500	358	1,440	350	310	230	290	150
Iowa	0	2	100	30	200	330	330	347	341	172
Missouri	0	1,263	1,427	0	2,300	330	200	254	.....	110
Nebraska	0	0	5	0	81	330	310	403	.....	150
Kansas	0	214	187	24	630	350	260	400	320	170
Kentucky	110	460	988	80	1,218	275	240	225	300	140
Tennessee	833	1,285	1,500	320	2,002	170	180	180	230	108
Alabama	2,440	1,083	974	1,230	810	110	170	175	165	120
Mississippi	.....	776	412	322	375	150	150	175	150	200
Louisiana	.....	382	269	264	180	.....	190	275	250	167
Texas	2,333	4,621	800	2,200	1,920	175	180	310	165	220
Oklahoma	167	2,924	180	360	2,070	190	140	250	150	115
Arkansas	217	3,340	117	435	2,040	190	160	235	160	100
Colorado	959	722	670	810	1,160	200	250	250	175	100
New Mexico	34	204	6	8	98	235	200	250	325	200
Arizona	.....	140	48	54	128	.....	180	350	300	190
Utah	1,050	884	471	763	885	150	160	250	171	50
Nevada	.....	6	6	4	6	.....	270	300	250	75
Idaho	51	293	42	150	244	190	180	290	175	155
Washington	575	1,545	155	772	1,125	160	170	280	182	106
Oregon	93	504	100	105	300	200	140	330	250	125
California	11,920	17,200	15,200	12,910	17,500	140	150	190	100	108
United States	33,094	53,178	45,620	32,602	56,705	.....	.....	.....	.....	.....

[1] Preliminary estimate.

PEACHES—Continued.

TABLE 269.—*Peaches: Total production in the United States, 1899 to 1922.*

State.	1899 [1]	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909 [1]	1910
	1,000 bushs.	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*
New York	467	1,500	850	550	670	675	1,650	920	400	1,470	1,736	1,762
New Jersey	621	1,900	1,200	1,300	350	700	1,000	1,000	450	800	441	810
Pennsylvania	143	1,400	1,700	1,350	900	700	1,500	1,000	600	1,500	1,024	1,533
Maryland	172	1,900	1,300	1,140	600	950	600	850	250	750	325	1,080
Virginia	357	1,900	1,350	850	800	850	950	800	300	900	243	1,075
West Virginia	18	700	800	250	180	700	330	500	150	650	329	598
North Carolina	374	1,550	1,150	1,050	1,100	1,350	1,200	1,100	550	1,400	1,344	1,955
South Carolina	129	800	650	600	750	700	650	700	170	1,100	643	1,204
Georgia	260	5,000	3,340	3,370	2,100	5,000	3,025	3,720	1,125	5,020	2,555	5,395
Ohio	241	1,900	3,800	1,100	1,050	1,900	2,000	1,100	680	2,050	1,036	1,239
Indiana	69	900	1,600	180	400	630	1,000	820	450	1,190	1,174	703
Illinois	67	1,600	2,100	300	450	700	750	2,150	770	1,750	1,223	140
Michigan	340	2,200	2,250	2,200	1,500	1,000	2,450	1,400	700	1,800	1,687	1,215
Missouri	61	2,250	2,700	1,200	850	2,500	650	4,000	500	2,200	1,485	1,440
Kentucky	35	2,100	2,500	500	650	1,700	1,570	1,700	550	1,670	1,623	770
Tennessee	78	1,900	1,800	1,100	900	1,450	670	2,400	450	1,700	1,579	1,440
Alabama	185	2,300	1,850	1,850	1,250	2,600	870	2,100	650	2,150	1,417	1,980
Mississippi	252	2,300	1,700	1,650	1,150	2,100	900	1,500	600	1,650	1,157	1,340
Texas	1,400	2,900	1,560	2,200	1,600	1,850	2,600	1,900	1,700	2,300	730	3,400
Arkansas	334	1,600	1,550	2,200	500	2,500	2,200	2,300	2,400	2,700	1,902	2,000
California	8,563	6,750	6,836	8,930	8,150	6,425	7,135	6,810	6,900	9,146	9,267	9,765
All other	1,267	4,088	3,859	3,961	2,950	4,090	2,934	5,334	2,182	4,250	2,550	7,327
United States	15,433	49,438	46,445	37,831	28,850	41,070	36,634	44,104	22,527	48,146	35,470	48,171

State.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
	1,000 bushs.	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*	*1,000 bushs.*
New York	1,536	1,400	1,742	530	2,106	1,238	4,823	700	1,262	2,600	1,700	3,400
New Jersey	440	638	483	1,140	1,275	689	990	832	1,653	2,134	347	2,000
Pennsylvania	1,096	660	922	1,541	2,044	1,069	1,848	720	1,100	2,000	350	1,560
Maryland	492	672	480	1,032	1,248	600	1,038	235	564	692	59	495
Virginia	318	1,058	312	911	1,358	660	928	510	682	1,092	52	764
West Virginia	230	788	132	886	1,164	520	900	680	760	992	48	715
North Carolina	437	2,093	598	1,863	1,955	897	1,978	1,150	575	1,539	644	1,008
South Carolina	649	1,020	405	1,166	864	545	1,030	998	390	832	566	845
Georgia	2,145	6,175	1,950	5,785	5,330	3,510	3,668	6,092	5,895	3,799	6,550	4,900
Ohio	1,735	1,055	931	1,653	2,448	1,350	341	174	618	3,238	335	1,584
Indiana	1,147	185	1,276	1,128	648	888	518	.....	82	405	26	659
Illinois	2,310	82	1,998	1,755	874	780	461	.....	450	770	76	1,100
Michigan	2,228	700	1,539	1,247	2,360	2,010	744	85	448	1,500	358	1,440
Missouri	2,700	900	4,320	3,780	3,300	1,050	728	.....	1,263	1,427	.....	2,300
Kentucky	770	1,210	1,430	1,980	1,320	880	1,100	110	460	988	80	1,218
Tennessee	360	2,820	1,140	2,640	2,460	900	595	833	1,285	1,500	320	2,002
Alabama	840	2,760	1,140	2,310	2,640	1,110	1,281	2,440	1,083	974	1,230	810
Mississippi	460	1,800	1,020	1,440	1,540	400	.....	.....	776	412	322	375
Texas	1,204	4,140	2,107	1,196	4,081	2,860	1,728	2,333	4,621	800	2,200	1,920
Arkansas	2,346	4,524	3,120	3,180	5,940	750	1,824	217	3,340	117	435	2,040
California	7,412	9,308	7,150	10,387	9,768	11,733	15,724	11,920	17,200	15,200	12,910	17,500
All other	4,025	8,355	5,512	6,559	9,374	3,066	6,518	3,065	8,671	2,609	3,994	8,079
United States	34,880	52,343	39,707	54,109	64,097	37,505	48,765	33,094	53,178	45,620	32,602	56,705

[1] Census figures.

TABLE 270.—*Peaches: Total production (bushels) in the United States, 1899–1922.*

Year.	Production.	Year.	Production.	Year.	Production.
1899 [1]	*15,433,000*	1907	22,527,000	1915	64,097,000
1900	49,438,000	1908	48,146,000	1916	37,505,000
1901	46,445,000	1909 [1]	*35,470,000*	1917	48,765,000
1902	37,831,000	1910	48,171,000	1918	33,094,000
1903	28,850,000	1911	34,880,000	1919	53,178,000
1904	41,070,000	1912	52,343,000	1920	45,620,000
1905	36,634,000	1913	39,707,000	1921	32,602,000
1906	44,104,000	1914	54,109,000	1922	56,705,000

[1] Census figures.

PEACHES—Continued.

TABLE 271.—*Peaches: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	June.	July.	August.	September production estimate.	Final estimate.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1915	56,587	57,786	59,101	64,097	64,097
1916	42,062	42,123	40,320	36,939	37,505
1917	45,446	43,522	42,691	42,606	48,765
1918	52,860	40,251	40,921	39,149	33,094
1919	50,348	50,001	49,793	51,327	53,178
1920	45,067	45,218	45,521	44,523	45,620
1921	30,982	30,758	31,279	33,195	32,602
1922	53,629	54,302	55,976	56,125	[1] 56,705

[1] Preliminary estimate.

TABLE 272.—*Peaches: Farm price, cents per bushel, on 15th of each month, 1911–1922.*

Date.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
June 15	135.0	119.2	.....	.....	.....	119.6	170.3	134.0	191.1	236.8	189.3	172.0
July 15	151.0	112.1	130.5	120.4	99.5	109.1	144.8	169.4	201.6	226.9	205.3	161.4
Aug. 15	138.0	108.3	126.2	105.0	85.4	114.9	143.3	178.9	199.6	235.0	216.3	143.7
Sept. 15	129.0	110.0	136.3	102.2	81.1	118.3	143.8	185.3	205.7	219.8	227.5	143.5
Oct. 15	131.0	105.0	145.0	105.3	85.2	112.1	160.6	193.2	211.7	244.2	244.3	150.4

TABLE 273.—*Peaches: Monthly average jobbing prices per 6-basket carrier and bushel at 10 markets, 1921 and 1922.*[1]

Market and year.	6-basket carriers.				Bushels.					
	May.[2]	June.	July.	Aug.	May.[2]	June.	July.	Aug.	Sept.	Oct.[3]
New York:										
1921	.....	$3.34	$3.04	$5.00	.....	.....	$2.62	.....	.....	.....
1922	$3.72	3.05	2.57	2.16	.....	.....	2.29	$1.90	$1.78	$1.43
Chicago:										
1921	.....	2.47	2.95	4.23	.....	$2.74	3.20	.....	.....	.....
1922	3.50	2.72	2.65	.....	.....	2.76	2.51	1.91	1.70	1.38
Philadelphia:										
1921	.....	2.73	2.86	4.28	.....	.....	2.07	.....	.....	.....
1922	2.81	2.65	2.44	2.14	.....	.....	.....	1.88	1.60	1.67
Pittsburgh:										
1921	.....	2.59	2.87	4.29	.....	.....	3.38	.....	.....	.....
1922	3.50	2.78	2.58	2.20	.....	.....	2.89	2.47	1.62	1.84
St. Louis:										
1921	.....	2.84	3.12	4.74	.....	.....	3.27	.....	.....	.....
1922	.....	2.74	2.48	.....	.....	2.50	2.59	1.89	1.95	1.54
Cincinnati:										
1921	.....	2.27	2.78	.....	.....	2.42	3.02	.....	.....	.....
1922	.....	2.21	2.13	.....	$2.50	2.05	2.59	2.17	1.69	1.90
St. Paul:										
1921	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1922	.....	.....	.....	.....	.....	.....	.....	2.17	2.03	1.70
Minneapolis:										
1921	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1922	.....	.....	2.49	.....	.....	.....	.....	2.21	1.99	1.56
Kansas City:										
1921	.....	2.59	.....	.....	.....	4.04	3.29	.....	.....	.....
1922	.....	2.60	2.58	.....	.....	.....	2.48	2.15	1.99	1.01
Washington:[4]										
1921	.....	3.04	3.29	4.75	.....	.....	.....	.....	.....	.....
1922	.....	3.07	2.43	2.27	.....	.....	.....	2.55	2.30	2.07

[1] Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.
[2] Quotations began May 25, 1922.
[3] Last quotation Oct. 11, 1922.
[4] Sales direct to retailers.

PEACHES—Continued.

TABLE 274.—*Peaches: Carlot shipments by States of origin, 1917 to 1922.*[1]

State.	1917	1918	1919	1920	1921	1922
New York	7,308	1,057	1,434	4,666	2,840	6,802
New Jersey	1,218	748	1,148	1,307	5	1,595
Pennsylvania	879	257	366	316	45	268
Virginia	125	63	137	370	.....	262
West Virginia	990	322	425	458	.....	19
North Carolina	65	56	66	343	589	1,452
Georgia	4,098	7,995	7,236	5,663	10,636	7,311
Michigan	445	76	270	2,275	198	1,657
Tennessee	10	152	116	149	218	247
Texas	825	1,579	1,940	62	964	25
Oklahoma	278	244	866	.....	42	155
Arkansas	1,597	190	2,335	20	596	1,539
Colorado	1,347	1,111	1,334	773	1,219	1,428
Utah	1,146	577	1,102	402	839	1,246
Washington	1,920	647	2,219	204	1,097	992
California	2,858	4,518	7,846	7,354	7,606	9,125
All other	2,128	817	2,083	2,605	406	4,124
Total	27,237	20,409	30,923	26,967	27,300	38,247

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

TABLE 275.—*Peaches: Monthly and yearly carlot shipments by States, 1917 to 1922.*[1]

State and year.	May.	June.	July.	Aug.	Sept.	Oct.	Total.
New York:							
1917	.....	.....	.....	.....	4,292	[2] 3,016	7,308
1918	.....	.....	.....	18	999	40	1,057
1919	.....	.....	5	97	1,289	43	1,434
1920	.....	.....	.....	22	3,442	1,202	4,666
1921	.....	.....	.....	1,663	1,173	4	2,840
1922	.....	.....	.....	102	5,897	803	6,802
Georgia:							
1917	37	1,076	2,983	2	.....	.....	4,098
1918	1,036	3,511	3,438	10	.....	.....	7,995
1919	295	3,073	3,863	5	.....	.....	7,236
1920	41	1,315	4,157	150	.....	.....	5,663
1921	1,402	3,659	5,564	11	.....	.....	10,636
1922	673	2,959	3,676	3	.....	.....	7,311
Arkansas:							
1917	.....	10	1,099	485	3	.....	1,597
1918	.....	.....	179	11	.....	.....	190
1919	2	.....	1,375	956	2	.....	2,335
1920	.....	.....	.....	20	.....	.....	20
1921	2	3	591	.....	.....	.....	596
1922	.....	5	1,282	252	.....	.....	1,539
Colorado:							
1917	.....	.....	.....	51	922	374	1,347
1918	.....	.....	5	670	434	2	1,111
1919	.....	.....	.....	860	470	4	1,334
1920	.....	.....	.....	62	708	3	773
1921	.....	.....	.....	554	659	6	1,219
1922	.....	.....	.....	455	965	8	1,428
California:							
1917	1	154	173	2,136	361	33	2,858
1918	1	201	762	2,396	1,122	36	4,518
1919	4	205	1,520	4,363	1,753	1	7,846
1920	2	222	2,314	3,186	1,624	6	7,354
1921	.....	43	1,672	4,231	1,652	8	7,606
1922	.....	63	130	5,294	3,354	284	9,125
All other:							
1917	3	54	894	3,069	5,453	[3] 556	10,029
1918	82	309	1,952	2,080	1,070	45	5,538
1919	27	235	2,453	4,996	2,971	56	10,738
1920	2	51	410	2,844	4,754	[3] 430	8,491
1921	25	307	1,560	865	1,632	14	4,403
1922	13	113	2,459	5,851	3,465	141	12,042
Totals:							
1917	41	1,294	5,149	5,743	11,031	[4] 3,979	27,237
1918	1,119	4,021	6,336	5,185	3,625	123	20,409
1919	328	3,513	9,216	11,277	6,485	104	30,923
1920	45	1,588	6,881	6,284	10,528	[3] 1,641	26,967
1921	1,429	4,012	9,387	7,324	5,116	32	27,300
1922	686	3,140	7,547	11,957	13,681	1,236	38,247

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.
[2] Includes 8 cars in November.
[3] Includes 3 cars in November.
[4] Includes 11 cars in November.

PEARS.

TABLE 276.—*Pears: Production and farm prices, by States, 1918–1922.*

State.	Total crop (thousands of bushels).					Farm price per bushel Nov. 1 (cents).				
	1918	1919	1920	1921	1922 [1]	1918	1919	1920	1921	1922 [1]
Maine	20	14	10	15	14	.....	.....	225	200	200
New Hampshire	15	17	18	17	24	.....	.....	225	250	200
Vermont	13	10	10	6	10	.....	.....	280	330	220
Massachusetts	77	84	83	45	84	.....	.....	250	300	147
Rhode Island	10	11	11	6	12	175	.....	250	150	100
Connecticut	34	57	61	50	60	175	.....	250	200	100
New York	1,352	1,830	2,700	1,650	3,200	150	240	105	170	65
New Jersey	650	402	690	185	405	110	140	110	150	80
Pennsylvania	518	421	845	220	576	135	230	130	245	100
Delaware	238	98	140	9	158	80	150	25	200	25
Maryland	455	287	421	35	256	100	130	60	200	50
Virginia	119	288	438	30	270	120	160	95	200	100
West Virginia	33	40	66	2	38	200	230	175	300	160
North Carolina	108	120	208	100	110	150	210	161	182	130
South Carolina	98	99	120	115	104	140	220	150	150	120
Georgia	188	178	173	171	202	150	180	145	165	105
Florida	132	43	24	40	50	.....	180	150	125	100
Ohio	304	157	478	126	450	170	260	120	275	80
Indiana	260	107	375	70	300	175	180	99	196	75
Illinois	302	375	603	100	510	160	170	125	270	100
Michigan	704	405	1,044	532	672	125	180	90	175	80
Wisconsin	.....	20	24	16	19	.....	190	175	320	80
Iowa	32	30	90	5	75	.....	190	145	600	124
Missouri	112	431	418	4	450	190	140	150	250	105
Nebraska	6	120	22	2	27	.....	250	275	300	140
Kansas	38	221	41	7	243	200	170	215	275	140
Kentucky	140	55	132	4	150	175	180	195	233	155
Tennessee	112	115	200	65	180	150	200	165	205	120
Alabama	152	163	158	180	176	130	160	164	137	133
Mississippi	136	125	167	167	190	105	160	200	132	125
Louisiana	52	59	47	38	48	120	125	175	229	171
Texas	246	637	338	406	390	150	140	231	190	117
Oklahoma	38	250	42	36	197	240	190	200	200	150
Arkansas	64	123	42	39	100	180	170	190	160	160
Montana	6	6	6	7	9	.....	300	200	300	100
Colorado	194	345	386	502	519	150	220	190	220	75
New Mexico	56	67	32	24	18	.....	230	250	250	150
Arizona	19	20	12	16	18	384	380	250	300	125
Utah	51	76	87	81	98	160	250	250	250	106
Nevada	6	4	5	3	4	.....	250	300	250	150
Idaho	60	49	58	55	72	150	175	276	200	175
Washington	1,300	1,781	1,140	1,710	1,708	115	170	130	170	134
Oregon	672	761	760	836	1,260	125	150	175	150	140
California	4,240	4,600	4,080	3,570	5,205	140	180	275	150	120
United States	13,362	15,101	16,805	11,297	18,661	.....	.....	.....	.....	.....

[1] Preliminary estimate.

PEARS—Continued.

TABLE 277.—*Pears: Total production in the United States, 1909–1922.*

State.	1909[1]	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
	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.*	*1,000 bush.*	*1,000 bush.*
N. Y.	1,343	1,530	1,886	1,128	2,016	1,298	1,375	1,675	1,708	1,352	1,830	2,700	1,650	3,200
N. J.	463	910	970	749	598	876	596	687	590	650	402	690	185	405
Pa.	379	570	646	418	456	608	494	509	448	518	421	845	220	576
Del.	105	301	262	315	77	210	228	164	294	238	98	140	9	158
Md.	368	609	455	616	224	560	483	378	525	455	287	421	35	256
Va.	74	221	122	282	68	234	261	122	194	119	288	438	30	270
N. C.	84	164	52	207	58	187	150	75	150	108	120	208	100	110
S. C.	66	108	52	117	42	109	91	56	100	98	99	120	115	104
Ga.	150	260	111	212	118	208	203	135	140	188	178	173	171	202
Ohio	375	360	736	624	400	544	560	376	334	304	157	478	126	450
Ind.	320	292	585	448	474	422	410	351	410	260	107	375	70	300
Ill.	249	32	499	448	422	422	496	354	456	302	375	603	100	510
Mich.	666	456	829	540	707	840	550	1,007	1,080	704	405	1,044	532	672
Kans.	19	98	70	142	63	109	133	106	140	38	221	41	7	243
Ky.	252	180	160	336	160	308	264	160	204	140	55	132	4	150
Tenn.	84	126	32	196	79	152	195	59	75	112	115	200	65	180
Colo.	133	121	160	193	130	206	99	99	320	194	345	386	502	519
Wash.	311	396	372	477	464	536	564	551	595	1,300	1,781	1,140	1,710	1,708
Oreg.	375	540	441	554	559	540	525	555	600	672	761	760	836	1,260
Calif.	1,928	1,887	1,848	2,015	1,634	1,958	1,650	3,124	3,523	4,240	4,600	4,080	3,570	5,205
All other	1,097	1,270	1,162	1,826	1,359	1,759	1,889	1,331	1,395	1,370	2,456	1,831	1,260	2,183
U. S.	8,841	10,431	11,450	11,843	10,108	12,086	11,216	11,874	13,281	13,362	15,101	16,805	11,297	18,661

[1] Census figures.

TABLE 278.—*Pears: Total production (bushels) in the United States, 1909–1922.*

Year.	Production.	Year.	Production.	Year.	Production.
1909[1]	*8,841,000*	1914	12,086,000	1919	15,101,000
1910	10,431,000	1915	11,216,000	1920	16,805,000
1911	11,450,000	1916	11,874,000	1921	11,297,000
1912	11,843,000	1917	13,281,000	1922	18,661,000
1913	10,108,000	1918	13,362,000		

[1] Census figures.

TABLE 279.—*Pears: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	June.	July.	August.	September.	October.	November production estimate.	Final estimate.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1915	11,450	10,902	11,068	11,196	11,131	11,216	11,216
1916	11,041	10,703	10,570	10,292	10,193	10,377	11,874
1917	12,526	11,368	10,847	10,841	10,848	11,419	13,281
1918	10,345	10,322	10,239	10,337	10,189	10,342	13,362
1919	12,298	12,068	12,260	13,686	13,687	13,628	15,101
1920	13,568	13,636	14,526	14,611	14,873	15,558	16,805
1921	8,880	9,016	9,310	9,475	9,665	9,780	11,297
1922	15,021	15,613	16,452	16,370	16,718	17,772	[1] 18,661

[1] Preliminary estimate.

TABLE 280.—*Pears: Farm price, cents per bushel on 15th of month, 1911–1922.*

Date.	1911	1912	1943	1914	1915	1916	1917	1918	1919	1920	1921	1922
August	118.0	106.3	109.9	98.8	80.8	109.0	132.2	168.4	188.4	195.5	165.2	147.1
September	103.8	100.0	119.3	92.8	83.8	102.7	125.0	157.8	183.0	197.9	175.1	.....
October	97.2	83.1	95.6	80.4	82.7	96.9	118.2	147.5	181.3	184.2	186.4	116.2
November	85.1	79.3	93.0	77.5	89.8	93.3	116.1	140.1	182.0	170.0	194.9	119.8
December	111.0	92.8	97.9	82.5	89.7	105.6	.....	156.6	219.5	164.5	198.7	118.7

PEARS—Continued.

TABLE 281.—*Pears: Carlot shipments by States of origin, 1917–18 to 1921–22.*[1]

State.	1917–18	1918–19	1919–20	1920–21	1921–22
New York	1,746	1,226	1,506	3,962	2,855
New Jersey	62	52	121	42	21
Delaware	461	413	55	267	.....
Maryland	54	43	18	36	.....
Ohio	29	47	5	54	17
Indiana	45	11	49	78	.....
Illinois	334	97	324	1,140	.....
Michigan	696	343	127	1,142	610
Texas	18	127	100	88	96
Colorado	382	347	524	604	733
Utah	27	34	25	75	31
Washington	1,700	2,421	2,452	1,906	2,827
Oregon	699	799	930	847	974
California	5,191	4,002	3,661	4,594	4,433
All other	170	208	257	202	142
Total	11,614	10,170	10,154	15,037	12,739

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

CITRUS FRUITS.

TABLE 282.—*Oranges: Production and value, 1915–1922.*

Year.	United States.			Florida.			California.		
	Production.	Average price per box Dec. 1.	Farm value Dec. 1.	Production.	Average price per box Dec. 1.	Farm value Dec. 1.	Production.	Average price per box Dec. 1.	Farm value Dec. 1.
	1,000 boxes.	*Dollars.*	*1,000 dollars.*	*1,000 boxes.*	*Dollars.*	*1,000 dollars.*	*1,000 boxes.*	*Dollars.*	*1,000 dollars.*
1915	21,200	2.39	50,692	6,150	1.88	11,562	15,050	2.60	39,130
1916	24,433	2.52	61,463	6,933	2.05	14,213	17,500	2.70	47,250
1917	10,593	2.60	27,556	3,500	2.30	8,050	7,093	2.75	19,506
1918	24,200	3.49	84,480	5,700	2.65	15,105	18,500	3.75	69,375
1919	22,528	2.67	60,202	7,000	2.50	17,500	15,528	2.75	42,702
1920	29,700	2.19	64,908	8,100	2.20	17,820	21,600	2.18	47,088
1921	20,300	2.42	49,175	7,300	1.75	12,775	13,000	2.80	36,400
1922[1]	24,900	2.47	61,395	8,400	2.30	19,320	16,500	2.55	42,075

[1] Preliminary estimate.

TABLE 283.—*Citrus fruits: Carlot shipments by States of origin, 1918 to 1922.*[1]

State.	Grapefruit.					Lemons.				
	1918	1919	1920	1921	1922	1918	1919	1920	1921	1922
Florida	5,289	6,328	11,498	11,795	13,544	.....	.....	2	.....	.....
Arizona	9	17	54	54	63	.....	.....	.....	.....	1
California	352	279	477	426	491	6,913	8,823	9,371	11,887	9,879
Total	5,650	6,624	12,029	12,275	14,098	6,913	8,823	9,373	11,887	9,880

State.	Oranges.					Total: Citrus fruits (grapefruit, lemons, and oranges).				
	1918	1919	1920	1921	1922	1918	1919	1920	1921	1922
Florida	12,184	13,264	19,273	18,914	16,971	17,473	19,592	30,773	30,709	30,515
Alabama	6	5	71	145	401	6	5	71	145	401
Arizona	71	98	49	73	75	80	115	103	127	139
California	16,183	35,957	30,906	46,759	28,694	23,448	45,059	40,754	59,072	39,064
Total	28,444	49,324	50,299	65,891	46,141	41,007	64,771	71,701	90,053	70,119

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

CITRUS FRUITS—Continued.

TABLE 284.—*Oranges, California Navels: Monthly average wholesale prices at New York market, 1908 to 1922.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Dec.
1908	$3.22	$3.25	$2.97	$3.02	$3.50	$4.38	$4.38	$3.38
1909	3.28	3.25	3.03	3.28	3.00	3.16	3.62	.....
1910	2.88	3.19	3.12	3.18	3.56	3.72	4.00	3.62
1911	3.22	3.32	4.12	3.42	3.78	3.82	.....	.....
1912	.....	3.72	3.30	3.44	3.22	3.69	3.56	3.50
1913	3.54	3.55	4.16	4.72	5.15	.....	.....	3.38
1914	3.28	3.09	3.03	3.12	3.50	2.81	.....	3.19
1915	2.73	2.90	2.79	2.96	3.19	3.44	.....	3.79
1916	3.38	3.38	3.02	3.66	3.50	4.00	.....	3.06
1917	3.25	3.72	3.98	4.38	4.38	4.38	4.38	4.25
1918	4.25	5.00	5.95	6.75	6.75	.....	.....	.....
1919	.....	4.91	5.69	5.75	5.62	.....	.....	.....
1920	.....	.....	.....	.....	.....	.....	.....	5.00
1921	4.00	4.00	4.00	4.00	4.00	4.00	.....	7.25
1922	6.31	6.00	6.00	6.00	6.00	.....	.....	7.75

[1] Compiled from New York Journal of Commerce.

TABLE 285.—*Oranges, California Valencias: Monthly average wholesale prices at New York market, 1908 to 1922.*[1]

Year.	Jan.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908	.....	$5.12	$5.25	$5.25	$5.25	$5.50	$7.00	.....
1909	.....	.....	4.88	4.94	5.44	5.98	6.50	$6.50
1910	.....	.....	6.22	6.94	6.95	7.50	8.41	9.50
1911	.....	4.38	4.91	5.66	5.72	6.78	7.03	9.25
1912	$9.38	4.75	5.16	5.15	5.56	5.91	6.62	.....
1913	.....	6.22	7.03	6.60	6.44	7.80	8.12	.....
1914	.....	3.58	3.95	4.31	3.94	4.15	4.97	6.56
1915	.....	.....	4.92	5.41	6.09	6.88	7.50	8.38
1916	.....	5.00	5.12	5.44	6.48	7.12	6.94	6.75
1917	.....	.....	.....	5.75	5.75	5.47	6.25	4.81
1918	3.38	7.94	7.75	7.75	7.75	9.84	12.72	11.00
1919	11.00	5.56	5.53	7.35	7.50	7.55	7.75	7.75
1920	7.75	.....	8.50	7.56	7.25	7.75	8.50	10.50
1921	.....	5.25	5.32	6.25	6.25	6.25	6.25	6.25
1922	.....	10.75	10.75	10.75	10.75	11.00	11.25	11.25

[1] Compiled from New York Journal of Commerce.

TABLE 286.—*Lemons, California: Monthly average wholesale prices at New York market, 1908 to 1922.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908	$3.10	$3.25	$3.06	$2.91	$3.02	$3.25	.....	.....	.....	.....	$4.72	$3.19
1909	3.70	3.88	3.20	3.42	3.62	3.12	$5.80	.....	.....	.....	5.75	5.25
1910	4.62	3.84	3.44	3.78	4.00	.....	.....	.....	.....	$6.97	6.17	3.88
1911	3.50	4.22	3.88	3.94	4.75	5.88	4.75	.....	$4.94	5.97	5.91	4.40
1912	3.62	.....	.....	.....	.....	.....	.....	.....	10.00	7.66	7.60	6.22
1913	4.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1914	.....	.....	.....	.....	.....	.....	.....	.....	4.75	4.56	4.25	3.00
1915	2.52	2.59	2.75	2.84	3.30	3.28	2.08	$2.69	3.03	3.90	4.31	4.18
1916	4.19	3.62	2.90	3.19	3.50	4.15	5.69	8.12	7.62	7.38	6.56	4.70
1917	3.12	3.50	3.72	4.62	4.62	5.25	6.75	8.85	10.25	7.34	.....	5.88
1918	5.88	5.88	5.88	5.56	6.08	8.28	8.38	8.38	8.38	8.38	8.38	4.81
1919	3.62	4.59	4.06	4.41	4.62	3.97	4.53	5.50	5.88	8.75	6.00	6.00
1920	6.00	6.00	6.25	6.25	4.50	2.75	3.05	3.25	3.25	3.25	3.25	3.25
1921	3.25	3.25	3.25	3.25	3.25	7.43	9.82	7.50	7.50	7.50	7.50	7.50
1922	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	9.00	9.00	8.60

[1] Compiled from New York Journal of Commerce.

CITRUS FRUITS—Continued.

TABLE 287.—*Grapefruit, Floridas (excluding russets): Monthly average wholesale prices at New York market, 1908 to 1922.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Oct.	Nov.	Dec.
1908	$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	.....	.....	5.00	4.59	3.65
1911	3.50	3.53	3.69	3.34	3.75	4.09	.....	6.41	4.69	4.78
1912	4.00	4.75	4.95	6.44	7.38	.....	.....	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
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	.....	.....	4.62	4.62	4.62	.....	.....	.....	4.75	4.75
1919	4.75	4.75	4.88	6.56	7.25	7.75	.....	.....	4.75	4.75
1920	4.75	4.06	4.00	4.40	5.56	4.38	4.15	.....	6.25	6.25
1921	6.25	6.25	6.25	6.25	6.25	6.00	5.25	5.38	5.38	5.38
1922	6.12	6.12	6.12	6.12	6.12	6.12	.....	.....	.....	.....

[1] Compiled from New York Journal of Commerce.

FRUITS AND NUTS.

TABLE 288.—*Fruits and nuts: Production and value in California, 1920–1922.*

[Estimates of the agricultural statistician for California.]

Crop.	Production in tons.			Price per ton.			Total value.		
	1920	1921	1922	1920	1921	1922	1920	1921	1922
Almonds	5,500	6,000	8,000	$360.00	$320.00	$290.00	$1,980,000	$1,920,000	$2,320,000
Apricots	110,000	100,000	120,000	85.00	50.00	70.00	9,350,000	5,000,000	8,400,000
Cherries	17,500	13,000	12,000	200.00	125.00	180.00	3,500,000	1,625,000	2,160,000
Figs	12,300	9,600	12,000	90.00	145.00	120.00	1,107,000	1,392,000	1,440,000
Grapes, raisin	177,000	145,000	235,000	235.00	190.00	115.00	41,595,000	27,550,000	27,025,000
Grapes, wine	375,000	310,000	420,000	75.00	82.00	65.00	28,125,000	25,420,000	27,300,000
Grapes, table	190,000	310,000	240,000	75.00	75.00	52.00	14,250,000	23,250,000	12,480,000
Lemons, boxes [1]	4,955,000	4,050,000	4,500,000	[2] 2.92	[2] 3.45	[2] 3.40	14,469,000	13,972,000	15,300,000
Oranges, boxes [1]	21,600,000	13,000,000	16,500,000	[2] 2.18	[2] 2.80	[2] 2.55	47,088,000	36,400,000	42,075,000
Olives	8,000	8,200	5,400	95.00	90.00	125.00	760,000	738,000	675,000
Plums	35,000	42,000	46,000	90.00	53.00	50.00	3,150,000	2,226,000	2,300,000
Prunes	97,250	100,000	95,000	130.00	130.00	140.00	12,643,000	13,000,000	13,300,000
Walnuts	21,000	19,500	27,000	400.00	400.00	360.00	8,400,000	7,800,000	9,720,000

[1] Representing the commercial crop year beginning Oct. 1; i. e., the numbers for 1921 represent the fruit that set during the season of 1921 and will be picked and marketed between Oct. 1, 1921, and Oct. 1, 9122.
[2] Per box.

CRANBERRIES.

TABLE 289.—*Cranberries: Acreage, production, and farm value, by States, 1921 and 1922, and totals, 1914–1922.*

[Leading producing States.]

State and year.	Acreage.		Average yield, in barrels per acre.		Production (thousands of barrels).		Average farm price per barrel Dec. 1.		Farm value (thousands of dollars).	
	1921	1922 [1]	1921	1922	1921	1922 [1]	1921	1922	1921	1922 [1]
Massachusetts	13,000	12,000	15.0	23.4	195	300	$20.00	$10.50	3,900	3,150
New Jersey	10,000	11,000	16.0	18.2	160	200	14.00	9.75	2,240	1,950
Wisconsin	2,000	2,000	14.4	31.0	29	62	13.30	10.00	386	620
Total	25,000	25,000	15.4	22.5	384	562	16.99	10.18	6,526	5,720
1920	25,000		18.0		449		12.28		5,514	
1919	25,000		22.0		549		8.37		4,597	
1918	25,400		13.9		352		10.77		3,791	
1917	18,200		13.7		249		10.24		2,550	
1916	26,200		18.0		471		7.32		3,449	
1915	23,100		19.1		441		6.59		2,908	
1914	22,000		31.7		697		3.97		2,766	

[1] Preliminary estimate.

TABLE 290.—*Cranberries: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	September.	October	November production estimate.	Final estimate.
	Barrels.	*Barrels.*	*Barrels.*	*Barrels.*
1918	495,000	488,000	374,000	352,000
1919	637,000	559,000	546,000	549,000
1920	474,000	449,000	432,000	449,000
1921	422,000	388,000	376,000	384,000
1922	511,000	556,000	561,000	[1] 562,000

[1] Preliminary estimate.

HOPS.

TABLE 291.—*Hops: Area and production in undermentioned countries, 1909–1922.*

Country.	Area.				Production.			
	Average, 1909–1913.	1920	1921	1922.[1]	Average, 1909–1913.	1920	1921	1922.[1]
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Canada	[3] 1	.....	.....	.....	[4] 1,208	.....	.....	[5] 606
United States[2, 6]	[7] 45	28	28	26	53,655	34,280	29,140	31,528
EUROPE.								
United Kingdom:								
England[2]	[3] 36	21	25	[5] 26	33,058	31,472	25,088	[5] 33,712
Belgium[2]	[3] 6	4	4	5	7,096	5,038	3,722	4,150
France[2]	[3,8] 7	10	11	11	[8] 6,948	10,387	6,646	[5] 7,441
Germany[2]	[3,8] 67	29	28	31	[8] 30,105	13,283	7,051	[5] 11,952
Austria	[3,8] 50	(9)	(9)	.....	[8] 27,523	90	100	.....
Czechoslovakia	.....	21	19	19	.....	11,609	6,401	11,240
Hungary	[3,8] 5	.....	(9)	.....	[8] 2,932	.....	.....	.....
Yugoslavia	.....	.....	.....	.....	.....	[5] 1,653	3,417	[5] 3,197
Croatia Slavonia	[3,8] 1	.....	.....	.....	[3] 263	.....	.....	.....
Poland	[8] 3	.....	.....	.....	[8] 1,425	[5] 2,205	[5] 1,433	[5] 3,582
Russia, including Ukraine and Northern Caucasia	.....	.....	.....	.....	[8] 11,765	.....	.....	.....
OCEANIA.								
Australia	[3] 1	1	.....	.....	1,564	1,462	[5] 1,984	[5] 1,543
New Zealand	[4] 1	(9)	(9)	.....	.....	701	685	.....
Total[2]	161	92	96	99	130,862	94,460	71,647	88,783
Total all countries reporting	223	114	115	118	177,542	112,180	85,667	108,951

[1] Figures for 1922 compiled from reports received up to Nov. 1, 1922.
[2] Countries reporting for all periods either as listed or as part of some other country.
[3] 2-year average.
[4] 3-year average.
[5] Unofficial.
[6] 4 States only.
[7] 1 year only.
[8] Old boundaries.
[9] Less than 500 acres.

TABLE 292.—*Hops: World production so far as reported, 1895–1922.*

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
	Pounds.		*Pounds.*		*Pounds.*		*Pounds.*
1895	204,894,000	1902	170,063,000	1909	128,173,000	1916	92,143,000
1896	168,509,000	1903	174,457,000	1910	188,951,000	1917	81,104,000
1897	189,219,000	1904	178,802,000	1911	163,810,000	1918	45,589,000
1898	166,100,000	1905	277,260,000	1912	224,493,000	1919	73,230,000
1899	231,563,000	1906	180,998,000	1913	174,642,000	1920	112,180,000
1900	174,683,000	1907	215,923,000	1914	224,179,000	1921	85,667,000
1901	201,902,000	1908	230,220,000	1915	163,084,000	1922	108,951,000

HOPS—Continued.

TABLE 293.—*Hops: Acreage, production, and farm value, by States, in 1921 and 1922, and totals, 1915–1922.*

[Leading producing States.]

State and year.	Acreage.		Average yield in pounds per acre.		Production (thousands of pounds).		Average farm price, cents per pound Dec. 1.		Farm value (thousands of dollars).	
	1921	1922 [1]	1921	1922	1921	1922 [1]	1921	1922	1921	1922 [1]
Washington	3,000	1,000	1,700	1,550	5,100	1,550	20	10	1,020	155
Oregon	12,000	12,000	770	800	9,240	9,600	25	9	2,310	864
California	12,000	9,000	1,250	1,640	15,000	14,760	25	8	3,750	1,181
Total	27,000	22,000	1,086.7	1,177.7	29,340	25,910	24.1	8.5	7,080	2,200
1920	28,000		1,224.3		34,280		35.7		12,236	
1919	21,000		1,189.0		24,970		77.6		19,376	
1918	25,900		829.4		21,481		19.3		4,150	
1917	29,900		982.9		29,388		33.3		9,795	
1916	43,900		1,152.5		50,595		12.0		6,073	
1915	44,653		1,186.6		52,986		11.7		6,203	

[1] Preliminary estimate.

TABLE 294.—*Hops: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	July.	August.	September.	October production estimate.	Final estimate.
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1918	32,494	30,473	31,325	.....	21,481
1919	33,912	34,906	34,813	33,121	24,970
1920	38,764	37,696	38,685	38,893	34,280
1921	32,471	31,196	29,479	29,750	29,340
1922	33,422	31,838	32,481	31,528	[1] 25,910

[1] Preliminary estimate.

TABLE 295.—*Hop consumption and movement, 1910–1922.*

[The total hop movement of the United States for the last 12 years is shown. The figures on the quantity consumed by brewers have been compiled from the records of the Treasury Department; exports and imports are as reported by the Department of Commerce.]

Year ending June 30—	Consumed by brewers.	Exports.		Total of brewers' consumption and exports.	Imports.	Net domestic movement.
		Domestic.	Foreign.			
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1910	43,293,764	10,589,254	14,590	53,897,608	3,200,560	50,697,048
1911	45,068,811	13,104,774	17,974	58,191,559	8,557,531	49,634,028
1912	42,436,665	12,190,663	35,869	54,663,197	2,991,125	51,672,072
1913	44,237,735	17,591,195	35,859	61,864,789	8,494,144	53,370,645
1914	43,987,623	24,262,896	30,224	68,280,743	5,382,025	62,898,718
1915	38,839,294	16,210,443	16,947	55,066,684	11,651,332	43,415,352
1916	37,451,610	22,409,818	134,571	59,995,999	675,704	59,320,295
1917	41,949,225	4,874,876	26,215	46,850,316	236,849	46,613,467
1918	33,481,415	3,494,579	37,823	37,013,817	121,288	36,892,529
1919	13,924,650	7,466,952	4,719	21,396,321	6	21,396,315
1920	[1] 6,440,894	30,779,508	104,198	37,324,600	2,696,264	34,628,336
1921	[1] 5,988,982	22,206,028	827,803	29,022,813	4,807,998	24,214,815
1922	[1] 4,452,676	19,521,877	487,633	24,462,186	893,324	23,568,862

[1] Including hops used to make "cereal beverages."

HOPS—Continued.

TABLE 296.—*Hops: Wholesale price per pound, 1913–1922.*[1]

Date.	New York State, prime to choice.			San Francisco.		
	Low.	High.	Average.	Low.	High.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1913	17	48	.....	19	30	.....
1914	23	50	.....	10	30	.....
1915	13	30	.....	10	15	.....
1916	15	55	.....	7	14	.....
1917	34	90	.....	6	40	.....
1918	23	54	37.9	10	22.5	19.5
1919	37	85	59.9	34	84	59.2
1920	41	105	80.2	33	85	61.6
1921	26	50	37.0	12	35	24.4
1922.						
January	33	40	37.1	25	30	27.5
February	30	35	32.2	25	30	27.5
March	26	32	28.4	25	30	27.5
April	22	30	24.1	13	30	17.4
May	22	25	23.5	13	18	15.7
June	22	25	23.2	13	18	15.7
July	22	23	22.5	13	18	15.7
August	20	23	21.2	9	18	13.9
September	19	24	22.0	10	15	12.5
October	22	24	23.0	10	15	12.5
November	22	24	23.0	10	15	12.5
December	22	24	23.0	10	15	12.5
Year	19	40	25.3	9	30	17.6

[1] Compiled from Journal of Commerce, New York; Daily Commercial News, San Francisco.

TABLE 297.—*Hops: International trade, calendar years 1909–1921.*

[Lupulin and hopfenmehl (hop meal) are not included with hops in the data shown. See "General note," Table 161.]

Country.	Average, 1909-1913.		1919		1920		1921	
	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.*
Austria-Hungary	938	18,333	.....	.....	[1] 1,117	[1] 69	[1] 1,247	[1] 650
Germany	7,688	17,564	.....	.....	87	21,624	.....	.....
New Zealand	61	352	28	248	19	181	.....	235
Russia	1,258	2,348	.....	.....	.....	.....	.....	.....
United States	6,235	15,416	467	20,798	5,949	25,624	1,629	18,460
PRINCIPAL IMPORTING COUNTRIES.								
Australia	1,106	22	276	23	1,254	7	.....	.....
Belgium	6,915	4,814	8,089	2,653	16,457	12,222	8,485	4,228
British India	246	.....	480	.....	122	.....	264	.....
British South Africa	391	(2)	552	.....	476	.....	419	.....
Canada	1,396	176	1,780	7	1,657	63	2,140	321
Denmark	1,027	[3] 1	1,417	1	526	28	511	.....
France	5,436	335	2,937	1,618	5,877	4,170	2,565	5,806
Netherlands	2,938	1,405	1,178	1,471	1,562	3,013	1,072	1,311
Sweden	987	1	834	17	998	766	684	.....
Switzerland	1,257	[4] 2	166	.....	153	.....	492	.....
United Kingdom	21,028	2,162	17,258	292	51,049	411	24,256	246
Other countries	4,062	10	4,558	2	4,557	6	2,391	.....
Total	62,969	62,941	40,020	27,130	91,860	68,184	46,155	31,257

[1] Austria only. [2] Less than 500. [3] 3-year average. [4] 1 year only.

BEANS.

TABLE 298.—*Beans: Area and production in undermentioned countries, 1909–1922.*

[Includes statistics for all dried beans grown in the several countries; i. e., navy beans in the United States, broad and horse beans, kidney beans, soy beans, and a few other varieties in foreign countries.]

Country.	Area.				
	Average, 1909–1913.	1919	1920	1921	1922 [1]
NORTHERN HEMISPHERE.					
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Canada [2]	51	84	72	62	61
United States [2]	[3] 788	[4] 1,060	[4] 838	[4] 771	[4] 1,093
Mexico					
Guatemala					45
EUROPE.					
United Kingdom:					
England and Wales [2]	277	274	246	247	285
Scotland [2]	9	7	6	5	4
Ireland [5]	2	2	2	2	
Sweden [2]	10	6	5	5	
Denmark [2]	9	[6] 24	[6,7] 44	[6,7] 47	[6] 47
Netherlands [2]	64	98	78	76	75
Belgium [2]	21	45	40	40	39
Luxemburg	4				
France [2]	[8] 554	[8] 513	565	604	
Spain [2]	1,132	1,266	1,243	1,212	
Italy [2]	2,023	2,302	2,318	2,377	
Germany				[9,6] 1,729	[9,6] 1,208
Austria	[6,8] 648	8	9		
Czechoslovakia		[6,10] 16	24	52	
Hungary [11]	[8] 44				
Do. [12,13]	[8] 1,471				
Serbia, Croatia-Slavonia [11]	[8] 50				
Do [12]	[8] 472				
Yugoslavia					
Bulgaria [6,11]	[8] 141	92	126		
Do. [12]	[8] 64	85	86		
Rumania [11]	[8] 93	[8] 69	[8] 118		
Do. [12]	[8] 1,265	[8] 1,180	[8] 1,232		
Poland [2]	[8] 29	([14])	198	[15] 86	
Finland	[16] 19				
Russia, including Ukraine and Northern Caucasia	[8] 527				
AFRICA AND ASIA.					
Algeria	110				
Tunis	[17] 35	70	55		
Egypt [2]	[13] 544	524	434	512	495
India:					
British [2,6]	[13] 13,156	7,367	12,641	9,205	
Native States [6]	3,649	1,603	4,630		
Asiatic Russia (9 Governments)	[8] 22				
China				[9,18] 11,221	
Japanese Empire:					
Japan	[13] 1,598	1,469	1,613		
Chosen	1,229	2,496			
Formosa [6]	[13] 79	86	85		

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
[2] Countries reporting for all periods except 1922 either as listed or as part of some other country.
[3] Six States only.
[4] Seven States only.
[5] Includes peas.
[6] Includes other pulse.
[7] Includes incorporated South Jutland provinces.
[8] Old boundaries.
[9] Unofficial.
[10] Bohemia, Moravia, and Silesia only.
[11] Grown alone.
[12] Grown with corn.
[13] Four-year average.
[14] Included under peas.
[15] Excludes former Prussian Poland where beans are included under peas.
[16] One year only.
[17] Three-year average.
[18] Data for a recent year.

BEANS—Continued.

TABLE 298.—*Beans: Area and production in undermentioned countries, 1909-1922*—Continued.

Country.	Area.				
	Average, 1908-09 to 1912-13.	1918-19	1919-20	1920-21	1921-22 [1]
SOUTHERN HEMISPHERE.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Chile [2]	79	120	113	109	.....
Argentina	65	.....	.....	.....	.....
Madagascar	.....	.....	.....	.....	[3] 41
Australia [4]	40	57	40	.....	.....
New Zealand	(5)	(5)	(5)	(5)	.....
Total [2]	18,746	13,690	18,841	15,358	.....
Total all countries reporting	30,373	20,923	26,861	28,362	.....

Country.	Production.				
	Average, 1909-1913.	1919	1920	1921	1922 [1]
NORTHERN HEMISPHERE.					
NORTH AMERICA.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada [2]	980	1,389	1,265	1,090	976
United States [2]	[6] 11,166	[7] 13,349	[7] 9,077	[7] 9,118	[7] 13,013
Mexico	.....	.....	.....	[3] 2,611	[3] 2,540
Guatemala	.....	.....	.....	.....	.....
EUROPE.					
United Kingdom:					
England and Wales [2]	8,048	6,840	7,656	6,224	7,120
Scotland [2]	318	262	215	150	.....
Ireland	67	.....	.....	.....	.....
Sweden [2]	174	139	107	130	.....
Denmark [2]	369	[8] 644	[8,9] 1,357	[8,9] 1,191	.....
Netherlands [2]	1,853	2,941	2,588	2,020	.....
Belgium [2]	604	1,188	1,360	1,034	.....
Luxemburg	73	.....	.....	.....	.....
France [2]	[10] 9,518	[10] 5,681	8,250	5,793	.....
Spain [2]	11,908	12,812	13,661	12,276	.....
Italy [2]	21,038	14,539	12,452	18,453	.....
Germany	.....	.....	.....	.....	.....
Austria	[8,10] 9,666	86	103	.....	.....
Czechoslovakia	.....	[8,11] 670	387	790	.....
Hungary [12]	[10] 599	.....	.....	.....	.....
Do.[12,14]	[10] 6,917	.....	.....	.....	.....
Serbia, Croatia-Slavonia [12]	[10] 1,941	.....	.....	.....	.....
Do.[13]	[10] 2,011	.....	.....	.....	.....
Yugoslavia	.....	.....	.....	.....	.....
Bulgaria [4,12]	[10] 1,459	669	1,253	.....	.....
Do.[13]	[10] 225	207	363	.....	.....
Rumania [12]	[10] 1,385	[10] 872	.....	.....	.....
Do.[13]	[10] 3,630	[10] 3,115	.....	.....	.....
Poland [2]	[10] 505	(5)	2,689	[15] 1,167	.....
Finland	260	288	.....	.....	.....
Russia, including Ukraine and Northern Caucasia	[10] 6,085	.....	.....	.....	.....

[1] Figures for 1922 and 1921-22 compiled from reports received up to Nov. 1, 1922.
[2] Countries reporting for all periods except 1922 either as listed or as part of some other country
[3] Unofficial.
[4] Includes peas.
[5] Included under peas.
[6] Six States only.
[7] Seven States only.
[8] Includes other pulse.
[9] Includes incorporated South Jutland provinces.
[10] Old boundaries.
[11] Bohemia, Moravia, and Silesia only.
[12] Grown alone.
[13] Grown with corn.
[14] Four-year average.
[15] Excludes former Prussian Poland where beans are included under peas.

BEANS—Continued.

TABLE 298.—*Beans: Area and production in undermentioned countries, 1909–1922*—Continued.

Country.	Production.				
	Average, 1909–1913.	1919	1920	1921	1922 [1]
NORTHERN HEMISPHERE—Contd.					
AFRICA AND ASIA.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Algeria	1,132	.....	.....	.....	.....
Tunis	[2] 317	393	250	.....	.....
Egypt [3]	[2] 14,268	12,711	10,494	12,356	.....
India:					
British [3, 4]	[5] 143,360	71,699	137,573	88,196	.....
Native States [4]	.....	.....	.....	.....	.....
Asiatic Russia (9 Governments)	[6] 225	.....	.....	.....	.....
China	.....	.....	.....	[7, 8] 6,706,081	.....
Japanese Empire:					
Japan	[2] 23,175	27,184	30,025	.....	.....
Chosen	14,240	19,150	.....	.....	.....
Formosa [4]	[2] 657	737	658	.....	.....
	Average, 1908–09 to 1912–13.	1918–19	1919–20	1920–21	1921–22 [1]
SOUTHERN HEMISPHERE.					
Chile [3]	1,398	1,713	1,689	1,694	2,063
Argentina	.....	.....	.....	.....	.....
Madagascar	.....	[7] 712	[7] 698	[7] 551	[7] 698
Australia [9]	794	815	521	.....	.....
New Zealand	(10)	(10)	(10)	(10)	.....
Total [3]	225,507	145,907	210,433	160,892	.....
Total all countries reporting	300,365	200,805	244,691	6,870,925	.....

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
[2] Three-year average.
[3] Countries reporting for all periods except 1922 either as listed or as part of some other country.
[4] Includes other pulse.
[5] Two-year average.
[6] Old boundaries.
[7] Unofficial.
[8] Data for a recent year.
[9] Includes peas.
[10] Included under peas.

TABLE 299.—*Beans (dry): Acreage, production, and value, by States, 1921 and 1922, and totals, 1914–1922.*

[Leading producing States.]

State and year.	Thousands of acres.		Average yield in bushels per acre.		Production (thousands bushels).		Average farm price per bushel Nov. 15.		Farm value (thousands of dollars).	
	1921	1922 [1]	1921	1922	1921	1922 [1]	1921	1922	1921	1922 [1]
New York	67	93	16.0	14.0	1,072	1,302	$2.95	$3.80	$3,162	$4,948
Michigan	263	458	11.3	10.5	2,972	4,809	2.40	3.65	7,133	17,553
Wisconsin	5	8	10.3	9.5	52	76	3.02	3.60	157	274
Colorado	39	81	8.0	5.0	312	405	2.70	4.40	842	1,782
New Mexico	105	45	8.0	3.0	840	135	2.50	4.50	2,100	608
Arizona	8	7	8.5	3.5	68	24	3.50	4.50	238	108
Idaho	18	26	12.0	14.0	216	364	2.95	3.40	637	1,238
California	272	325	13.3	14.7	3,618	4,778	2.80	3.75	10,130	17,918
Total	777	1,043	11.8	11.4	9,150	11,893	2.67	3.74	24,399	44,429
1920	838		10.8		9,077		2.95		26,806	
1919	1,060		12.6		13,349		4.26		56,811	
1918	1,744		10.0		17,397		5.28		91,863	
1917	1,821		8.8		16,045		6.50		104,350	
1916	1,107		9.7		10,715		5.10		54,686	
1915	928		11.1		10,321		2.59		26,771	
1914	875		13.2		11,585		2.26		26,213	

[1] Preliminary estimate.

BEANS—Continued.

TABLE 300.—*Beans: Forecast of production, monthly, with preliminary and final estimates.*

Year.	July.	August.	September.	October production estimate.	Final estimate.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
1917	22,141	19,443	19,969	15,814	16,045
1918	19,791	19,497	19,894	17,802	17,397
1919	12,302	11,638	11,363	12,690	13,349
1920	9,451	9,074	9,101	9,364	9,077
1921	8,982	8,783	8,780	9,332	9,150
1922	12,747	12,814	12,514	13,013	[1] 11,893

[1] Preliminary estimate.

TABLE 301.—*Beans: Farm price per bushel on 15th of each month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	$2.23	$2.23	$2.17	$2.16	$2.17	$2.29	$2.34	$2.27	$2.28	$2.25	$2.14	$2.20	$2.23
1911	2.20	2.23	2.17	2.20	2.17	2.19	2.23	2.20	2.26	2.27	2.34	2.42	2.24
1912	2.38	2.38	2.42	2.37	2.52	2.62	2.47	2.40	2.38	2.34	2.25	2.31	2.40
1913	2.26	2.19	2.10	2.11	2.18	2.23	2.22	2.11	2.08	2.25	2.20	2.12	2.17
1914	2.17	2.09	2.05	2.11	2.31	2.23	2.22	2.54	2.46	2.17	2.28	2.40	2.25
1915	2.63	3.02	2.89	2.81	2.93	2.87	2.75	2.67	2.70	2.93	3.03	3.30	2.88
1916	3.47	3.43	3.34	3.42	3.56	3.72	5.09	4.59	4.60	4.47	5.53	5.77	4.25
1917	5.71	6.07	6.49	7.37	8.94	8.99	8.07	7.29	6.69	7.48	7.33	7.00	7.29
1918	7.00	7.08	6.95	6.95	6.67	6.28	5.88	6.11	5.67	5.52	5.46	4.86	6.20
1919	4.98	4.52	4.40	4.44	4.19	4.39	4.25	4.30	4.36	4.27	4.42	4.41	4.41
1920	4.70	4.47	4.32	4.41	4.36	4.49	4.47	4.17	3.83	3.47	3.27	2.99	4.08
1921	2.95	2.85	2.89	2.69	2.73	2.82	2.75	2.83	2.99	2.87	2.85	2.83	2.84
1922	2.86	3.04	3.64	3.77	4.02	4.48	4.29	4.09	3.22	3.36	3.71	3.91	3.70
Average, 1913–1922	3.87	3.88	3.91	4.01	4.19	4.25	4.20	4.07	3.86	3.88	4.01	3.96	4.00

TABLE 302.—*Beans: Wholesale price per 100 pounds, 1913–1922.*[1]

Year and month.	Boston, pea.			Chicago, pea.[2]			Detroit, pea.			San Francisco, small white.		
	Low.	High.	Average.	Low.	High.	Average.	Low.	High.	Average.	Low.	High.	Average.
1913	$2.15	$2.60	$2.36	$1.15	$2.50	$1.81	$1.75	$2.20	$2.50	$4.50	$6.00	$5.16
1914	2.10	3.10	2.10	1.60	3.10	2.22	1.80	2.90	2.22	4.00	6.00	4.98
1915	2.85	4.10	3.36	2.40	4.10	3.19	2.00	3.60	3.06	4.50	6.40	5.30
1916	3.80	7.25	4.96	3.00	8.00	4.24	3.50	7.00	4.82	6.25	11.50	8.05
1917	6.50	15.00	9.24	6.40	14.50	9.09	6.25	13.25	8.60	10.50	16.00	13.20
1918	9.00	14.00	12.08	8.25	15.00	11.49	8.63	13.25	10.75	8.90	12.75	11.64
1919	6.00	10.00	7.74	6.50	9.50	7.92	6.50	9.00	7.54	5.75	8.90	7.05
1920	4.75	8.25	6.98	4.25	9.25	6.76	3.90	7.90	6.25	3.75	6.75	5.72
1921	4.25	5.50	4.88	3.60	5.50	4.61	3.30	4.78	3.99	3.20	4.90	4.03
1922.												
January	5.00	5.25	5.14	4.60	5.25	4.93	4.30	4.90	4.48	4.75	5.20	4.89
February	5.35	6.25	5.76	5.20	6.50	5.76	4.97	6.35	5.51	5.10	5.75	5.25
March	6.50	7.25	6.88	6.00	7.75	7.01	6.00	7.10	6.57	5.75	6.50	6.08
April	7.25	7.50	7.34	7.25	8.25	7.69	6.90	7.10	6.94	6.50	6.50	6.50
May	7.35	9.00	8.14	7.30	8.75	7.82	6.95	9.00	7.87	6.00	7.00	6.58
June	9.25	10.50	9.69	8.50	11.15	9.95	9.00	9.65	9.41	7.00	7.75	7.59
July	9.50	10.00	9.75	9.25	11.15	9.78	8.50	9.00	8.81	7.25	7.50	7.39
August	8.00	9.50	9.03	9.00	9.40	9.15	5.50	8.75	8.00	6.00	7.25	6.33
September	6.50	8.00	7.06	5.00	9.25	6.14	4.75	5.25	4.96	5.20	6.00	5.40
October	6.50	7.50	6.97	5.50	6.00	5.75	5.00	6.60	5.87	5.25	6.10	5.59
November	7.50	8.00	7.68	5.00	8.50	7.04	6.00	7.00	6.73	5.90	6.20	6.11
December	7.50	8.25	7.81	8.50	9.00	8.53	6.75	7.50	7.13	6.25	6.75	6.48

[1] Boston, Chamber of Commerce; Chicago, Daily Trade Bulletin; Detroit, Daily Market Report and Michigan Elevator Exchange; San Francisco, Daily Commercial News.
[2] Hand picked, choice to fancy.

BEANS—Continued.

TABLE 303.—*Beans (dry): Carlot shipments by States of origin, 1918 to 1922.*[1]

State.	1918	1919	1920	1921	1922
New York	69	144	351	1,305	1,557
Michigan	833	1,765	2,123	5,855	4,945
Colorado	763	478	186	524	482
New Mexico	133	422	621	974	288
Idaho	177	232	147	145	226
California	2,080	4,681	3,481	3,759	3,640
All other	89	69	86	152	87
Total	4,144	7,791	6,995	12,714	11,225

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

SOY BEANS.

TABLE 304.—*Soy beans: Farm price per bushel on 15th of month, 1914–1923.*

Date.	1914–1915	1915–1916	1916–1917	1917–1918	1918–1919	1919–1920	1920–1921	1921–1922	1922–1923
October	$2.08	$1.88	$2.13	$2.73	$3.36	$3.34	$3.41	$2.20	$1.89
November	2.15	2.08	2.13	2.86	3.20	3.35	3.00	2.22	2.06
December	2.24	2.23	2.18	3.33	3.29	3.44	2.28	2.08	1.97
January	2.35	2.31	2.20	3.47	3.00	3.76	2.18	2.11	.....
February	2.26	2.39	2.45	3.82	3.00	4.05	2.17	2.16	.....

COWPEAS.

TABLE 305.—*Cowpeas: Farm price, cents per bushel, on 15th of month, 1915–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1915	.....	187.0	198.8	203.7	201.9	194.5	179.8	174.4	155.4	156.0	151.4	151.8
1916	156.3	157.2	153.7	150.2	148.8	140.0	135.1	141.3	142.4	148.1	161.6	177.0
1917	192.2	210.0	231.8	253.4	293.1	309.1	303.2	265.4	217.0	219.5	227.1	237.5
1918	262.2	292.5	301.5	292.8	283.3	257.4	248.4	241.3	226.2	233.9	231.4	237.6
1919	238.9	252.1	248.8	267.6	292.3	343.9	342.8	310.3	269.4	260.9	270.7	280.6
1920	312.9	372.4	394.0	421.4	484.4	483.7	470.8	422.7	368.8	273.7	243.4	229.0
1921	197.2	204.2	204.7	215.5	242.7	265.1	287.2	240.9	199.7	201.2	184.8	176.1
1922	171.9	179.7	185.8	184.8	189.5	184.0	170.0	166.5	157.4	153.6	160.7	167.4

PEAS.

TABLE 306.—*Peas: Area and production in undermentioned countries, 1909–1922.*

Country.	Area.					Production.				
	Average, 1909–1913.	1919	1920	1921	1922 [1]	Average, 1909–1913.	1919	1920	1921	1922 [1]
NORTHERN HEMISPHERE.										
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Canada [2]	304	230	186	193	190	5,097	3,406	3,528	2,770	2,945
United States	[3] 1,305	.....	.....	.....	.....	[3] 7,129	.....	.....	.....	.....
EUROPE.										
United Kingdom:										
England and Wales [2]	153	132	129	106	.....	3,988	3,528	3,544	2,504	2,480
Scotland [2]	1	(5)	(5)	(5)	.....	14	2	2	2	.....
Ireland	(4)	.....	.....	.....	.....	8	.....	.....	.....	.....
Norway	.....	.....	9	9	.....	.....	.....	174	150	.....
Sweden [2]	47	95	92	94	.....	1,227	2,057	2,077	2,088	.....
Netherlands [2]	65	79	64	63	77	1,581	2,264	2,010	2,583	.....
Belgium [2]	12	16	15	13	16	390	419	407	374	.....
Luxemburg [6]	2	.....	.....	.....	.....	34	.....	.....	.....	.....
France [2]	[7,8] 73	[8,9] 45	[9] 57	[9] 54	.....	[7,8] 1,308	[8,9] 663	[9] 876	[9] 614	.....
Spain [2 7]	1,071	901	927	912	.....	10,402	8,000	9,044	7,713	.....
Italy [7]	.....	.....	.....	.....	.....	3,829	3,050	2,745	3,222	.....
Austria	(4)	4	6	.....	.....	(4)	59	115	.....	.....
Czechoslovakia	.....	[7,10] 53	[7] 169	[7] 196	[7] 205	.....	[9,10] 327	[7] 2,529	[7] 2,695	.....
Hungary [6,8]	[11] 32	.....	.....	.....	.....	[11] 427	.....	.....	.....	.....
Croatia-Slavonia [6]	[11] 12	.....	.....	.....	.....	159	.....	.....	.....	.....
Yugoslavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bulgaria	(4)	(4)	(4)	.....	.....	(4)	(4)	(4)	.....	.....
Rumania [6]	[8] 42	16	24	.....	.....	[11] 675	250	.....	.....	.....
Poland [2]	[8,11] 383	[12,13] 141	139	[14] 310	.....	[8,11] 5,248	[12,13] 1,802	1,796	[14] 4,285	.....
Finland	(4)	(4)	.....	.....	.....	(4)	(4)	(4)	(4)	.....
Russia, including Ukraine and northern Caucasia [8]	[11] 2,639	.....	.....	.....	.....	[11] 28,062	.....	.....	.....	.....
AFRICA AND ASIA.										
Algeria	25	.....	.....	.....	.....	296	.....	.....	.....	.....
Tunis	.....	16	17	.....	.....	.....	92	73	.....	.....
Asiatic Russia (9 Governments)	94	.....	.....	.....	.....	794	.....	.....	.....	.....
Japanese Empire:										
Japan	[15] 91	204	100	.....	.....	[15] 1,804	3,041	1,554	.....	.....
Formosa	(4)	(4)	(4)	.....	.....	.....	.....	.....	.....	.....
Siam	[15] 10	6	8	8	.....	.....	.....	.....	.....	.....

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
[2] Countries reporting for all periods except 1922 either as listed or as part of some other country.
[3] One year only.
[4] Included under beans.
[5] Less than 500.
[6] Includes lentils.
[7] Includes chick peas, lentils, and vetches.
[8] Old boundaries.
[9] Peas and lentils.
[10] Bohemia, Moravia, and Silesia only.
[11] Four-year average.
[12] Includes beans and vetches.
[13] Former Russian Poland, Western Galicia, and Posen.
[14] Includes beans and lentils in former Prussian Poland.
[15] Three-year average.

PEAS—Continued.

TABLE 306.—*Peas: Area and production in undermentioned countries, 1909–1922*—Con.

Country.	Average, 1908–9 to 1912–13.	1918–19	1919–20	1920–21	1921–22 [1]	Average, 1908–9 to 1912–13.	1918–19	1919–20	1920–21	1921–22 [1]
SOUTHERN HEMISPHERE.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Chile [2,3]	26	53	37	[4] 30	.....	387	603	518	[4] 526	.....
New Zealand [2]	[5] 16	18	14	14	.....	507	506	369	355	.....
Total [2]	2,151	1,710	1,660	1,789	.....	30,329	23,250	24,171	23,814	.....
Total all countries reporting	6,403	2,009	1,993	2,002	.....	73,546	30,069	31,361	29,881	.....

[1] Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
[2] Countries reporting for all periods except 1922 either as listed or as part of some other country.
[3] Includes chick peas, lentils, and vetches.
[4] Excludes lentils.
[5] Four-year average.

BROOM CORN.

TABLE 307.—*Broom corn: Acreage, production, and value, by States, 1921 and 1922, and totals, 1915–1922.*

[Leading producing States.]

State and year.	Acreage.		Average yield in pounds per acre.		Production (tons).		Average farm price per ton Nov. 15.		Farm value (thousands of dollars).	
	1921	1922 [1]	1921	1922	1921	1922 [1]	1921	1922	1921	1922 [1]
Illinois	16,000	21,000	550	680	4,400	7,100	$125.00	$260.00	550	1,846
Missouri	3,000	3,000	550	560	800	800	125.00	225.00	100	180
Kansas	10,000	16,000	345	390	1,700	3,100	55.00	221.00	94	685
Texas	25,000	12,000	310	370	3,900	2,200	75.00	200.00	292	440
Oklahoma	146,000	180,000	315	200	23,000	18,000	64.00	213.00	1,472	3,834
Colorado	9,000	10,000	400	350	1,800	1,800	45.00	195.00	81	351
New Mexico	13,000	11,000	400	264	2,600	1,500	65.00	185.00	169	278
Total	222,000	253,000	344.2	272.7	38,200	34,500	72.20	220.70	2,758	7,614
1920	275,500		265.0		36,500		126.16		4,605	
1919	352,000		303.4		53,400		154.57		8,254	
1918	366,000		340.4		62,300		233.87		14,570	
1917	345,000		332.8		57,400		292.75		16,804	
1916	235,200		329.3		38,726		172.75		6,690	
1915	230,100		454.1		52,242		91.67		4,789	

[1] Preliminary estimate.

TABLE 308.—*Broom corn: Farm price per ton on 15th of each month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	$190	$197	$200	$204	$199	$151	$180	$142	$139	$108	$96	$93
1911	81	80	78	74	81	69	68	72	92	121	124	108
1912	100	86	99	101	83	79	85	83	77	70	69	57
1913	49	56	57	58	53	61	57	91	106	102	100	92
1914	94	95	91	89	85	88	88	91	77	67	66	5
1915	66	78	68	71	75	77	79	83	75	86	92	10
1916	104	104	104	96	101	102	103	120	129	168	173	172
1917	184	201	212	227	252	223	194	308	240	270	296	280
1918	249	254	242	222	206	222	235	232	300	265	205	172
1919	169	141	174	149	152	106	119	124	154	162	161	163
1920	163	123	130	145	146	145	113	142	125	126	123	88
1921	70	71	72	69	66	76	75	67	68	72	68	86
1922	71	88	80	76	82	87	84	122	175	193	221	238
Av. 1913-1922.	122	121	123	120	122	119	115	138	145	151	150	145

BROOM CORN—Continued.

TABLE 309.—*Broom corn: Forecasts of production, monthly, with preliminary and final estimates.*

Year.	July.	August.	September.	October production estimate.	Final estimate.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1917	55,310	.....	59,300	50,100	57,400
1918	70,500	62,900	56,100	52,100	57,800
1919	56,500	59,100	60,300	55,800	53,400
1920	43,400	45,400	45,500	37,000	36,500
1921	32,200	32,700	33,100	30,200	38,200
1922	44,000	38,500	36,900	31,900	[1] 34,500

[1] Preliminary estimate.

PEANUTS.

TABLE 310.—*Peanuts: Acreage, production, and value, by States, 1921 and 1922, and totals 1916–1922.*

State and year.	Acreage.		Average yield in pounds per acre.		Production (thousands of pounds).		Average farm price, cents per pound Nov. 15.		Farm value (thousands of dollars).	
	1921	1922 [1]	1921	1922	1921	1922 [1]	1921	1922	1921	1922 [1]
Virginia	153	130	820	600	125,460	78,000	5.8	5.5	7,277	4,290
North Carolina	141	127	919	895	129,579	113,665	5.6	4.0	7,256	4,547
South Carolina	36	36	825	760	29,700	27,360	4.0	5.0	1,188	1,368
Georgia	202	160	660	602	133,320	96,320	2.5	4.7	3,333	4,527
Florida	80	72	675	624	54,000	44,928	3.2	5.0	1,728	2,246
Tennessee	9	13	943	700	8,487	9,100	5.0	4.5	424	410
Alabama	330	205	550	550	181,500	112,750	2.8	4.8	5,082	5,412
Mississippi	19	18	650	675	12,350	12,150	6.0	6.0	741	729
Louisiana	18	18	487	600	8,766	10,800	6.0	6.9	526	745
Texas	195	172	635	560	123,825	96,320	3.4	4.0	4,210	3,853
Oklahoma	15	17	720	620	10,800	10,540	7.0	3.8	756	401
Arkansas	16	18	720	643	11,520	11,574	5.0	6.0	576	694
Total	1,214	986	683.1	632.4	829,307	623,507	4.0	4.7	33,097	29,222
1920	1,181		712.5		841,474		5.3		44,256	
1919	1,132		691.9		783,273		9.3		73,094	
1918	1,865		664.9		1,240,102		6.5		80,271	
1917	1,842		777.7		1,432,581		6.9		98,512	
1916	1,043		881.1		919,028		4.5		41,243	

[1] Preliminary estimate.

TABLE 311.—*Peanuts: Farm price, cents per pound on 15th of each month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	4.9	5.4	5.0	5.4	5.2	5.4	5.2	4.5	4.5	4.6	4.7	4.5
1911	4.4	5.0	4.8	4.9	4.8	5.2	5.0	5.3	5.1	4.6	4.4	4.4
1912	4.3	4.7	5.0	4.9	4.9	5.2	4.9	5.0	4.8	4.7	4.7	4.6
1913	4.6	4.5	4.7	4.8	4.7	5.0	5.1	4.9	4.9	4.8	4.4	4.8
1914	4.7	4.7	4.7	4.9	5.1	5.1	5.2	4.9	5.0	4.5	4.4	4.3
1915	4.5	4.4	4.2	4.5	4.8	4.8	4.7	4.5	4.4	4.3	4.2	4.2
1916	4.3	4.4	4.4	4.6	4.6	4.7	4.6	4.6	4.4	4.4	4.4	4.7
1917	4.9	5.3	5.5	6.2	7.2	7.7	7.6	7.2	6.6	6.1	7.1	7.1
1918	7.0	7.2	7.4	8.3	8.2	7.9	7.8	7.9	8.3	6.9	6.6	6.1
1919	6.0	6.9	7.0	6.9	7.2	7.7	8.2	8.1	8.3	8.1	9.1	9.1
1920	9.9	10.5	11.2	10.9	11.2	11.2	11.0	8.5	8.0	5.8	5.3	4.7
1921	4.4	4.1	4.0	3.5	3.4	3.8	3.8	3.9	4.0	4.0	3.7	3.5
1922	3.6	4.0	4.3	3.9	3.9	4.2	4.4	4.4	4.7	3.6	4.7	5.0
Av. 1913–1922	5.4	5.6	5.7	5.8	6.0	6.2	6.2	5.9	5.9	5.2	5.4	5.4

PEANUTS—Continued.

TABLE 312.—*Peanuts, unshelled: International trade, calendar years 1911–1921.*[1]

Country.	Average, 1911–1913.		1919		1920		1921	
	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.*
Anglo-Egyptian Sudan	.....	1,961	.....	7,489	2	6,274	.....	9,217
Brazil	.....	274	.....	450	.....	1,975	.....	422
British India	.....	503,448	.....	129,344	.....	271,358	.....	383,555
China	32,882	138,472	23,970	251,295	26,159	246,343	22,845	284,461
Dutch East Indies	612	60,282	473	47,787	727	52,330	797	31,653
Formosa	.....	69	10	2,140	756	530	.....	.....
French possessions in India	.....	306,701	.....	16	.....	.....	.....	.....
Gambia	.....	131,912	.....	.....	.....	.....	.....	.....
Guinea (French)	1	4,863	.....	2,922	.....	.....	.....	.....
Guinea (Portuguese)	.....	21,295	.....	.....	.....	.....	.....	.....
Japan	.....	10,675	25,131	14,587	43,833	11,928	33,806	1,435
Mozambique	[2] 1,098	[2] 15,907	27	34,031	30	18,359	.....	.....
Nigeria	.....	17,163	.....	.....	.....	.....	.....	.....
Senegal	[2] 168	425,937	.....	629,126	.....	.....	.....	.....
Spain	.....	9,205	.....	10,377	.....	5,058	.....	8,137
Uganda	.....	1,045	.....	.....	.....	.....	.....	.....
Upper Senegal and Niger	.....	14,344	.....	.....	.....	.....	.....	.....
PRINCIPAL IMPORTING COUNTRIES.								
Algeria	7,022	218	2,319	42	2,729	87	.....	82
Argentina	8,667	.....	285	2,520	.....	5,146	.....	.....
Belgium	[2] 68,422	[2] 43,393	.....	.....	.....	.....	.....	.....
Canada	7,302	.....	15,736	.....	20,134	.....	20,070	.....
Denmark	5,236	.....	18,207	.....	10,811	.....	10,398	.....
Egypt	4,664	1,637	7,962	5,731	7,819	3,445	10,114	4,994
France	1,239,659	47,107	591,055	2,138	1,062,099	5,707	954,832	11,725
Germany	174,970	[3] 98	.....	.....	21,939	.....	.....	.....
Hongkong	.....	.....	56,545	38,693	.....	.....	.....	.....
Italy	.....	.....	7,135	107	31,045	597	52,278	191
Netherlands	122,862	32,863	48,915	247	52,946	1,165	64,478	3,928
Philippine Islands	2,264	.....	2,284	.....	3,241	.....	3,111	.....
Singapore	[2] 20,092	[2] 12,191	.....	.....	15,289	5,550	.....	.....
Tunis	[2] 1,459	.....	597	.....	1,138	.....	2,022	.....
British South Africa	3,002	4	808	324	1,958	58	784	189
United Kingdom	.....	.....	238,755	.....	322,074	.....	216,946	.....
United States	20,988	6,804	41,937	19,778	174,919	9,366	57,984	14,493
Other countries	12,343	19,070	976	2,309	5,721	1,787	11,528	1,616
Total	1,733,713	1,826,939	1,083,127	1,201,453	1,805,369	647,063	1,461,993	756,098

[1] 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.
[2] 2-year average.
[3] 1 year only.

TRUCK CROPS.

TABLE 313.—*Commercial acreage and production of truck crops in the United States, 1918–1922.*

Crop.	Number of States producing.	Acreage.				
		1918	1919	1920	1921	1922
		Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Asparagus	12	30,500	28,300	31,400	33,000	32,300
Beans (snap)	31	51,100	59,300	57,400	55,000	62,900
Cabbage	28	111,900	94,300	121,400	103,300	134,600
Cantaloupes	24	55,400	76,900	80,200	83,500	108,900
Cauliflower	4	6,500	7,900	7,800	8,600	9,500
Celery	8	13,900	14,200	16,200	15,200	18,000
Corn (sweet)	16	273,000	250,000	267,000	138,000	195,000
Cucumbers	29	83,800	74,200	74,500	89,600	86,900
Lettuce	15	16,900	18,600	32,000	31,400	44,000
Onions	21	65,400	52,800	65,600	57,900	65,000
Peas (green)	20	146,600	150,300	167,700	152,700	184,300
Potatoes (early Irish)	19	284,500	249,600	288,900	292,100	340,900
Strawberries	27	94,700	86,900	93,500	109,600	131,800
Tomatoes	38	476,100	375,100	358,500	207,700	359,300
Watermelons	22	90,600	132,000	159,100	165,800	217,200

Crop.	Production.				
	1918	1919	1920	1921	1922
Asparagus (crates)	2,243,000	2,041,000	2,483,000	3,474,000	2,296,000
Beans (snap) (tons)	110,000	107,000	116,000	107,000	105,000
Cabbage (tons)	842,000	634,000	1,079,000	674,000	1,098,000
Cantaloupes (crates)	7,530,000	10,606,000	11,104,000	11,406,000	13,366,000
Cauliflower (crates)	1,846,000	2,066,000	2,069,000	2,327,000	2,663,000
Celery (crates)	3,197,000	3,578,000	4,088,000	4,404,000	5,192,000
Corn (sweet) (tons)	526,000	575,000	610,000	364,000	461,000
Cucumbers (bushels)	7,714,000	8,058,000	6,728,000	9,876,000	10,521,000
Lettuce (crates)	5,440,000	5,685,000	9,446,000	11,074,000	13,628,000
Onions (bushels)	19,620,000	14,576,000	21,487,000	14,406,000	18,892,000
Peas (green) (tons)	147,000	134,000	179,000	134,000	196,000
Potatoes (early Irish) (bushels)	32,234,000	27,478,000	33,075,000	33,366,000	40,936,000
Strawberries (quarts)	152,447,000	155,806,000	155,778,000	189,787,000	258,245,000
Tomatoes (tons)	2,125,000	1,473,000	1,646,000	933,000	1,742,000
Watermelons (number)	32,353,000	44,589,000	61,096,000	64,569,000	72,656,000

CANNED CORN.

TABLE 314.—*Corn, canned: Production in the United States, 1905–1922.*[1]

[Expressed in cases of 24 No. 2 cans.]

State.	1905	1906	1907	1908	1909	1910
Maine	1,348,751	939,698	1,090,624	970,000	698,000	1,487,000
Vermont	.....	.....	.....	(2)	(2)	(2)
New York	1,583,969	1,422,012	659,391	620,000	634,000	1,145,000
Pennsylvania	220,022	199,920	68,570	(2)	(2)	(2)
Delaware	95,300	110,040	75,000	(2)	(2)	(2)
Maryland [3]	1,676,240	1,058,492	875,506	1,010,000	432,000	970,000
Ohio	1,140,631	648,796	361,560	933,000	677,000	936,000
Indiana	1,025,606	621,433	380,778	301,000	405,000	746,000
Illinois	1,963,617	1,243,106	1,319,525	856,000	1,134,000	2,027,000
Michigan	145,152	119,300	68,300	(2)	(2)	(2)
Wisconsin	443,055	441,711	169,120	343,000	422,000	222,000
Minnesota	272,000	190,933	123,945	124,000	78,000	200,000
Iowa	2,557,104	1,815,900	1,248,725	1,085,000	902,000	1,720,000
Missouri	47,100	29,100	18,600	(2)	(2)	(2)
Nebraska	441,000	251,300	164,000	(2)	(2)	(2)
Kansas	53,887	32,819	23,400	(2)	(2)	(2)
All other	5,231	12,400	7,000	542,000	405,000	610,000
United States	13,018,665	9,136,960	6,654,044	6,784,000	5,787,000	10,063,000

[1] Compiled from National Canners Association Data.
[2] Included in all other.
[3] Includes Virginia.

CANNED CORN—Continued.

TABLE 314.—*Corn, canned: Production in the United States, 1905–1922* [1]—Continued.

State.	1911	1912	1913	1914	1915	1916
Maine	1,545,000	801,000	650,000	1,114,000	942,000	782,000
New York	1,700,000	1,009,000	393,000	771,000	1,016,000	280,000
Maryland	[2] 1,673,000	1,517,000	1,023,000	1,364,000	1,609,000	1,448,000
Ohio	1,412,000	1,376,000	984,000	1,203,000	1,144,000	930,000
Indiana	796,000	1,235,000	785,000	694,000	785,000	797,000
Illinois	2,771,000	2,438,000	1,330,000	1,515,000	2,081,000	1,540,000
Wisconsin	351,000	519,000	377,000	342,000	208,000	322,000
Minnesota	301,000	321,000	188,000	224,000	121,000	278,000
Iowa	2,744,000	2,961,000	884,000	1,573,000	1,223,000	1,730,000
All other	1,044,000	932,000	669,000	989,000	995,000	1,023,000
United States	14,337,000	13,109,000	7,283,000	9,789,000	10,124,000	9,130,000

State.	1917	1918	1919	1920	1921	1922
Maine	566,498	1,112,912	1,652,000	1,588,000	911,000	1,066,000
New York	257,296	488,912	1,014,000	829,000	564,000	616,000
Maryland	2,001,544	2,032,944	2,081,000	2,217,000	1,130,000	1,944,000
Ohio	1,200,131	1,584,064	1,360,000	1,544,000	850,000	1,073,000
Indiana	742,491	512,688	586,000	861,000	709,000	665,000
Illinois	2,421,953	2,199,344	2,225,000	2,271,000	1,711,000	1,939,000
Wisconsin	165,492	372,924	635,000	590,000	576,000	625,000
Minnesota	201,969	309,136	456,000	643,000	573,000	598,000
Iowa	2,280,366	2,300,241	2,496,000	3,246,000	1,190,000	1,959,000
All other	965,275	808,695	1,045,000	1,251,000	629,000	934,000
United States	10,803,015	11,721,860	13,550,000	15,040,000	8,843,000	11,419,000

[1] Compiled from National Canners Association. [2] Includes Virginia.

CANNED PEAS.

TABLE 315.—*Peas, canned: Production in the United States, 1906–1922.* [1]

[Expressed in cases of 24 No. 2 cans.]

State.	1906	1907	1908	1909	1910	1911	1912	1913
New York	1,314,832	1,509,997	1,325,000	1,378,000	1,356,000	1,145,000	1,514,000	2,252,000
New Jersey	125,931	149,900	101,000	125,000	(2)	(2)	(2)	(2)
Delaware	46,900	141,036	110,000	107,000	[3] 299,000	[3] 192,000	[3] 270,000	[3] 173,000
Maryland	333,590	468,073	343,000	226,000	200,000	305,000	380,000	318,000
Ohio	87,000	45,721	199,000	113,000	170,000	128,000	276,000	343,000
Indiana	364,085	766,972	492,000	447,000	261,000	259,000	323,000	419,000
Michigan	342,901	578,000	492,000	373,000	422,000	323,000	760,000	830,000
Wisconsin	1,409,497	1,507,710	2,200,000	1,878,000	1,086,000	1,520,000	2,658,000	3,348,000
All other	550,272	367,655	315,000	381,000	553,000	660,000	1,126,000	1,087,000
United States	4,575,008	5,535,064	5,577,000	5,028,000	4,347,000	4,532,000	7,307,000	8,770,000

State.	1914	1915	1916	1917	1918	1919	1920	1921	1922
N. Y.	1,934,000	2,218,000	1,084,000	1,394,171	1,870,161	1,040,000	2,381,000	1,382,000	2,137,000
N. J.[4]	295,000	371,000	312,000	567,432	331,869	248,000	549,000	345,000	153,000
Del.[5]	.....	.....	.....	.....	.....	.....	.....	.....	.....
Md	502,000	574,000	468,000	721,160	683,007	509,000	696,000	533,000	489,000
Ohio	748,000	289,000	131,000	321,624	441,842	306,000	282,000	241,000	225,000
Ind	470,000	544,000	412,000	522,532	454,229	381,000	271,000	182,000	268,000
Ill	(6)	381,000	248,000	421,213	978,434	433,000	460,000	331,000	516,000
Mich	459,000	514,000	280,000	604,470	476,650	425,000	549,000	317,000	455,000
Wis	3,555,000	3,469,000	2,763,000	3,569,185	4,519,934	4,317,000	5,804,000	4,063,000	7,042,000
Utah	350,000	303,000	275,000	754,673	491,963	395,000	595,000	376,000	751,000
Calif.	(6)	210,000	228,000	349,910	252,836	205,000	(6)	84,000	496,000
All other	1,034,000	399,000	385,000	593,783	397,288	426,000	730,000	353,000	510,000
U. S.	9,347,000	9,272,000	6,586,000	9,820,153	10,898,213	8,685,000	12,317,000	8,207,000	13,042,000

[1] Compiled from National Canners Association.
[2] Included in Delaware.
[3] Includes New Jersey.
[4] Includes Delaware.
[5] Included in New Jersey.
[6] Included in all other.

CABBAGE.

TABLE 316.—*Commercial acreage, yield per acre, and production, in carloads containing 12.5 tons each of cabbage, 1920–1922.*

State.	Acreage.			Yield per acre.			Production.		
	1920	1921	1922	1920	1921	1922	1920	1921	1922
Early:	*Acres.*	*Acres.*	*Acres.*	*Tons.*	*Tons.*	*Tons.*	*Cars.*	*Cars.*	*Cars.*
California	7,860	7,315	7,325	7.1	7.0	6.0	4,464	4,096	3,516
Florida	9,285	5,367	11,060	6.8	6.0	7.0	5,051	2,576	6,194
Louisiana	1,605	1,585	1,955	8.2	6.4	6.0	1,053	812	938
Texas	16,250	11,210	14,425	4.8	4.0	5.0	6,240	3,587	5,770
Total	35,000	25,477	34,765	6.0	5.4	5.9	16,808	11,071	16,418
Intermediate:									
Alabama	1,085	1,600	2,200	7.8	8.0	8.5	677	1,024	1,496
Georgia	125	150	400	7.8	7.0	5.0	78	84	160
Illinois	1,605	1,325	975	8.1	5.0	8.0	1,040	530	624
Iowa	1,050	605	1,540	8.0	5.0	8.0	672	242	986
Kentucky	350	350	300	6.6	6.0	6.0	185	168	144
Maryland	2,185	2,055	2,750	5.8	4.8	5.0	1,014	789	1,100
Mississippi	1,810	1,365	4,460	8.4	6.0	5.0	1,216	655	1,784
Missouri	725	700	700	8.0	8.1	7.0	464	454	392
New Jersey	4,522	4,220	4,500	8.1	6.5	8.0	2,930	2,194	2,880
New Mexico	200	130	268	6.0	8.0	9.0	96	83	193
New York (L. I.)	4,550	4,150	4,500	8.0	6.6	11.0	2,912	2,191	3,960
North Carolina	308	450	350	7.5	6.5	6.0	185	234	168
South Carolina	1,993	3,968	5,148	7.4	9.7	7.5	1,180	3,079	3,089
Tennessee	575	655	1,430	4.0	6.1	7.0	184	320	801
Virginia (Norfolk E. Shore)	2,840	4,195	4,500	5.8	8.8	8.0	1,318	2,953	2,880
Washington	1,026	920	950	10.2	8.0	9.0	837	589	684
Total	24,949	26,838	34,971	7.5	7.3	7.6	14,988	15,589	21,341
Late:									
Colorado	4,390	3,995	5,145	15.1	11.7	12.0	5,303	3,739	4,939
Indiana	1,240	1,090	1,335	9.8	6.0	7.0	972	523	748
Michigan	1,970	1,612	3,025	10.7	6.5	11.0	1,686	838	2,662
Minnesota	3,003	2,651	3,471	8.9	5.0	9.0	2,138	1,060	2,499
New York	26,597	22,895	24,895	11.6	6.5	9.0	24,682	11,905	17,924
Ohio	2,835	2,168	2,555	9.9	6.0	8.0	2,245	1,041	1,635
Oregon	820	775	900	7.7	9.5	7.0	505	589	504
Pennsylvania	2,905	2,720	2,805	10.3	6.0	7.0	2,394	1,306	1,571
Virginia, sw	2,575	2,500	4,155	12.2	6.0	9.0	2,513	1,200	2,992
Wisconsin	15,137	10,540	16,575	10.0	6.0	11.0	12,110	5,059	14,586
Total	61,472	50,946	64,861	11.1	6.7	9.6	54,548	27,260	50,060
Grand total	121,421	103,261	134,597	8.9	6.5	8.2	86,344	53,920	87,819

TABLE 317.—*Cabbage: Farm price per 100 pounds on 15th of each month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	$1.87	$2.05	$2.14	$2.29	$2.77	$2.19	$2.27	$1.89	$1.94	$1.58	$1.36	$1.49
1911	1.56	1.48	1.26	1.33	1.38	2.46	2.93	2.47	1.94	1.58	1.51	1.83
1912	1.89	2.24	2.88	3.17	2.98	2.67	2.29	1.88	1.25	1.08	1.04	1.15
1913	1.26	1.17	1.03	1.15	1.58	2.18	2.64	2.15	1.79	1.69	1.58	1.75
1914	1.87	2.07	2.03	2.24	2.05	2.61	2.66	1.74	1.50	1.31	1.14	1.26
1915	1.36	1.41	1.38	1.99	2.53	2.34	1.95	1.61	1.24	1.00	.97	1.07
1916	1.17	1.21	1.38	1.50	1.93	2.27	2.15	2.26	2.17	2.40	2.61	3.04
1917	3.95	5.65	6.77	7.61	7.53	5.10	3.23	2.19	1.76	1.79	2.66	2.28
1918	2.74	3.26	2.86	2.98	3.23	3.55	3.41	2.96	2.45	2.16	1.99	2.05
1919	2.19	2.33	2.71	3.79	4.97	4.68	4.23	3.73	3.08	2.88	2.74	3.49
1920	4.31	5.05	5.25	5.59	6.75	5.47	4.71	3.28	2.03	1.95	1.67	1.77
1921	1.91	1.86	1.71	2.03	3.10	4.04	3.95	3.16	2.61	2.39	2.42	2.77
1922	3.05	3.09	3.02	3.10	3.68	3.36	2.96	2.12	1.72	1.55	1.46	1.63
Av. 1913–1922	2.38	2.71	2.81	3.20	3.74	3.56	3.19	2.52	2.04	1.91	1.92	2.11

CABBAGE—Continued.

TABLE 318.—*Cabbage, Danish: Monthly range and average jobbing prices, per 100 pounds, at 10 markets, for 1920–21 to 1922–23.*[1]

Market and year.	October.		November.		December, average.	January, average.	February.		March.	
	Range.	Average.	Range.	Average.			Range.	Average.	Range.	Average.
New York:										
1920–21	$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	2.60	1.75–2.25	2.02	1.75–2.50	2.11
1922–23	.90–1.25	1.01	.50–1.25	.79	1.18					
Chicago:										
1920–21			.43– .73	.52	.70	.92	.47– .83	.71	.30– .78	.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			.75–1.10	.83	1.21					
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	2.39	1.25–2.25	1.77	2.00–2.50	2.22
1922–23	.75–1.10	.87	.35–1.15	.71	1.09					
Pittsburgh:										
1920–21	.88–1.40	1.12	.70–1.50	1.00	.69	1.04	.70– .95	.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					
St. Louis:										
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		
1922–23					1.30					
Cincinnati:										
1920–21			.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		
1922–23	.90–1.40	1.21	.50–1.00	.71	1.31					
St. Paul:										
1921–22						3.34	2.50	2.50		
Minneapolis:										
1921–22						3.32				
Kansas City:										
1920–21					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		
1922–23	.60–1.25	.90	.50– .85	.66	1.22					
Washington:[2]										
1920–21						1.93	1.25–1.50	1.47	1.00–1.50	1.25
1921–22			2.00–3.00	2.53	3.03	3.41	2.50–4.00	3.01		
1922–23	1.50–2.25	1.97	1.00–2.00	1.43	1.82					

[1] 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.
[2] Sales direct to retailers.

TABLE 319.—*Cabbage: Carlot shipments by States of origin, 1917 to 1922.*[1]

State.	1917	1918	1919	1920	1921	1922
New York, Long Island	118	111	(2)	36	(2)	(2)
New York, other	4,999	8,357	[3] 7,300	7,006	[3] 9,543	[3] 9,368
Pennsylvania	94	160	383	239	291	339
Maryland	171	63	254	260	325	448
Virginia	1,891	1,927	1,508	1,532	3,595	2,955
South Carolina	663	1,867	1,172	1,087	3,285	3,286
Florida	1,413	3,782	1,537	4,745	1,518	3,022
Ohio	546	578	283	342	335	583
Illinois	65	267	161	146	102	144
Michigan	524	430	385	335	472	846
Wisconsin	2,815	3,334	3,508	4,179	3,355	5,234
Minnesota	582	1,010	961	834	596	1,143
Iowa	453	389	205	374	144	560
Kentucky	96	121	185	128	98	73
Tennessee	51	117	175	141	176	567
Alabama	87	860	421	265	940	1,363
Mississippi	281	1,128	566	884	577	1,625
Louisiana	150	258	188	233	313	354
Texas	931	304	1,437	4,828	1,757	3,567
Colorado	2,485	1,960	2,323	1,656	2,580	1,887
California	1,412	1,078	1,395	1,247	845	733
All other	527	560	635	523	871	825
Total	20,354	28,661	24,982	31,020	31,718	38,922

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.
[2] Included in New York, other.
[3] Includes New York, Long Island.

ONIONS.

TABLE 320.—*Commercial acreage, yield per acre, and production of onions 1920–1922.*

State.	Acreage.			Yield per acre.			Production.		
	1920	1921	1922	1920	1921	1922	1920	1921	1922
Early:	*Acres.*	*Acres.*	*Acres.*	*Bush.*	*Bush.*	*Bush.*	*Cars.*	*Cars.*	*Cars.*
California	3,300	2,000	2,950	298	245	260	1,967	980	1,514
Louisiana	1,080	1,010	1,100	158	206	200	341	416	440
Texas	12,446	10,503	11,900	256	207	196	6,372	4,348	4,665
Total	16,826	13,513	15,950	258	213	208	8,680	5,744	6,619
Intermediate:									
Iowa	1,577	1,235	1,600	350	205	380	1,104	506	1,216
Kentucky	900	1,000	1,000	370	300	225	666	600	450
New Jersey	2,610	2,380	2,360	240	250	250	1,253	1,190	1,180
Texas	750	1,000	1,500	250	275	250	375	550	750
Virginia	950	1,120	1,315	320	280	225	608	627	592
Washington	1,395	1,284	1,530	410	300	320	1,144	770	979
Total	8,182	8,019	9,305	315	264	278	5,150	4,243	5,167
Late:									
California	8,350	7,754	6,525	325	225	250	5,428	3,489	3,262
Colorado	755	1,295	1,905	340	300	280	513	777	1,067
Idaho	275	145	300	485	470	460	267	136	276
Illinois	1,004	1,037	1,250	350	210	300	703	436	750
Indiana	5,265	4,179	5,604	398	265	413	4,191	2,215	4,629
Massachuretts	4,850	4,500	4,560	450	280	275	4,365	2,520	2,508
Michigan	1,441	1,350	1,733	350	225	511	1,009	608	1,771
Minnesota	1,545	1,416	1,511	300	200	350	927	566	1,058
New York	8,572	7,285	8,288	340	300	270	5,829	4,371	4,476
Ohio	5,961	5,078	5,685	340	225	400	4,053	2,285	4,548
Oregon	882	870	884	370	300	300	653	522	530
Pennsylvania	350	338	352	350	270	380	245	183	268
Utah	120	124	140	480	440	400	115	109	112
Wisconsin	1,175	1,010	1,034	360	300	350	846	606	724
Total	40,545	36,381	39,771	359	259	327	29,144	18,823	25,979
Grand total	65,553	57,913	65,026	328	249	291	42,974	28,810	37,765

TABLE 321.—*Onions: Farm price, cents per bushel on 15th of each month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	94.4	100.1	92.5	103.4	102.8	105.8	104.5	99.8	99.4	93.2	94.6	98.8
1911	101.0	104.0	105.0	119.0	129.0	134.0	122.0	116.0	104.0	102.0	103.0	113.0
1912	117.0	140.0	167.0	175.0	177.0	155.0	114.0	100.0	89.0	85.0	84.0	84.0
1913	81.6	77.5	77.0	79.0	87.2	95.6	101.7	105.1	103.9	110.2	114.9	114.9
1914	121.0	140.7	155.2	159.2	152.6	140.8	170.4	137.9	103.3	88.3	84.4	92.2
1915	88.9	97.6	95.3	104.4	102.9	102.9	93.0	86.3	82.8	94.8	94.8	99.6
1916	113.2	126.3	130.3	123.5	123.3	133.8	147.3	133.5	122.9	131.4	153.8	175.7
1917	208.4	357.9	476.2	495.6	398.0	308.0	201.0	154.7	142.9	157.5	174.6	177.0
1918	178.9	183.2	147.0	134.1	134.7	138.7	162.6	164.7	163.3	143.2	143.1	131.7
1919	133.5	154.7	199.8	202.1	229.9	234.1	232.0	225.8	195.4	196.4	212.5	245.8
1920	280.8	307.3	325.6	344.2	337.6	264.2	204.8	176.4	172.9	158.9	143.8	132.0
1921	135.2	131.2	114.2	98.4	106.7	138.2	147.7	159.1	168.5	186.6	219.9	245.2
1922	263.8	325.3	365.7	469.6	331.4	270.9	204.5	156.9	126.9	118.8	123.6	131.7
Average, 1913–1922.	160.5	190.2	208.6	221.0	200.4	182.7	166.5	150.0	138.3	138.6	146.7	157.7

ONIONS—Continued.

TABLE 322.—*Onions: Monthly average jobbing prices per 100 pounds at 10 markets, 1920–21 to 1922–23.*[1]

Market and year.	Various common varieties.							
	Aug.[2]	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
New York:								
1920–21		$2.24	$1.56	$1.55	$1.23	$1.31	$0.98	$0.80
1921–22	$2.80	3.43	5.06	5.63	5.45	7.34	8.25	8.21
1922–23	2.08	1.52	1.72	2.00	2.99			
Chicago:								
1920–21		1.94	1.59	1.56	1.31	1.16	.98	.93
1921–22	2.58	3.61	4.47	5.11	5.62	7.09	7.64	8.53
1922–23	2.12	1.61	1.70	2.22	2.29			
Philadelphia:								
1920–21		2.03	1.49	1.51	1.23	1.27	.98	.87
1921–22	3.02	3.80	4.80	5.34	5.52	6.93	8.09	8.98
1922–23	2.19	1.63	1.57	1.82	2.73			
Pittsburgh:								
1920–21		2.30	1.74	1.65	1.05	1.26	.89	.90
1921–22	3.05	3.82	4.86	5.44	5.57	6.73	7.89	8.89
1922–23	2.36	1.56	1.52	1.63	2.74			
St. Louis:								
1920–21		1.67	1.55	1.55	1.06	1.17	.91	.70
1921–22	2.95	3.70	4.88	5.45	5.68	6.97	7.90	8.52
1922–23			1.89	2.20	2.30			
Cincinnati:								
1920–21		1.76	1.48	1.45	1.30	1.25	1.13	.85
1921–22	2.92	3.74	5.19	5.59	5.45	6.90	8.29	8.63
1922–23			1.78	1.96	2.87			
St. Paul:								
1920–21		1.99						
1921–22	2.85	3.49	4.92	4.83	4.44	6.42	7.75	8.61
1922–23								
Minneapolis:								
1920–21		2.12						
1921–22	2.70	3.34	4.76	4.81	4.60	6.62	8.11	8.83
1922–23								
Kansas City:								
1920–21		1.98	1.68	1.67	1.52	1.35	1.13	.66
1921–22	2.97	3.60	4.38	5.40	5.42	6.94	8.06	8.50
1922–23			2.12	2.02	2.56			
Washington:[3]								
1920–21		2.61	1.95	1.92	1.86	1.88	1.53	1.35
1921–22	3.64	4.27	4.93	5.93	5.78	7.10	8.61	9.55
1922–23	2.64	2.07	1.75	2.72	2.77			

[1] 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.
[2] Quotations began Aug. 22, 1921.
[3] Sales direct to retailers.

ONIONS—Continued.

TABLE 322.—*Onions: Monthly average jobbing prices per 100 pounds at 10 markets, 1920–21 to 1922–23* [1]—Continued.

Market and year.	Bermudas.					
	Apr.		May.		June.[2]	
	Yellow.	Crystal White Wax.	Yellow.	Crystal White Wax.	Yellow.	Crystal White Wax.
New York:						
1920–21	$4.34	$3.46	$3.15	$3.79	$2.93	$3.01
1921–22	7.66	6.20	4.14	3.79	3.91	3.54
Chicago:						
1920–21	3.48	4.37	2.79	3.73	2.53	3.27
1921–22	6.21	6.47	4.05	4.20	3.43	3.89
Philadelphia:						
1920–21	4.04	3.88	3.26	3.70	2.75	2.61
1921–22	7.03	6.00	4.13	4.04	4.07	.....
Pittsburgh:						
1920–21	4.03	4.58	3.22	3.91	2.95	3.35
1921–22	6.81	7.17	4.52	5.29	3.54	3.88
St. Louis:						
1920–21	3.30	4.40	2.83	3.47	.....	3.20
1921–22	5.95	5.67	3.17	4.19	3.37	.....
Cincinnati:						
1920–21	3.43	4.49	3.17	3.95	2.72	3.73
1921–22	5.93	6.44	4.67	.....	3.40	3.76
St. Paul:						
1920–21	3.55	.....	3.23	4.05	2.50	3.82
1921–22	.....	.....	4.39	4.52	3.12	3.35
Minneapolis:						
1920–21	4.02	4.66	3.38	4.11	2.49	4.05
1921–22	.....	.....	4.62	4.86	3.17	3.55
Kansas City:						
1920–21	3.60	4.27	2.78	3.46	2.39	3.41
1921–22	6.56	6.92	3.91	4.46	2.76	3.29
Washington: [3]						
1920–21	5.67	.....	4.21	.....	3.45	.....
1921–22	8.00	7.36	.....	5.17	4.36	4.36

[1] 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.
[2] Last quotation June 14, 1922.
[3] Sales direct to retailers.

TABLE 323.—*Onions: Carlot shipments by States of origin, 1917–18 to 1921–22.*[1]

State.	1917–18	1918–19	1919–20	1920–21	1921–22
Massachusetts	2,766	2,883	2,835	3,834	2,224
New York	2,104	2,784	2,702	3,089	2,946
New Jersey	567	597	634	635	427
Virginia	158	95	133	181	140
Ohio	1,475	2,008	1,913	3,212	1,736
Indiana	1,204	1,817	1,005	3,448	1,840
Illinois	230	334	123	360	254
Michigan	253	590	224	795	418
Wisconsin	240	309	95	406	90
Minnesota	626	822	439	276	173
Iowa	708	968	488	870	412
Kentucky	177	195	339	303	361
Louisiana	174	450	101	106	79
Texas	[2] 5,896	[3] 3,575	[4] 2,876	[5] 5,086	[6] 4,208
Colorado	239	230	207	134	443
Washington	315	477	596	790	650
Oregon	196	238	202	19	343
California, northern district	519	3,627	4,887	3,169	2,662
California, southern district	[7] 2,979	[8] 400	[9] 522	[10] 1,233	[11] 928
All other	215	150	228	277	434
Total	21,041	22,549	20,549	28,223	20,768

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.
[2] Approximately 5,816 cars Bermudas, remaining 80 cars various common varieties.
[3] Approximately 3,506 cars Bermudas, remaining 69 cars various common varieties.
[4] Approximately 2,836 cars Bermudas, remaining 40 cars various common varieties.
[5] Approximarely 4,985 cars Bermudas, remaining 101 cars various common varieties.
[6] Approximately 4,036 cars Bermudas, remaining 172 cars various common varieties.
[7] Approximately 519 cars Bermudas, remaining 2,460 cars various common varieties.
[8] Approximately 374 cars Bermudas, remaining 26 cars various common varieties.
[9] Approximately 344 cars Bermudas, remaining 178 cars various common varieties.
[10] Approximately 1,177 cars Bermudas, remaining 56 cars various common varieties.
[11] Approximately 898 cars Bermudas, remaining 30 cars various common varieties.

TOMATOES.

TABLE 324.—*Commercial acreage, yield per acre and production of tomatoes for canning and table stock, 1920–1922.*

	Acreage (00 omitted).			Yield per acre.			Production (000 omitted.)		
	1920	1921	1922	1920	1921	1922	1920	1921	1922
	Acres.	*Acres.*	*Acres.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Alabama	9	8	9	2.2	3.4	3.6	2	3	3
Arkansas	58	25	39	3.3	3.3	3.5	19	8	14
California	391	136	311	6.0	5.5	7.5	235	75	233
Colorado	34	16	24	7.0	7.0	8.5	24	11	20
Connecticut	10	10	10	6.0	3.0	4.0	6	3	4
Delaware	197	28	182	4.5	4.5	3.0	89	13	55
Florida	227	180	327	3.1	4.3	3.8	70	77	124
Georgia	4	4	4	2.5	3.5	3.5	1	1	1
Idaho	2	3	2	4.0	7.0	5.0	1	2	1
Illinois	91	70	86	4.9	3.5	4.8	45	24	41
Indiana	449	260	589	4.5	5.0	5.5	202	130	324
Iowa	26	26	32	5.0	3.5	5.0	13	9	16
Kansas	12	12	11	4.5	3.5	4.5	5	4	5
Kentucky	70	65	60	4.2	3.5	4.0	29	23	24
Louisiana	3	3	3	2.6	3.0	1.9	1	1	1
Maryland	497	174	477	3.5	3.5	3.5	174	61	167
Massachusetts	17	17	20	4.0	4.5	4.5	7	8	9
Michigan	42	34	37	5.5	5.6	5.0	23	19	18
Minnesota	6	5	6	3.5	3.0	3.4	2	2	2
Mississippi	64	72	105	2.6	3.3	3.9	17	24	41
Missouri	185	83	151	3.5	3.0	3.5	65	25	53
Nebraska	4	3	5	4.0	4.0	5.0	2	1	2
New Jersey	363	315	328	5.0	5.0	5.2	182	158	171
New Mexico	1	1	2	3.0	4.0	5.0	.....	.....	1
New York	163	93	147	8.5	8.0	8.0	139	74	118
North Carolina	4	4	4	6.0	1.9	2.5	2	1	1
Ohio	137	119	180	6.0	5.4	5.9	82	64	106
Oklahoma	9	5	3	3.8	3.3	2.3	3	2	1
Oregon	5	5	16	6.0	7.0	6.0	3	4	10
Pennsylvania	61	53	61	5.0	5.0	6.0	30	26	37
South Carolina	4	6	10	2.5	3.1	3.2	1	2	3
Tennessee	103	65	94	3.4	2.7	3.9	35	18	37
Texas	69	90	78	2.5	2.5	2.0	17	22	16
Utah	39	12	39	9.6	10.0	10.5	37	12	41
Virginia	190	47	110	3.5	3.0	2.7	66	14	30
Washington	6	7	7	7.0	8.0	6.0	4	6	4
West Virginia	20	11	13	3.8	3.0	3.0	8	3	4
Wisconsin	13	10	11	3.8	3.2	4.0	5	3	4
Total	3,585	2,077	3,593	4.6	4.5	4.8	1,646	933	1,742

TABLE 325.—*Tomatoes: Monthly average jobbing prices per 4-basket and 6-basket carriers at 10 markets, 1921 and 1922.*[1]

Market and year.	4-basket carrier.		6-basket carrier, June.	Market and year.	4-basket carrier.		6-basket carrier, June.
	June.	July.			June.	July.	
New York:				Cincinnati:			
1921	$1.70	$1.20	$2.96	1921	$1.52	$1.05	$2.63
1922	1.14	.....	2.03	1922	.88	.....	2.01
Chicago:				St. Paul:			
1921	1.59	1.05	.....	1921	.....	.....	.....
1922	1.18	.....	2.98	1922	1.23	.....	2.80
Philadelphia:				Minneapolis:			
1921	1.41	.....	2.58	1921	.....	.....	.....
1922	1.06	.....	1.77	1922	1.30	.....	.....
Pittsburgh:				Kansas City:			
1921	1.58	1.22	3.19	1921	1.68	.67	.....
1922	1.16	.....	.....	1922	.....	.....	.....
St. Louis:				Washington:[2]			
1921	1.61	.71	.....	1921	.....	1.32	3.03
1922	.....	.....	.....	1922	1.21	.....	3.21

[1] Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.
[2] Sales direct to retailers.

TOMATOES—Continued.

TABLE 326.—*Tomatoes: Carlot shipments by States of origin, 1917 to 1922.*[1]

State.	1917	1918	1919	1920	1921	1922
New York	143	381	457	845	1,098	1,905
New Jersey	2,239	2,006	1,012	2,356	2,130	1,918
Delaware	877	1,130	502	153	189	413
Maryland	237	200	206	138	128	281
Florida	4,695	3,700	4,501	3,749	5,774	10,201
Ohio	628	799	489	330	351	546
Indiana	524	1,150	948	1,148	528	1,288
Illinois	487	393	234	340	155	229
Tennessee	947	654	368	805	357	918
Mississippi	1,063	1,379	1,388	1,363	1,961	3,433
Texas	1,278	1,123	1,205	1,286	1,954	1,848
California	519	1,514	2,186	1,958	1,714	2,228
All other	478	1,042	1,007	1,085	860	1,180
Total	14,115	15,471	14,503	15,556	17,199	26,388

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

TABLE 327.—*Tomatoes: Farm price, cents per bushel, 15th of month, 1912–1922.*

Date	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
July	127.0	161.4	167.4	141.4	161.5	194.3	219.1	240.3	324.4	319.6	270.0
August	75.6	95.8	92.5	66.4	88.4	124.3	133.1	177.0	168.4	142.4	102.0
September	58.7	68.0	63.0	56.9	75.6	109.5	103.0	137.2	104.4	103.6	.....
October	62.3	73.0	60.3	67.9	82.1	117.6	108.6	117.7	98.9	113.5	79.6

TABLE 328.—*Tomatoes, canned: Production in the United States, 1891–1922.*[1]

[Expressed in cases of 24 No. 3 cans.]

State.	1891	1892	1893	1894	1895	1896
Massachusetts	10,000	6,557	3,400	9,800	5,000	.....
Connecticut	14,400	14,750	9,500	19,325	18,000	10,200
New York	114,774	146,290	160,887	164,378	150,617	96,308
New Jersey	950,833	862,692	977,242	1,378,090	756,041	686,490
Pennsylvania	15,000	18,920	24,364	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	7,350	8,879	22,210	.....
South Carolina	.....	7,500	2,950	4,800	20,500	.....
Georgia	3,000	12,400	4,700	3,500	3,166	.....
Ohio	90,950	87,840	64,720	249,391	178,247	150,140
Indiana	341,217	282,717	347,260	912,856	435,557	447,283
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	4,500	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	222,913	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

[1] Compiled from National Canners Association. [2] Includes West Virginia.

TOMATOES—Continued.

TABLE 328.—*Tomatoes, canned: Production in the United States, 1891–1922* [1]—Con.

State.	1897	1898	1899	1900	1901	1902
Connecticut	.....	9,720	20,120	16,425	15,000	13,000
New York	93,610	162,354	158,206	201,371	140,043	107,423
New Jersey	519,813	810,219	871,349	815,102	411,150	739,845
Pennsylvania	16,900	42,216	76,010	48,540	3,791	81,601
Delaware	305,769	450,409	545,551	381,124	212,723	750,670
Maryland	1,381,989	1,918,872	2,859,914	1,691,045	1,768,269	4,514,382
Virginia [2]	119,517	135,293	298,270	177,835	104,813	414,599
Ohio	152,800	210,755	248,519	233,697	103,847	314,660
Indiana	587,579	1,020,415	827,413	629,536	420,082	992,686
Illinois	65,000	75,561	144,115	102,481	25,600	52,530
Michigan	21,384	41,585	53,316	40,150	34,475	17,667
Wisconsin	2,750	31,258	53,580	58,300	33,312	6,000
Iowa	119,505	134,250	85,884	95,500	18,180	51,657
Missouri	180,874	146,844	168,211	133,000	13,400	98,682
Nebraska	9,800	21,600	16,174	13,550	1,400	3,352
Kansas	33,988	16,805	25,075	20,010	2,500	20,000
Kentucky	23,600	27,600	32,220	26,125	16,500	62,249
Arkansas	9,700	.....	.....	.....	.....	.....
Colorado	67,125	45,142	38,550	30,500	47,900	5,000
Utah	34,300	18,000	125,000	205,351	150,000	248,650
California	208,612	299,408	508,310	555,536	696,288	737,400
All other	9,360	35,903	18,206	22,865	14,788	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	6,000	.....	.....	.....	.....	.....
New York	185,581	169,521	187,171	274,798	217,695	369,000
New Jersey	592,670	815,823	416,053	545,628	914,844	651,000
Pennsylvania	67,922	90,638	36,366	84,169	106,888	(3)
Delaware	899,964	646,110	404,155	728,365	1,368,866	940,000
Maryland	4,687,224	3,338,310	2,294,408	3,209,953	5,294,253	4,716,000
Virginia [2]	941,614	486,260	161,994	102,537	1,070,409	607,000
Ohio	268,336	278,438	184,353	276,243	410,876	406,000
Indiana	989,081	1,166,664	799,404	1,469,167	1,172,095	1,126,000
Illinois	42,519	34,700	52,147	67,860	51,239	(3)
Michigan	13,310	15,415	7,825	17,160	50,000	(3)
Wisconsin	49,912	.....	.....	.....	.....	.....
Iowa	27,978	83,145	64,625	155,770	60,121	(3)
Missouri	38,033	115,950	83,743	255,419	225,325	546,000
Nebraska	3,611	6,907	9,542	4,438	5,600	(3)
Kansas	15,123	3,400	21,399	23,938	22,628	(3)
Kentucky	61,299	42,500	80,900	76,783	76,905	(3)
Colorado	.....	73,000	49,176	100,075	60,107	(3)
Utah	359,336	373,068	51,975	332,267	424,806	(3)
California	884,243	730,311	649,685	838,792	1,227,364	(3)
All other	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
New York	298,000	118,000	193,000	490,000	487,000	601,000
New Jersey	944,000	519,000	570,000	799,000	883,000	728,000
Delaware	1,236,000	992,000	931,000	1,398,000	1,646,000	1,335,000
Maryland	4,609,000	3,675,000	3,908,000	6,350,000	6,280,000	5,850,000
Virginia [2]	985,000	630,000	681,000	882,000	945,000	867,000
Ohio	339,000	209,000	293,000	283,000	326,000	523,000
Indiana	852,000	537,000	806,000	792,000	948,000	1,295,000
Missouri	244,000	350,000	120,000	435,000	128,000	376,000
All other	1,477,000	2,205,000	2,247,000	2,593,000	2,563,000	3,647,000
United States	10,984,000	9,235,000	9,749,000	14,022,000	14,206,000	15,222,000

[1] Compiled from National Cannners Association. [2] Includes West Virginia. [3] Included in all other.

TOMATOES—Continued.

TABLE 328.—*Tomatoes, canned: Production in the United States, 1891–1922.*[1]—Con.

State.	1915	1916	1917	1918	1919	1920	1921	1922
New York	256,000	174,000	552,830	395,904	436,599	515,000	214,000	340,000
New Jersey	325,000	712,000	380,116	667,063	59,678	517,000	116,000	337,000
Delaware	711,000	1,199,000	1,380,805	879,070	188,920	553,000	176,000	590,000
Maryland	3,084,000	6,042,000	5,933,239	6,649,475	2,528,927	3,347,000	1,656,000	3,205,000
Virginia [2]	969,000	928,000	1,170,504	1,547,291	852,991	1,162,000	217,000	891,000
Ohio	157,000	186,000	107,491	357,283	172,367	142,000	71,000	179,000
Indiana	419,000	760,000	398,327	968,219	875,598	778,000	530,000	1,312,000
Missouri	252,000	211,000	704,347	352,821	438,720	715,000	136,000	775,000
Utah	329,000	373,000	512,546	952,539	594,066	444,000	132,000	664,000
California	1,281,000	1,635,000	2,603,019	1,789,904	3,051,688	1,773,000	339,000	1,701,000
All other	686,000	922,000	1,332,850	1,322,803	1,510,106	1,422,000	430,000	1,544,000
United States	8,469,000	13,142,000	15,076,074	15,882,372	10,709,660	11,368,000	4,017,000	11,538,000

[1] Compiled from National Canners Association. [2] Includes West Virginia.

TURNIPS.

TABLE 329.—*Turnips: Farm price, cents per bushel, 15th of month, 1913–1922.*

Date.	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23
November	56.1	47.4	45.9	68.4	76.4	79.6	98.9	94.1	88.5	83.1
December	55.1	48.4	45.1	73.3	81.1	79.0	101.8	85.9	86.5	81.9
January	56.8	49.2	48.6	78.6	88.4	82.1	112.4	88.7	87.5	91.9
February	60.0	51.1	49.6	91.1	89.9	84.7	124.1	88.7	90.3	91.3

CELERY.

TABLE 330.—*Celery: Carlot shipments by States of origin, 1917 to 1922.*[1]

State.	1917	1918	1919	1920	1921	1922
New York	1,563	1,614	1,523	2,675	3,110	3,286
New Jersey	108	155	177	105	216	119
Pennsylvania	143	199	33	176	225	212
Florida	2,222	2,461	2,051	3,010	4,172	4,808
Michigan	436	461	598	604	1,013	1,465
Colorado	183	225	212	283	211	221
California	1,877	2,262	1,796	2,384	3,405	3,453
All other	45	35	59	71	131	212
Total	6,577	7,412	6,449	9,308	12,483	13,776

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

LETTUCE.

TABLE 331.—*Lettuce: Carlot shipments by States of origin, 1917 to 1922.*[1]

State.	1917	1918	1919	1920	1921	1922
New York	1,423	1,334	1,761	2,138	3,361	3,173
New Jersey	215	171	245	515	478	570
North Carolina	181	226	319	265	448	619
South Carolina	161	375	395	356	583	859
Florida	1,116	2,352	2,134	3,120	2,286	3,115
Texas	53	17	90	176	114	114
Arizona	64	64	41	165	166	649
Washington	.....	.....	19	345	632	811
California	2,013	2,051	2,731	6,350	9,746	9,713
All other	202	369	283	391	802	2,212
Total	5,428	6,959	8,018	13,821	18,616	21,835

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

STRAWBERRIES.

TABLE 332.—*Strawberries: Monthly average jobbing prices per quart at 10 markets, 1921 and 1922.*[1]

Market and year.	Mar.[2]	Apr.	May.	June.[3]	Market and year.	Mar.[2]	Apr.	May.	June.[3]
New York:					Cincinnati:				
1921	$0.47	$0.41	$0.27	.....	1921	$0.33	$0.27	$0.23	.....
1922	.60	.37	.21	$0.16	1922	.53	.18	.12	.....
Chicago:					St. Paul:				
1921	.31	.37	.24	.....	1921	.38	.44	.28	.....
1922	.45	.29	.14	.12	1922	.....	.30	.19	$0.16
Philadelphia:					Minneapolis:				
1921	.33	.34	.23	.....	1921	.37	.41	.31	.....
1922	.53	.32	.18	.17	1922	.....	.29	.18	.14
Pittsburgh:					Kansas City:				
1921	.34	.34	.26	.....	1921	.33	.36	.23	.....
1922	.50	.34	.17	.18	1922	.....	.31	.16	.13
St. Louis:					Washington:[4]				
1921	.31	.33	.23	.....	1921	.50	.35	.22	.....
1922	.54	.26	.14	.16	1922	.55	.27	.20	.14

[1] 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 camparability.
[2] Quotations began Mar. 23, 1922.
[3] Last quotation June 6, 1922.
[4] Sales direct to retailers.

TABLE 333.—*Strawberries: Carlot shipments by States of origin, 1917 to 1922.*[1]

State.	1917	1918	1919	1920	1921	1922
New York	210	242	112	362	244	330
New Jersey	829	445	326	559	425	274
Delaware	2,340	822	430	640	856	940
Maryland	2,193	838	611	787	1,069	1,629
Virginia	1,352	342	208	349	697	1,670
North Carolina	696	585	484	446	479	1,101
Florida	193	79	21	153	108	325
Illinois	347	125	80	98	74	260
Michigan	475	272	391	439	455	650
Missouri	673	620	1,081	318	466	2,043
Kentucky	676	410	132	239	387	756
Tennessee	1,781	1,234	1,099	1,182	1,693	3,592
Alabama	196	279	229	147	285	459
Louisiana	1,100	556	682	858	1,531	1,540
Arkansas	1,096	651	1,034	896	1,094	2,190
California	245	509	703	569	291	199
All other	663	443	482	448	541	789
Total	15,065	8,452	8,105	8,490	10,695	18,747

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

WATERMELONS.

TABLE 334.—*Watermelons: Carlot shipments by States of origin, 1917 to 1922.*[1]

State.	1917	1918	1919	1920	1921	1922
Delaware	511	303	327	177	499	289
Maryland	1,019	388	515	458	763	379
Virginia	728	244	263	312	364	156
North Carolina	1,201	727	891	799	1,530	988
South Carolina	4,107	2,787	2,673	4,735	4,427	4,668
Georgia	9,530	6,782	8,984	11,103	16,140	13,143
Florida	3,622	2,179	3,878	6,807	5,772	11,008
Indiana	630	191	581	661	742	540
Illinois	386	68	190	251	459	289
Iowa	238	132	321	348	867	663
Missouri	2,533	1,196	3,516	3,012	3,188	2,761
Alabama	1,634	806	708	1,160	1,486	1,937
Texas	2,871	2,290	3,007	4,845	4,298	4,133
Oklahoma	505	189	870	465	566	307
Arkansas	449	93	268	314	577	320
California	1,137	1,689	3,300	3,276	3,796	4,312
All other	402	328	568	532	989	1,031
Total	31,503	20,392	30,860	39,255	46,463	46,924

[1]Shipments as shown in carlots include those by boat reduced to carlot basis.

CANTALOUPES.

TABLE 335.—*Cantaloupes: Carlot shipments by States of origin, 1917 to 1922.*[1]

State.	1917	1918	1919	1920	1921	1922
Delaware	702	429	590	581	943	843
Maryland	855	490	835	771	1,206	1,233
North Carolina	1,106	418	523	359	821	700
South Carolina	157	31	100	110	299	273
Georgia	789	551	314	389	640	1,621
Indiana	664	443	462	635	644	906
Michigan	42	37	204	209	176	674
Arkansas	797	699	1,106	936	1,501	990
Colorado	1,898	1,818	3,132	2,454	3,215	4,580
New Mexico	227	256	378	937	421	275
Arizona	1,215	1,169	1,832	1,164	1,474	1,558
Washington	145	110	100	329	209	378
California	8,258	6,848	12,010	13,100	13,177	15,627
All other	575	320	453	403	843	956
Total	17,430	13,619	22,039	22,377	25,569	30,614

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

GRAPES.

TABLE 336.—*Grapes: Carlot shipments by States of origin, 1917 to 1922.*[1]

State.	1917	1918	1919	1920	1921	1922
New York	3,621	2,017	3,751	6,079	2,451	7,697
Pennsylvania	801	367	881	1,245	390	1,559
Ohio	196	50	87	50	68	78
Michigan	3,298	1,635	3,783	4,607	1,237	6,083
Iowa	85	68	108	106	68	210
Missouri	28	21	36	26	4	127
Washington	31	59	37	8	67	48
California	13,251	16,639	21,605	26,974	32,879	43,987
All other	68	59	61	110	38	177
Total	21,379	20,915	30,349	39,205	37,202	59,966

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.

FRUITS AND VEGETABLES.

TABLE 337.—*Fruits and vegetables: Monthly and yearly carlot shipments of 15 commodities in the United States, 1917 to 1922*[1]

Crop and year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Apples:													
1917	2,380	2,153	2,175	1,239	965	301	755	1,308	5,719	21,895	14,165	3,993	57,048
1918	2,362	3,232	2,882	1,647	347	229	1,149	2,359	8,070	26,680	13,563	6,320	68,840
1919	4,044	3,679	2,063	1,006	430	189	1,349	2,712	12,259	32,666	15,854	5,301	81,552
1920	4,393	4,419	4,378	2,229	1,276	262	1,855	3,861	11,043	37,284	23,087	8,875	102,962
1921	6,046	6,698	5,695	2,819	1,496	422	1,220	3,384	13,146	35,117	14,464	5,991	96,498
5-year average	3,845	4,036	3,439	1,788	903	281	1,266	2,725	10,047	30,728	16,227	6,096	81,380
1922	4,189	4,683	2,934	1,755	1,140	1,109	2,560	4,899	14,787	32,052	19,512	8,229	97,849
Beans (dry):													
1918	22	37	77	122	343	166	186	201	264	954	870	902	4,144
1919	699	406	602	715	754	474	338	611	375	1,019	1,040	758	7,791
1920	661	421	442	441	812	466	331	305	271	845	1,136	864	6,995
1921	1,239	1,236	967	690	675	612	492	749	1,187	2,461	1,532	874	12,714
4-year average	655	525	522	492	646	430	337	466	524	1,320	1,144	850	7,911
1922	1,167	1,129	896	490	479	398	233	164	803	1,988	2,125	1,353	11,225
Cabbage:													
1917	1,286	463	503	457	1,634	2,121	753	1,015	2,505	6,078	2,501	1,038	20,354
1918	1,498	1,735	1,790	3,379	3,734	1,594	645	1,305	3,261	5,051	3,298	1,371	28,661
1919	2,182	2,017	1,977	1,831	2,469	1,438	557	1,152	2,465	5,137	2,411	1,346	24,982
1920	1,931	2,518	3,328	3,935	2,941	1,508	612	1,095	1,791	5,399	4,607	1,355	31,020
1921	2,852	2,293	2,929	4,100	3,186	1,727	459	1,393	2,818	5,467	2,560	1,934	31,718
5-year average	1,950	1,805	2,105	2,740	2,793	1,678	605	1,192	2,568	5,426	3,075	1,409	27,347
1922	3,248	3,036	4,157	3,903	3,984	2,281	661	1,433	3,493	6,824	3,529	2,373	38,922
Cantaloupes:													
1917	.....	.....	.....	.....	.....	3,468	5,882	5,564	2,184	306	23	3	17,430
1918	.....	.....	.....	.....	51	4,348	3,949	3,922	1,339	10	.....	.....	13,619
1919	.....	.....	.....	.....	66	6,902	7,144	4,755	2,834	338	.....	.....	22,039
1920	.....	.....	.....	.....	475	6,781	5,318	6,867	2,784	152	.....	.....	22,377
1921	.....	.....	.....	.....	638	7,974	8,635	5,986	2,153	171	12	.....	25,569
5-year average	.....	.....	.....	.....	[2] 308	5,895	6,186	5,419	2,259	195	.....	.....	20,207
1922	.....	.....	.....	4	128	10,375	10,295	5,737	3,396	675	4	.....	30,614
Celery:													
1919	616	546	722	412	507	32	44	141	258	875	1,210	1,086	6,449
1920	816	1,047	1,206	708	320	21	69	150	421	1,256	1,811	1,483	9,308
1921	1,675	1,746	1,754	866	255	105	137	262	516	1,815	1,443	1,909	12,483
1922	1,441	1,391	1,760	1,135	385	94	201	365	830	2,099	1,928	2,147	13,776
Grapes:													
1919	.....	.....	.....	.....	.....	4	460	2,837	13,023	11,592	2,423	10	30,349
1920	.....	.....	.....	.....	.....	12	366	4,647	12,001	19,358	2,808	13	39,205
1921	1	.....	.....	.....	.....	12	425	3,376	16,743	14,671	1,968	6	37,202
1922	2	.....	.....	.....	.....	1	324	4,738	22,392	25,864	6,439	206	59,966
Lettuce:													
1919	767	717	829	1,090	831	181	395	695	653	358	565	937	8,018
1920	2,025	1,622	1,353	1,063	1,172	365	980	934	832	596	1,388	1,491	13,821
1921	2,356	1,984	2,219	1,974	1,067	670	1,399	1,140	1,302	1,253	1,481	1,771	18,616
1922	2,233	1,797	2,607	3,052	1,810	799	1,545	1,784	1,299	1,526	1,405	1,978	21,835
Onions:													
1917	986	355	232	2,679	2,960	1,156	678	1,434	2,740	4,068	1,348	516	19,152
1918	901	1,062	1,023	1,799	2,290	1,141	1,177	1,921	3,075	4,211	2,410	1,017	22,027
1919	1,488	1,213	949	1,189	2,462	646	1,844	1,909	3,522	2,963	1,702	987	20,874
1920	1,368	1,159	999	1,938	4,242	607	1,030	1,918	3,675	4,910	2,918	1,186	25,950
1921	2,038	1,769	1,724	2,511	2,559	822	1,482	2,048	3,362	2,608	1,248	1,148	23,319
5-year average	1,356	1,112	985	2,023	2,903	874	1,242	1,846	3,275	3,752	1,925	971	22,264
1922	1,769	1,022	710	3,083	2,290	934	1,568	2,428	4,609	5,082	2,086	1,526	27,107
Peaches:													
1917	.....	.....	.....	.....	41	1,294	5,149	5,743	11,031	3,968	11	.....	27,237
1918	.....	.....	.....	.....	1,119	4,021	6,336	5,185	3,625	123	.....	.....	20,409
1919	.....	.....	.....	.....	328	3,513	9,216	11,277	6,485	104	.....	.....	30,923
1920	.....	.....	.....	.....	45	1,588	6,881	6,284	10,528	1,638	3	.....	26,967
1921	.....	.....	.....	.....	1,429	4,012	9,387	7,324	5,116	32	.....	.....	27,300
5-year average	.....	.....	.....	.....	592	2,886	7,394	7,163	7,357	1,173	.....	.....	26,567
1922	.....	.....	.....	.....	686	3,140	7,547	11,957	13,681	1,236	.....	.....	38,247

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.
[2] Four-year average.

FRUITS AND VEGETABLES—Continued.

TABLE 337.—*Fruits and vegetables: Monthly and yearly carlot shipments of 15 commodities in the United States, 1917 to 1922* [1]—Continued.

Crop and year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Pears:													
1919	11	1	.....	.....	.....	.....	1,954	3,820	2,753	1,389	190	40	10,158
1920	.....	.....	8	3	.....	23	2,417	3,079	4,850	3,634	779	157	14,950
1921	49	29	20	.....	.....	1	1,511	5,582	3,972	1,290	285	82	12,821
1922	11	4	1	.....	.....	1	1,631	6,970	6,676	4,091	592	105	20,082
Potatoes (sweet):													
1919	1,123	939	745	220	12	6	44	1,228	2,904	2,741	2,311	1,452	13,725
1920	1,368	959	1,150	817	460	44	92	686	2,800	3,338	2,658	1,882	16,254
1921	2,035	1,624	1,505	792	434	76	243	1,951	2,933	3,405	2,045	2,028	19,071
1922	1,713	1,528	1,532	1,041	603	290	442	1,889	3,623	3,419	2,485	2,019	20,584
Potatoes (white):													
1917	10,331	8,418	6,083	8,471	9,746	14,719	15,488	12,910	14,292	23,542	13,536	7,120	144,656
1918	9,489	10,943	12,558	11,528	12,720	16,989	14,156	11,805	19,841	24,902	15,442	8,891	169,264
1919	12,753	8,998	13,744	13,429	9,883	13,303	13,855	13,626	22,257	32,535	17,362	9,532	181,277
1920	12,883	8,725	12,772	8,445	6,960	14,777	15,622	13,592	18,155	31,522	25,075	9,755	178,283
1921	14,106	11,970	16,154	14,893	14,987	17,645	17,041	16,115	26,040	43,250	16,729	10,496	219,426
5-year average	11,912	9,811	12,262	11,353	10,859	15,487	15,232	13,610	20,117	31,150	17,629	9,159	178,581
1922	16,663	13,561	22,230	20,066	20,277	21,920	18,878	18,224	24,335	34,864	19,932	11,591	242,541
Strawberries:													
1917	.....	.....	97	1,383	6,506	6,439	640	.....	.....	.....	.....	.....	15,065
1918	.....	11	355	1,122	5,321	1,417	177	31	18	.....	.....	.....	8,452
1919	.....	.....	49	911	4,598	2,265	147	101	34	.....	.....	.....	8,105
1920	.....	.....	44	887	3,511	3,473	403	112	58	2	.....	.....	8,490
1921	10	40	675	2,128	6,016	1,763	29	11	13	9	1	.....	10,695
5-year average	.....	.....	244	1,286	5,190	3,071	279	[2] 64	[2] 31	.....	.....	.....	10,161
1922	17	105	246	2,369	12,994	2,930	79	1	6	.....	.....	.....	18,747
Tomatoes:													
1917	115	74	22	814	2,961	2,838	2,364	1,894	1,868	1,056	94	15	14,115
1918	.....	13	487	1,448	1,568	3,028	1,967	2,124	3,171	1,361	281	23	15,471
1919	39	109	874	1,027	1,924	3,070	1,471	850	2,798	1,899	403	39	14,503
1920	268	472	1,340	468	763	3,180	2,199	1,594	3,539	1,491	216	26	15,556
1921	33	273	938	1,686	2,754	4,392	1,861	1,071	2,847	863	428	53	17,199
5-year average	[2] 114	188	732	1,089	1,994	3,302	1,972	1,507	2,845	1,334	284	31	15,369
1922	64	537	2,615	2,792	3,903	5,989	1,938	2,654	4,290	1,256	285	65	26,388
Watermelons:													
1919	.....	.....	.....	.....	299	4,986	15,011	8,856	1,677	29	2	.....	30,860
1920	.....	.....	.....	.....	18	6,417	20,199	10,299	2,174	65	18	65	39,255
1921	.....	.....	.....	7	1,086	11,240	19,837	12,256	1,958	79	.....	.....	46,463
1922	.....	.....	.....	8	3,103	15,187	17,887	9,002	1,664	71	2	.....	46,924

[1] Shipments as shown in carlots include those by boat reduced to carlot basis.
[2] 4-year average.

FRUITS AND VEGETABLES—Continued.

TABLE 338.—*Fruits and vegetables: Yearly unloads of nine commodities at 10 markets in carlots, 1917 to 1922.*[1]

Crop and year.	New York.	Chicago.	Philadelphia.	Pittsburgh.	St. Louis.	Cincinnati.	St. Paul.	Minneapolis.	Kansas City.	Washington.	Total.
Apples:											
1917	[2] 7,996	4,335	2,343	2,498	2,117	636	284	586	988	333	[2] 22,116
1918	11,336	4,536	2,701	2,951	1,540	1,130	410	568	709	633	26 514
1919	10,601	6,069	2,864	2,216	1,379	1,450	227	348	674	387	26,215
1920	11,058	7,102	3,217	2,792	1,975	1,617	401	464	1,006	590	30,222
1921	[3] 11,984	6,634	3,416	2,808	1,856	1,810	351	422	1,002	369	[3] 30,652
5-year av.	[4] 10,595	5,735	2,908	2,653	1,773	1,329	335	478	876	462	[4] 27,144
1922	[5] 12,764	6,575	2,539	3,020	2,111	1,257	496	712	775	414	[5] 30,663
Cabbage:											
1917	[2] 2,027	1,141	1,325	896	1,001	425	46	81	375	186	[2] 7,503
1918	2,880	1,322	1,936	1,670	858	577	54	57	580	371	10,305
1919	2,301	1,837	1,662	1,172	746	557	53	49	421	287	9,085
1920	2,306	1,355	1,906	1,297	864	596	74	121	399	393	9,311
1921	[6] 3,030	1,780	1,962	1,105	1,049	669	68	75	400	386	[6] 10,524
5-year av.	[4] 2,509	1,487	1,758	1,228	904	565	59	77	435	325	[4] 9,346
1922	[7] 3,333	1,697	2,166	1,219	1,121	781	102	104	515	416	[7] 11,454
Cantaloupes:											
1917	3,365	793	815	1,140	285	418	85	142	360	99	7,502
1918	3,029	1,059	493	1,068	286	389	38	118	128	126	6,734
1919	3,867	1,936	1,049	1,702	305	597	92	171	448	230	10,397
1920	4,213	2,061	1,091	1,275	452	554	60	94	396	266	10,462
1921	[8] 4,781	2,308	1,258	1,322	539	640	115	166	452	242	[8] 11,823
5-year av.	3,851	1,631	941	1,301	373	520	78	138	357	193	9,384
1922	[9] 5,535	2,800	1,542	1,244	618	676	122	214	422	246	[9] 13,419
Onions:											
1917	[2] 4,666	1,146	1,606	1,178	753	286	50	149	407	108	[2] 10,349
1918	4,465	695	1,542	1,208	549	276	25	75	389	220	9,444
1919	4,801	1,403	1,398	976	438	226	61	83	284	174	9,844
1920	4,072	1,237	1,554	1,115	687	283	40	107	426	226	9,747
1921	[10] 4,429	1,545	1,482	922	559	314	71	91	345	196	[10] 9,954
5-year av.	[4] 4,487	1,205	1,516	1,080	597	277	49	101	370	185	[4] 9,868
1922	[11] 4,933	1,673	1,698	951	672	400	65	115	453	214	[11] 11,174
Peaches:											
1917	3,620	1,067	827	1,167	348	495	69	190	292	120	8,195
1918	3,683	1,060	892	1,010	188	415	97	83	205	138	7,771
1919	3,935	1,357	944	1,221	334	631	128	112	285	158	9,105
1920	3,506	1,267	847	849	347	481	36	64	158	263	7,818
1921	[12] 4,143	1,326	1,056	759	481	600	77	101	268	148	[12] 8,959
5-year av.	3,777	1,215	913	1,001	340	524	81	110	242	165	8,370
1922	[13] 4,617	2,107	1,016	1,071	438	609	161	192	331	252	[13] 10,794
Potatoes (sweet):											
1921	[14] 1,592	1,231	440	913	194	368	38	91	180	197	[14] 5,244
1922	[15] 1,625	1,315	378	962	127	461	65	141	147	167	[15] 5,388

[1] Unloads as shown in carlots include those by boat reduced to carlot basis.
[2] Reports incomplete.
[3] An additional 152 cars received in L. C. L. receipts.
[4] Including incomplete reports of 1917.
[5] An additional 558 cars received in L. C. L. receipts.
[6] An additional 53 cars received in L. C. L. receipts.
[7] An additional 65 cars received in L. C. L. receipts.
[8] An additional 152 cars received in L. C. L. receipts.
[9] An additional 292 cars received in L. C. L. receipts.
[10] An additional 306 cars received in L. C. L. receipts.
[11] An additional 465 cars received in L. C. L. receipts.
[12] An additional 74 cars received in L. C. L. receipts.
[13] An additional 1,385 cars received in L. C. L. receipts.
[14] An additional 1,642 cars received in L. C. L. receipts.
[15] An additional 1,368 cars received in L. C. L. receipts.

FRUITS AND VEGETABLES—Continued.

TABLE 338.—*Fruits and vegetables: Yearly unloads of nine commodities at 10 markets in carlots, 1917 to 1922* [1]—Continued.

Crop and year.	New York.	Chicago.	Philadelphia.	Pittsburgh.	St. Louis.	Cincinnati.	St. Paul.	Minneapolis.	Kansas City.	Washington.	Total.
Potatoes (white):											
1917	[2] 20,601	9,609	6,441	5,185	2,904	1,573	410	1,196	2,546	439	[2] 50,904
1918	19,330	12,477	6,823	6,516	2,739	1,538	125	397	2,602	1,213	53,760
1919	18,378	12,158	7,668	7,326	2,756	2,047	150	498	2,521	1,000	54,502
1920	17,424	11,302	7,190	5,614	2,512	2,189	437	756	2,145	885	50,454
1921	[3] 17,986	13,077	7,460	5,396	3,592	2,857	594	845	2,257	1,153	[3] 55,217
5-year av.	[4] 18,744	11,725	7,116	6,007	2,901	2,041	343	738	2,414	938	[4] 52,967
1922	[5] 20,100	13,912	8,023	5,009	4,290	3,447	351	717	2,433	1,447	[5] 59,729
Strawberries:											
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
1919	898	1,246	243	166	45	232	58	101	50	50	3,089
1920	1,202	909	291	185	85	80	49	84	68	75	3,028
1921	[6] 1,101	1,499	300	321	132	356	72	147	180	50	[6] 4,158
5-year av.	1,436	1,088	363	276	86	242	63	130	114	41	3,838
1922	[7] 2,193	1,719	568	497	272	474	160	351	262	47	[7] 6,543
Tomatoes:											
1917	[2] 3,310	1,333	696	945	237	347	27	75	266	105	[2] 7,341
1918	3,229	1,008	698	1,016	64	191	39	64	185	115	6,609
1919	2,986	1,020	943	993	178	202	24	50	235	158	6,789
1920	3,153	1,199	826	765	220	218	15	49	214	180	6,839
1921	[8] 2,872	1,588	1,105	919	327	287	34	58	262	193	[8] 7,645
5-year av.	[4] 3,110	1,230	854	928	205	249	28	59	232	150	[4] 7,045
1922	[9] 3,974	1,918	1,382	1,219	444	438	75	121	330	231	[9] 10,132
Totals:											
1917	[2] 48,356	20,334	14,732	13,444	7,734	4,467	1,053	2,618	5,407	1,400	[2] 119,545
1918	49,158	23,033	15,389	15,710	6,301	4,771	840	1,481	4,898	2,834	124,415
1919	47,767	27,026	16,771	15,772	6,181	5,942	793	1,412	4,918	2,444	129,026
1920	46,934	26,432	16,922	13,892	7,142	6,018	1,112	1,739	4,812	2,878	127,881
1921	[10] 51,918	30,988	18,479	14,465	8,729	7,901	1,420	1,996	5,346	2,934	[10] 144,176
5-year av.	[4] 48,827	25,563	16,459	14,657	7,217	5,820	1,044	1,849	5,076	2,498	[4] 129,009
1922	[11] 59,074	33,716	19,312	15,192	10,093	8,543	1,597	2,667	5,668	3,434	[11] 159,296

[1] Unloads as shown in carlots include those by boat reduced to carlot basis.
[2] Reports incomplete.
[3] An additional 1,754 cars received in L. C. L. receipts.
[4] Including incomplete reports of 1917.
[5] An additional 751 cars received in L. C. L. receipts.
[6] An additional 822 cars received in L. C. L. receipts.
[7] An additional 650 cars received in L. C. L. receipts.
[8] An additional 512 cars received in L. C. L. receipts.
[9] An additional 814 cars received in L. C. L. receipts.
[10] An additional 3,825 cars received in L. C. L. receipts.
[11] An additional 6,348 cars received in L. C. L. receipts.

SUGAR.

TABLE 339.—*Sugar: Production in the United States and its possessions, 1856–57 to 1922–23.*[1]

Data for 1912–13 and subsequently beet sugar, also Louisiana and Hawaii cane sugar, estimated by United States Department of Agriculture; Porto Rico, by Treasury Department of Porto Rico; Philippine Islands, production estimated by the Philippine Department of Agriculture and exports for years ending June 30. For sources of data for earlier years, see Yearbook for 1912, p. 650. A short ton is 2,000 pounds.

Year.	Beet sugar (chiefly refined).	Cane sugar (chiefly raw).					Total.
		Louisiana.	Other States.[2]	Porto Rico.	Hawaii.	Philippine Islands.[3]	
Average:	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
1856–57 to 1860–61	.....	132,402	5,978	75,364	.....	46,446	260,190
1861–62 to 1865–66	269	74,036	1,945	71,765	.....	54,488	202,503
1866–67 to 1870–71	448	44,768	3,818	96,114	.....	81,485	226,633
1871–72 to 1875–76	403	67,341	4,113	87,606	(4)	119,557	279,020
1876–77 to 1880–81	470	104,920	5,327	76,579	27,040	169,067	383,403
1881–82 to 1885–86	692	124,868	7,280	87,441	76,075	189,277	485,633
1886–87 to 1890–91	1,922	163,049	8,439	70,112	125,440	186,129	555,091
1891–92 to 1895–96	19,406	268,655	6,634	63,280	162,538	286,629	807,142
1896–97 to 1900–1901	58,287	282,399	4,405	61,292	282,585	134,722	823,690
1901–2 to 1905–6	289,730	352,053	12,126	141,478	403,308	108,978	1,257,673
1906–7 to 1910–11	479,153	348,544	13,664	282,136	516,041	145,832	1,785,370
1901–2	184,606	360,277	4,048	103,152	355,611	75,011	1,082,705
1902–3	218,406	368,734	4,169	100,576	437,991	123,108	1,252,984
1903–4	240,604	255,894	22,176	138,096	367,475	82,855	1,107,100
1904–5	242,113	398 195	16,800	151,088	426,248	125,271	1,359,715
1905–6	312,921	377,162	13,440	214,480	429,213	138,645	1,485,861
1906–7	483,612	257,600	14,560	206,864	440,017	132,602	1,535,255
1907–8	463,628	380,800	13,440	230,095	521,123	167,242	1,776,328
1908–9	425,884	397,600	16,800	277,093	535,156	123,876	1,776,409
1909–10	512,469	364,000	11,200	346,786	517,090	140,783	1,892,328
1910–11	510,172	342,720	12,320	349,840	566,821	164,658	1,946,531
1911–12	599,500	352,874	8,000	371,076	595,038	205,046	2,131,534
1912–13	692,556	153,573	9,000	398,004	546,524	[5] 345,077	2,144,734
1913–14	733,401	292,698	7,800	351,666	612,000	[5] 408,339	2,405,904
1914–15	722,054	242,700	3,920	346,490	646,000	[5] 421,192	2,382,356
1915–16	874,220	137,500	1,120	483,590	592,763	[5] 412,274	2,501,467
1916–17	820,657	303,900	7,000	503,081	644,663	[5] 425,266	2,704,567
1917–18	765,207	243,600	2,240	453,794	576,700	474,745	2,516,286
1918–19	760,950	280,900	3,500	406,002	600,312	453,346	2,505,010
1919–20	726,451	121,000	1,125	485,071	556,343	446,912	2,356,902
1920–21	1,089,021	169,127	6,987	489,818	521,759	608,499	2,885,211
1921–22	1,020,489	324,431	3,270	.....	.....	.....	.....
1922–23	691,000	241,376	.....	.....	.....	.....	.....

[1] Census returns give production of beet sugar for 1899 as 81,729 short tons; for 1904, 253,921; 1909, 501,682; production of cane sugar in Louisiana for 1839, 59,974 short tons; 1849, 226,001 hogsheads; 1859, 221,726 hogsheads; 1869, 80,706 hogsheads; 1879, 171,706 hogsheads; 1889, 146,062 short tons; 1898, 278,497 short tons; 1899, 159,583; and 1909, 325,516 short tons; cane sugar in other States, 1839, 491 short tons; in 1849, 21,576 hogsheads; in 1859, 9,256 hogsheads; in 1869, 6,337 hogsheads; in 1879 7,166 hogsheads; in 1889, 4,580 short tons; in 1899, 1,691; and in 1909, 8,687 short tons.

[2] Includes Texas only, subsequent to 1902–3. Unofficial returns prior to 1918–19.

[3] Exports for years ending June 30.

[4] Complete data not available for this period. Production in 1878–79, 1,254 short tons; in 1879–80, 1,304 short tons.

[5] Production.

SUGAR—Continued.

TABLE 340.—*Sugar beets and beet sugar: Production in the United States, 1913–1922.*

[Figures for 1922 are subject to revision.]

State and year.[1]	Area of beets.			Beets produced (weight as delivered to factories).			
	Planted.	Harvested.		Quantity.	Yield per acre.	Farm value.	Price to growers per ton.
		Amount.	Per cent of planted.				
	Acres.	*Acres.*	*Per cent.*	*Short tons.*	*Short tons.*	*Dollars.*	*Dollars.*
California:							
1918	121,000	101,000	83.28	858,000	8.52	8,534,000	9.95
1919	130,000	107,000	82.76	816,000	7.61	11,561,000	14.17
1920	136,000	123,000	90.50	1,074,000	8.74	14,096 000	13.13
1921	136,000	121,000	88.91	1,046,000	8.67	7,851,000	7.51
1922	62,000	59,000	95.16	441,000	7.48	3,868,000	8.77
Colorado:							
1918	142,000	126,000	88.65	1,444,000	11.47	14,474,000	10.02
1919	236,000	183,000	77.28	1,765,000	9.66	19,143,000	10.85
1920	254,000	220,000	86.69	2,325,000	10.58	27,627,000	11.88
1921	214,000	200,000	93.48	2,279,000	11.39	14,521,000	6.37
1922	165,000	150,000	90.91	1,473,000	9.81	7,823,000	5.31
Idaho:							
1918	38,000	32,000	85.69	344,000	10.66	3,443,000	10.00
1919	54,000	30,000	56.48	203,000	6.70	2,235,000	11.00
1920	58,000	45,000	78.32	396,000	8.77	4,787,000	12.10
1921	53,000	41,000	78.56	380,000	9.18	2,279,000	6.00
1922	33,000	25,000	75.76	277,000	11.16	1,525,000	5.50
Michigan:							
1918	134,000	115,000	85.48	967,000	8.40	9,741,000	10.08
1919	166,000	123,000	74.28	1,211,000	9.82	15,158,000	12.52
1920	164,000	150,000	91.31	1,313,000	8.78	13,236,000	10.08
1921	164,000	148,000	90.26	1,153,000	7.80	7,041,000	6.10
1922	106,000	83,000	78.30	690,000	8.33	3,898,000	5.65
Nebraska:							
1918	45,000	43,000	95.84	485,000	11.35	4,833,000	9.96
1919	65,000	59,000	91.22	601,000	10.16	6,546,000	10.90
1920	79,000	72,000	91,63	718,000	9.93	8,587,000	11.96
1921	72,000	72,000	100.66	773,000	10.72	5,093,000	6.59
1922	55,000	55,000	100.00	688,000	12.43	3,440,000	5.00
Ohio:							
1918	36,000	33,000	90.16	315,000	9.69	3,162,000	10.03
1919	37,000	31,000	83.29	327,000	10.58	4,168,000	12.75
1920	54,000	49,000	91.28	436,000	8.86	4,313,000	9.89
1921	36,000	33,000	91.20	264,000	8.10	1,596,000	6.05
1922	28,000	25,000	89.29	211,000	8.34	1,161,000	5.50
Utah:							
1918	90,000	82,000	90.70	1,003,000	12.27	10,041,000	10.01
1919	110,000	103,000	94.12	1,016,000	9.84	11,148,000	10.97
1920	116,000	113,000	96.96	1,390,000	12.35	16,713,000	12.03
1921	111,000	112,000	101.21	1,152,000	10.26	6,300,000	5.47
1922	80,000	74,000	98.75	860,000	11.64	4,369,000	5.08
Wisconsin:							
1918	15,000	12,000	83.22	100,000	8.05	998,000	10.00
1919	16,000	12,000	74.69	117,000	9.71	1,411,000	12.02
1920	29,000	21,000	71,33	190,000	9.19	1,940,000	10.20
1921	18,000	17,000	91.48	148,000	8.82	1,034,000	7.00
1922	13,000	9,000	69.23	79,000	8.72	471,000	5.95
Other States:							
1918	69,000	50,000	73.66	433,000	8.53	4,268,000	9.86
1919	76,000	44,000	56.61	365,000	8.39	4,050,000	11.08
1920	88,000	79,000	83.54	696,000	8.75	8,025,000	11.52
1921	78,000	71,000	89.63	587,000	8.23	3,911,000	6.65
1922	64,000	57,000	89.06	524,000	9.20	3,050,000	5.83
United States:							
1913	635,000	580,000	91.33	5,886,000	10.10	33,491,000	5.69
1914	515,000	483,000	93.94	5,585,000	11.60	30,438,000	5.45
1915	664,000	611,000	92.02	6,511,000	10.70	36,950,000	5.67
1916	768,000	665,000	86.57	6,228,000	9.36	38,139,000	6.12
1917	807,000	665,000	82.43	5,980,000	9.00	44,192,000	7.39
1918	690,000	594,000	86.13	5,949,000	10.01	59,494,000	10.00
1919	890,000	692,000	77.77	6,421,000	9.27	75,420 000	11.74
1920	978,000	872,000	89.08	8,538,000	9.79	99,324,000	11.63
1921	882,000	815,000	92.36	7,782 000	9.55	49,626,000	6.38
1922	606,000	537,000	88.61	5,243,000	9.76	29,605,000	5.65

[1] Acreage and production of beets are credited, as in former reports, to the State in which the beets were made into sugar.

SUGAR—Continued.

TABLE 340.—*Sugar beets and beet sugar: Production in the United States, 1913–1922*—Continued.

State and year.[1]	Factories operati n.	Average length of campaign.	Sugar made (chiefly refined).	Sugar beets used.			Analysis of beets.		Recovery of sucrose.		Loss.[5]
				Area harvested.	Average yield per acre.	Quantity worked (sliced).	Percentage of sucrose.[2]	Purity coefficient.[3]	Percentage of weight of beets.	Percentage of total sucrose in beets.	
	No.	*Days.*	*Short tons.*	*Acres.*	*Short tons.*	*Short tons.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
California:											
1918	13	81	123,000	101,000	8.40	846,000	17.03	81.50	14.52	85.26	2.51
1919	10	76	131,000	107,000	7.51	805,000	17.87	82.02	16.30	91.21	1.57
1920	10	90	168,000	123,000	8.56	1,052,000	17.66	81.44	15.97	90.43	1.69
1921	9	84	171,000	121,000	8.62	1,040,000	17.80	81.46	16.48	92.58	1.32
1922	7	.....	72,000	59,000	.....	441,000	18.60	.....	16.30	87.63	2.30
Colorado:											
1918	14	76	192,000	126,000	10.83	1,363,000	16.10	85.96	14.07	87.39	2.03
1919	15	87	194,000	183,000	9.07	1,656,000	13.62	83.85	11.71	85.98	1.91
1920	17	98	294,000	220,000	9.85	2,166,000	15.81	85.15	13.60	86.02	2.21
1921	15	95	295,000	200,000	10.79	2,159,000	15.66	83.28	13.66	87.23	2.00
1922	15	.....	183,000	150,000	.....	1,473,000	14.86	.....	12.42	83.58	2.44
Idaho:											
1918	7	87	45,000	32,000	10.12	327,000	16.57	86.46	13.66	82.44	2.91
1919	6	50	26,000	30,000	6.49	197,000	15.48	86.15	13.29	85.85	2.19
1920	8	72	57,000	45,000	8.97	405,000	16.26	86.42	13.98	85.98	2.28
1921	7	60	57,000	41,000	8.57	355,000	17.45	86.54	15.99	91.63	1.46
1922	5	.....	41,000	25,000	.....	277,000	16.66	.....	14.91	89.50	1.75
Michigan:											
1918	16	75	128,000	115,000	7.74	890,000	16.61	85.49	14.38	86.51	2.23
1919	16	84	130,000	123,000	8.36	1,032,000	14.57	81.78	12.63	86.68	1.94
1920	17	87	166,000	150,000	8.32	1,244,000	15.79	84.04	13.34	84.48	2.45
1921	17	71	122,000	148,000	7.55	1,117,000	13.28	81.68	10.95	82.45	2.33
1922	15	.....	86,000	83,000	.....	690,000	14.33	.....	12.41	86.60	1.92
Nebraska:											
1918	4	99	63,000	43,000	10.60	453,000	16.05	86.14	14.01	87.29	2.04
1919	4	112	61,000	59,000	9.37	554,000	13.14	82.80	10.99	83.64	2.15
1920	5	110	90,000	72,000	9.26	670,000	15.74	83.94	13.37	84.94	2.37
1921	5	106	105,000	72,000	10.12	730,000	16.60	84.55	14.43	86.93	2.17
1922	5	.....	85,000	55,000	.....	688,000	15.19	.....	12.31	81.04	2.88
Ohio:											
1918	5	91	35,000	33,000	8.94	291,000	15.74	84.23	12.19	77.45	3.55
1919	5	79	32,000	31,000	9.43	292,000	14.15	82.73	10.93	77.24	3.22
1920	5	100	47,000	49,000	7.77	382,000	15.44	82.45	12.31	79.73	3.13
1921	5	62	26,000	33,000	7.61	248,000	13.41	81.41	10.46	78.00	2.95
1922	4	.....	27,000	25,000	.....	211,000	14.75	.....	12.89	87.39	1.86
Utah:											
1918	16	98	106,000	82,000	11.08	905,000	15.29	84.21	11.69	76.46	3.60
1919	18	84	101,000	103,000	8.80	908,000	13.87	82.39	11.12	80.17	2.75
1920	18	102	163,000	113,000	11.20	1,261,000	15.62	84.27	12.89	82.52	2.73
1921	18	78	156,000	112,000	9.66	1,084,000	16.52	84.72	14.27	86.99	2.15
1922	16	.....	118,000	74,000	.....	860,000	16.23	.....	13.72	84.53	2.51
Wisconsin:											
1918	4	61	13,000	12,000	7.54	93,000	16.29	82.40	14.29	87.72	2.00
1919	4	60	11,000	12,000	8.73	106,000	13.16	81.73	10.07	76.52	3.09
1920	5	80	21,000	21,000	8.16	169,000	15.86	82.53	12.40	78.18	3.46
1921	5	51	14,000	17,000	7.96	133,000	13.47	82.11	10.59	78.62	2.88
1922	4	.....	10,000	9,000	.....	79,000	16.10	.....	12.99	80.68	3.11
Other States:											
1918	10	64	56,000	50,000	8.05	410,000	15.95	84.31	13.59	85.20	2.36
1919	11	52	40,000	44,000	7.77	338,000	14.27	83.14	11.95	83.74	2.32
1920	12	70	83,000	79,000	8.07	642,000	15.46	83.12	13.06	84.48	2.40
1921	11	60	74,000	71,000	7.69	548,000	15.41	81.89	13.50	87.61	1.91
1922	10	.....	69,000	57,000	.....	524,000	15.90	.....	13.08	82.26	2.82
United States:											
1913	71	85	733,000	580,000	9.76	5,659,000	15.78	83.22	12.96	8[illegible]3	2.82
1914	60	85	722,000	483,000	10.90	5,288,000	16.38	83.89	13.65	83.33	2.73
1915	67	92	874,000	611,000	10.10	6,150,000	16.49	84.38	14.21	86.17	2.28
1916	74	80	821,000	665,000	8.90	5,920,000	16.30	84.74	13.86	85.03	2.44
1917	91	74	765,000	665,000	8.46	5,626,000	16.28	83.89	13.60	83.54	2.68
1918	89	81	761,000	594,000	9.39	5,578,000	16.18	84.70	13.64	84.30	2.54
1919	89	78	726,000	692,000	8.50	5,888,000	14.48	82.84	12.34	85.22	2.14
1920	97	91	1,089,000	872,000	9.17	7,991,000	15.99	83.96	13.63	85.24	2.36
1921	92	76	1,020,000	815,000	9.10	7,414,000	15.77	83.09	13.76	87.25	2.01
1922	81	.....	691,000	537,000	.....	5,243,000	15.59	.....	13.17	84.48	2.42

[1] Acreage and production of beets are credited, as in former reports, to the State in which the beets were made into sugar.
[2] Based upon weight of beets.
[3] Percentage of sucrose (pure sugar) in the total soluble solids of the beets.
[4] Percentage of sucrose actually extracted by factories.
[5] Percentage of sucrose (based upon weight of beets) remaining in molasses and pulp.

SUGAR—Continued.

TABLE 341.—*Cane-sugar production of Louisiana, 1911–1922.*

[Figures for 1922 are from returns made before the end of the season, and are subject to revision.]

Year of cane harvest.	Factories in operation.	Sugar made.	Average sugar made per ton of cane.	Cane used for sugar.			Molasses made.[1]	
				Area.	Average per acre.	Production.	Total.	Per ton of sugar.
	Number.	*Short tons.*	*Pounds.*	*Acres.*	*Short tons.*	*Short tons.*	*Gallons.*	*Gallons.*
1911	188	352,874	120	310,000	19	5,887,292	35,062,525	99
1912	126	153,573	142	197,000	11	2,162,574	14,302,169	93
1913	153	292,698	139	248,000	17	4,214,000	24,046,320	82
1914	149	242,700	152	213,000	15	3,199,000	17,177,443	71
1915	136	137,500	135	183,000	11	2,018,000	12,743,000	93
1916	150	303,900	149	221,000	18	4,072,000	26,154,000	86
1917	140	243,600	128	244,000	15.6	3,813,000	30,728,000	126
1918	134	280,900	135	231,200	18	4,170.000	28,049,000	100
1919	121	121,000	129	179,900	10.5	1,883,000	12,991,000	107
1920	122	169,127	136.1	182,843	13.6	2,492,524	16,856,867	100
1921	124	324,431	155.2	226,366	18.5	4,180,780	25,423,341	78
1922	.....	241,376	144.4	217,000	15.4	3,342,000	20,420,000	85

[1] Figures for molasses, 1911–1914, are as reported by the Louisiana Sugar Planters' Association; figures for later years as reported by the Bureau of Markets and Crop Estimates, U. S. Department of Agriculture.

TABLE 342.—*Area of sugar cane and production of cane sirup, United States, 1920–1922.*

State.	Area of sugar cane.[1]						Production of sirup.[2]		
	Total.			Harvested for sirup.					
	1920	1921	1922	1920	1921	1922	1920	1921	1922
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*
South Carolina	8,200	8,700	9,600	7,800	8,200	8,900	858	1,107	1,288
Georgia	53,100	61,000	50,000	44,100	45,000	40,000	9,697	7,335	7,040
Florida	28,000	34,000	29,000	24,000	30,000	24,000	6,110	6,300	4,800
Alabama	55,000	71,000	79,000	42,000	60,000	69,000	7,665	8,760	11,937
Mississippi	33,100	39,200	37,000	28,300	33,700	32,000	7,358	7,582	7,040
Louisiana	268,300	294,500	294,000	18,300	18,900	21,600	4,640	6,454	6,020
Texas	16,400	18,000	18,800	7,100	12,000	14,200	2,215	3,192	2,485
Arkansas	3,200	3,000	3,600	2,500	2,400	3,100	437	437	531
Total	465,300	529,400	521,000	174,100	210,200	212,800	38,980	41,167	41,141

[1] Sorghum, some times confused with sugar cane, is *not* included.
[2] The production of molasses (a by-product from sugar) in Louisiana is forecast at 20,420,000 gallons for 1922 compared with 25,423,000 gallons in 1921 and 16,857,000 gallons in 1920.

SUGAR—Continued.

TABLE 343.—*Total and per capita sugar supply of the United States, 1901–1920.*

The "supply" shown below consists of domestic production, plus imports, minus exports, and is quoted from the Statistical Abstract of the United States for 1918, pp. 560–561, for all years except 1919. Figures for 1919 are based upon the Bureau of Crop Estimates reports on production and the Bureau of Foreign and Domestic Commerce reports on exports and imports. The average per capita supply is computed from the Census estimates of population for June 1, 1901–1915, July 1, 1916, and subsequently. No allowance has been made for sugar carried over from one fiscal year to the next.

Year ending June 30.	Supply ("consumption") of sugar.		Year ending June 30.	Supply ("consumption") of sugar.		Year ending June 30.	Supply ("consumption") of sugar.		Year ending June 30.	Supply ("consumption") of sugar.	
	Total.	Per capita.		Total.	Per capita.		Total.	Per capita.		Total.	Per capita.
	Millions of lbs.	*Lbs.*		*Millions of lbs.*	*Lbs.*		*Millions of lbs.*	*Lbs.*		*Millions of lbs.*	*Lbs.*
1901	5,585	71.96	1906	6,491	75.74	1911	7,236	77.34	1916	7,960	79.00
1902	5,019	63.35	1907	7,090	81.19	1912	7,862	82.78	1917	8,467	82.87
1903	6,380	78.92	1908	6,591	74.11	1913	8,324	85.43	1918	8,086	78.06
1904	5,662	68.66	1909	7,283	80.43	1914	8,794	89.91	1919	8,773	83.55
1905	5,026	71.66	1910	7,360	79.87	1915	8,627	86.94	1920	9,733	91.46
Ave. 1901–1905	5,734	70.91	Ave. 1906–1910	6,963	78.27	Ave. 1911–1915	8,169	84.48	Ave. 1916–1920	8,596	83.56
									1921	10,548	97.82
									1922 [1]	11,237	103.53

[1] Preliminary.

TABLE 344.—*Cane sugar production of Hawaii, 1913–1922.*

[1922 figures subject to revision.]

Island and year ending Sept. 30.	Average length of campaign.	Sugar made (chiefly raw).	Cane used for sugar.			Total area in cane.	Average extraction of sugar.	
			Area harvested.	Average yield per acre.	Production.		Per cent of cane.	Per short ton of cane.
Territory of Hawaii:	*Days.*	*Short tons.*	*Acres.*	*Short tons.*	*Short tons.*	*Acres.*	*Per cent.*	*Lbs.*
1913	169	546,524	114,600	39	4,476,000	.....	12.21	244
1914	183	612,000	112,700	43	4,900,000	.....	12.49	250
1915	195	646,000	113,200	46	5,185,000	239,800	12.46	249
1916	180	592,763	115,419	42	4,859,424	246,332	12.20	244
1917	190	644,663	123,900	42	5,220,000	245,100	12.35	247
1918	184	576,700	119,800	41	4,855,000	276,800	11.88	238
1919	178	600,312	119,700	40	4,744,000	239,900	12.65	253
1920	175	555,727	114,100	39	4,473,000	247,900	12.42	248
1921	202	521,579	113,100	41	4,657,000	236,500	11.20	224
1922	199	592,000	124,000	41	5,088,000	229,000	11.64	233
Island of Hawaii:								
1920	168	186,062	50,800	31	1,595,000	115,400	11.67	233
1921	191	195,267	52,600	34	1,790,000	108,200	10.91	218
1922	198	223,000	55,000	37	2,010,000	106,000	11.09	222
Island of Kauai:								
1920	201	104,938	21,900	41	897,000	42,800	11.70	234
1921	219	83,569	19,800	45	884,000	42,700	9.45	189
1922	200	94,000	23,000	36	842,000	43,000	11.22	224
Island of Maui:								
1920	138	135,896	19,900	48	947,000	44,300	14.35	287
1921	177	116,630	19,200	46	876,000	38,500	13.31	266
1922	159	124,000	19,000	50	971,000	38,000	12.76	255
Island of Oahu:								
1920	220	128,831	21,500	48	1,034,000	45,400	12.46	249
1921	243	126,113	21,500	51	1,107,000	47,100	11.39	228
1922	243	151,000	27,000	48	1,265,000	42,000	11.92	238

SUGAR—Continued.

TABLE 345.—*Sugar: International trade, calendar years 1909–1921.*

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. See "General note," Table 161.

Country.	Average, 1909–1913.		1919		1920		1921	
	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.*
Austria-Hungary	7,884	1,697,659	.....	.....	[1] 130,262	[1] 94	[1] 177,667	[1] 1,009
Barbados	[2] 466	51,657	.....	113,819	.....	77,811	.....	59,015
Belgium	15,784	308,952	110,294	50,222	127,356	158,901	32,801	391,717
Brazil	[2] 234	76,568	231	153,063	13	240,612	3	379,398
British Guiana	[2] 12,224	212,393	.....	186,234	.....	187,658	508	241,559
Cuba	1,312	4,019,798	85	8,995,775	1,782	6,985,246	.....	.....
Dominican Republic	[3] 1,533	184,703	798	357,885	780	351,122	.....	.....
Dutch East Indies	7,124	2,825,111	6,195	4,115,514	4,741	3,339,067	4,460	3,697,415
Fiji	[4] 771	157,633	.....	144,140	.....	163,520	.....	.....
France	372,395	413,795	1,384,028	174,300	1,371,378	186,564	753,504	229,757
Germany	6,973	1,746,322	.....	.....	203,166	14,162	[6] 29,140	[6] 24,539
Guadeloupe	390	75,270	3	39,596	.....	.....	.....	.....
Martinique	461	85,110	555	16,498	.....	.....	.....	.....
Mauritius	[2] 4	452,510	2	667,611	1	402,262	([5])	505,349
Netherlands	165,443	400,980	105,134	86,240	92,826	167,827	103,647	356,963
Peru	1,451	293,472	195	599,920	27	551,069	.....	.....
Philippine Islands	7,900	358,865	3,261	299,959	5,379	397,579	5,529	639,061
Reunion	[4] 4	83,316	.....	110,160	.....	.....	.....	.....
Russia	7,487	587,028	.....	.....	.....	.....	.....	.....
Trinidad and Tobago	[2] 1,045	87,510	53	84,685	.....	111,948	.....	104,151
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	103,380	144	181,318	3,203	.....	.....	.....	.....
Australia	152,465	535	252,683	340	260,454	20	.....	.....
British India	1,431,980	53,222	941,930	52,864	704,285	88,301	1,310,466	54,199
British South Africa	61,282	1,513	9,561	38,228	4,339	32,869	26,666	134,807
Canada	595,785	1,639	1,059,898	246,980	780,877	76,980	769,742	88,791
Chile	169,931	181	198,022	1,373	163,006	66	146,687	408
China	687,243	29,867	691,717	32,833	514,305	46,621	1,029,321	42,257
Denmark	43,627	45,073	4,142	20,308	1,038	38,558	10,341	20,288
Egypt	86,041	16,171	25,289	56,880	82,407	62,762	18,116	35,390
Finland	100,153	.....	62,468	.....	55,203	.....	119,631	.....
Italy	18,499	603	175,224	54	25,078	59	213,008	40
Japan	353,885	120,407	606,457	151,841	396,509	135,755	678,641	109,013
New Zealand	125,924	[2] 26,955	131,340	2,643	138,267	1,067	144,612	.....
Norway	104,651	.....	187,229	.....	200,297	.....	70,696	.....
Persia	218,703	[2] 1,114	82,557	5,636	80,288	116	.....	.....
Portugal	79,262	.....	64,741	24	.....	.....	.....	.....
Singapore	163,220	95,878	.....	.....	91,676	69,525	.....	.....
Switzerland	236,403	.....	231,322	1	279,056	6	170,287	22
United Kingdom	3,707,211	65,207	3,509,118	2,867	3,035,175	5,212	2,864,713	15,977
United States	4,245,034	79,368	7,023,620	1,475,408	8,073,760	924,192	5,967,500	933,792
Other countries	954,557	287,612	603,417	328,746	783,796	406,819	595,517	241,924
Total	14,250,121	14,944,141	17,652,887	18,615,850	17,607,527	15,224,370	15,214,063	8,282,302

[1] Austria only.
[2] Four-year average.
[3] One year only.
[4] Three-year average.
[5] Less than 500.
[6] May to December.

SUGAR—Continued.

TABLE 346.—*Sugar production of undermentioned countries, campaigns of 1909–10 to 1921–22.*

BEET SUGAR (RAW).

Country.	Average, 1909–10 to 1913–14.	1916–17	1917–18	1918–19	1919–20	1920–21	1921–22.[1]
NORTH AMERICA.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
Canada [2, 3]	11,457	8,512	11,688	25,046	18,920	44,640	26,431
United States [2, 3]	609,620	820,657	765,207	760,950	726,451	1,089,021	1,020,489
Total North America [2]	621,077	829,169	776,895	785,996	745,371	1,133,661	1,046,920
EUROPE.							
Sweden [2]	153,581	151,451	144,443	140,536	159,843	181,018	258,778
Denmark [2]	127,602	123,623	148,700	155,755	149,053	148,810	157,629
Netherlands [2]	246,341	286,102	214,891	181,986	251,891	317,967	381,909
Belgium [2]	276,075	140,473	135,869	77,954	151,515	264,496	315,374
France [2 3]	759,426	204,405	220,752	121,374	170,969	336,247	402,956
Spain [2]	115,727	139,280	154,317	169,223	91,089	104,456	[4] 91,491
Italy [2]	208,675	159,690	102,100	119,524	185,001	149,913	218,073
Switzerland [2]	4,390	1,984	9,921	12,125	1,631	4,685	6,559
Germany [2]	2,296,131	1,721,250	1,726,483	1,483,807	808,304	1,194,729	1,429,265
Austria	43,194	22,236	.....	.....	5,657	15,251	18,035
Czechoslovakia	1,017,237	.....	.....	687,553	552,805	797,148	729,139
Hungary [2]	467,742	289,107	173,024	97,547	12,477	36,376	[4 6] 75,719
Yugoslavia	20,948	.....	.....	.....	.....	.....	.....
Bulgaria [2]	7,688	9,945	11,543	3,743	13,074	8,267	14,238
Rumania	59,934	.....	.....	.....	1,213	16,534	31,967
Poland [2]	279,374	[6] 292,628	[6] 263,163	[6] 249,219	[6] 106,174	[6] 194,765	[6] 198,326
Russia [2]	1,726,231	[4] 1,312,000	[4] 1,009,000	[4] 367,000	[4] 88,000	[4] 100,000	[4] 55,115
Total Europe [2]	6,668,983	4,831,938	4,314,206	3,179,793	2,189,021	3,041,729	3,605,432
OCEANIA.							
Australia	719	2,182	1,904	.....	.....	.....	.....
Total [2]	7,290,060	5,661,107	5,091,101	3,965,789	2,934,392	4,175,390	4,652,352
Total all countries reporting	8,432,092	5,685,525	5,093,005	4,653,342	3,494,067	5,004,323	5,431,493

CANE SUGAR.

NORTH AND CENTRAL AMERICA.							
United States:							
Louisiana [2]	301,173	303,900	243,600	280,900	121,000	169,127	324,431
Texas [2]	9,664	7,000	2,240	3,500	1,125	6,987	3,270
Hawaii [2]	567,495	644,663	576,700	600,312	556,343	521,579	[4] 540,000
Porto Rico	363,474	503,081	453,794	406,002	485,071	489,818	.....
Virgin Isalnds [2]	9,212	6,720	6,048	10,080	13,888	[4] 5,040	[4] 5,600
Central America:							
British Honduras	575	.....	840	.....	.....	.....	.....
Costa Rica	2,922	6,538	4,282	4,225	.....	.....	.....
Guatemala	8,284	33,069	33,069	25,142	14,816	11,260	.....
Nicaragua	5,000	15,000	12,000	12,000	16,000	.....	[4] 14,100
Salvador	13,616	.....	20,385	30,515	14,304	20,000	.....
Mexico [2]	163,030	55,115	38,580	78,400	103,040	110,230	[4] 134,200
West Indies:							
British—							
Antigua	12,919	20,769	19,181	14,679	18,667	11,396	.....
Barbados	27,788	77,691	58,195	84,304	77,983	62,957	.....
Jamaica	23,856	43,731	38,291	48,160	52,500	42,560	.....
Montserrat	222	329	329	65	151	151	.....
St. Christopher	13,252	19,040	16,854	11,318	13,457	.....	.....
St. Lucia	5,436	5,011	3,516	4,100	4,928	5,682	.....
St. Vincent	349	599	632	638	1,272	560	.....
Trinidad and Tobago [2]	51,275	71,939	79,140	50,687	53,592	65,426	[4] 61,525

[1] 1921–22 figures compiled from reports received up to Nov. 24, 1922.
[2] Indicates countries reporting for all periods either as listed or as part of some other country.
[3] Expressed in terms of refined sugar.
[4] Unofficial.
[5] Includes a portion of refined sugar.
[6] Present boundaries.

SUGAR—Continued.

TABLE 346.—*Sugar production of undermentioned countries, campaigns of 1909–10 to 1921–22*—Continued.

CANE SUGAR—Continued.

Country.	Average, 1909–10 to 1913–14.	1916–17	1917–18	1918–19	1919–20	1920–21	1921–22 [1]
NORTH AND CENTRAL AMERICA—continued.							
West Indies—Contd.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
Cuba [2]	2,295,353	3,441,771	3,957,061	4,596,710	4,209,349	4,451,010	4,475,953
Dominican Republic [2]	106,539	149,943	172,800	186,682	225,920	229,278	[3] 232,237
French:							
Guadeloupe [2]	40,917	35,690	30,864	29,326	[3] 25,184	[3] 28,027	[3] 35,274
Martinique	42,567	23,017	22,831	11,230	18,147	26,690	.....
Total North and Central America [2]	3,544,658	4,716,741	5,107,033	5,836,597	5,309,441	5,586,704	5,862,490
EUROPE AND ASIA.							
Spain	17,059	5,053	6,297	6,921	7,452	6,864	.....
British India [2]	2,614,326	3,057,600	3,708,320	2,654,400	3,400,320	2,825,760	2,903,040
Formosa [2]	192,299	504,897	518,089	379,323	321,614	385,805	368,046
Japan	75,718	141,438	.....	.....	.....	.....	.....
Java [2]	1,513,736	2,008,521	1,960,118	1,478,103	1,472,796	1,578,657	[3] 1,906,417
Philippine Islands	170,447	425,266	474,745	453,346	466,912	608,499	.....
Total Europe and Asia [2]	4,320,361	5,571,018	6,186,527	4,511,826	5,194,730	4,790,222	5,177,503
SOUTH AMERICA.							
Argentina [2]	193,853	92,669	97,085	139,463	328,095	231,104	212,747
Brazil [2]	38,284	413,362	492,728	440,479	496,035	579,946	675,608
Guiana:							
British [2]	106,194	121,163	120,467	90,350	107,520	106,400	124,303
Dutch [2]	12,571	15,829	12,357	8,960	8,356	11,107	[3] 11,000
Paraguay	1,363	869	808	619	2,745	.....	.....
Peru [2]	210,608	279,077	316,890	336,000	392,000	385,805	358,252
Total South America [2]	561,510	922,100	1,039,527	1,015,252	1,332,006	1,314,362	1,381,910
AFRICA.							
Egypt [2]	67,128	112,080	87,620	83,663	62,694	73,877	122,039
Mauritius [2]	233,671	230,419	248,531	278,187	267,308	285,385	259,044
Natal [2]	88,165	128,240	119,000	164,080	168,000	176,368	[3] 157,000
Portuguese East Africa	27,800	40,406	47,926	22,724	38,580	44,092	.....
Reunion [2]	41,658	49,604	46,462	55,115	35,644	[3] 46,384	[3] 42,541
Total Africa [2]	430,622	520,343	501,613	581,045	533,646	582,014	580,624
OCEANIA.							
Australia [2]	216,331	216,201	366,900	226,527	193,730	204,428	330,960
Fiji [2]	84,629	134,992	109,014	72,070	81,743	66,138	[3] 59,000
Total Oceania [2]	300,960	351,193	475,914	298,597	275,473	270,566	389,960
Total cane-sugar countries [2]	9,158,111	12,081,395	13,310,614	12,243,317	12,645,296	12,543,868	13,392,487
Total cane-sugar countries reporting	9,970,758	13,442,302	14,524,589,	13,379,305	13,879,281	13,874,397	13,406,587
Total beet and cane-sugar countries [2]	16,448,171	17,742,502	18,401,715	16,209,106	15,579,688	16,719,258	18,044,839
Total beet and cane-sugar countries reporting	18,402,850	19,127,827	19,617,594	18,032,647	17,373,348	18,878,720	18,838,080

[1] 1921–22 figures compiled from reports received up to Nov. 24, 1922.
[2] Indicates countries reporting for all periods either as listed or as part of some other country.
[3] Unofficial.

SUGAR—Continued.

TABLE 347.—*Sugar: Total production of countries as reported 1895–96 to 1921–22.*

Year.	Production.			Year.	Production.		
	Cane.	Beet.	Total.		Cane.	Beet.	Total.
	Short tons.	*Short tons.*	*Short tons.*		*Short tons.*	*Short tons.*	*Short tons.*
1895–96	3,259,000	4,832,000	8,091,000	1909–10	9,423,000	6,991,000	16,414,000
1896–97	3,171,000	5,549,000	8,720,000	1910–11	9,540,000	9,042,000	18,582,000
1897–98	3,206,000	5,457,000	8,663,000	1911–12	10,275,000	7,072,000	17,347,000
1898–99	3,355,000	5,616,000	8,971,000	1912–13	10,908,000	9,509,769	20,518,000
1899–1900	3,389,000	6,262,000	9,651,000	1913–14	11,270,200	9,433,783	20,703,983
1900–1901	4,084,000	6,795,000	10,879,000	1914–15	11,292,907	8,330,628	19,523,535
1901–2	6,818,000	7,743,000	14,561,000	1915–16	12,754,793	5,816,555	18,571,348
1902–3	6,782,000	6,454,000	13,236,000	1916–17	13,442,302	5,685,525	19,127,827
1903–4	6,909,000	6,835,000	13,744,000	1917–18	14,524,589	5,093,005	19,617,594
1904–5	7,662,000	5,525,000	13,187,000	1918–19	13,379,305	4,653,342	18,032,647
1905–6	7,551,000	8,090,000	15,641,000	1919–20	13,879,281	3,494,067	17,373,348
1906–7	8,365,000	7,587,000	15,952,000	1920–21	13,874,397	5,004,323	18,878,720
1907–8	7,926,000	7,390,000	15,316,000	1921–22	13,406,587	5,431,493	18,838,080
1908–9	8,654,000	7,350,000	16,004,000				

SUGAR BEETS.

TABLE 348.—*Sugar beets: Area and production in undermentioned countries, 1909–1922.*

Country.	Area.				Production.			
	Average, 1909–1913.[1]	1920	1921	1922[2]	Average, 1909–1913.[1]	1920	1921	1922[2]
NORTHERN HEMISPHERE.								
NORTH AMERICA.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*
Canada[3]	18	36	28	26	174	412	268	246
United States[3]	568	872	815	606	5,767	8,538	7,782	5,000
EUROPE.								
England	4	.....	[4] 8	[4] 8	.....	.....	.....	.....
Sweden[3]	69	108	120	41	940	1,146	1,636	473
Denmark[3]	80	95	86	60	1,025	934	957	730
Netherlands[3]	154	165	182	142	2,117	2,100	2,985	2,035
Belgium[3]	142	131	143	146	1,720	1,585	1,613	1,626
France	623	258	298	269	7,254	2,715	2,271	.....
Spain	126	177	134	112	2,130	1,352	2,002	.....
Italy	143	114	159	124	2,465	1,323	1,930	.....
Switzerland[3]	[5] 2	1	3	3	[5] 21	10	47	37
Germany[3]	1,335	805	962	1,030	18,509	8,748	8,796	[6] 10,890
Austria	642	18	19	.....	8,202	142	85	.....
Czechoslovakia	.....	517	544	520	.....	5,270	4,488	5,145
Hungary[3]	432	78	103	89	5,275	703	598	632
Yugoslavia	.....	48	41	.....	.....	274	163	[6] 243
Bulgaria[3]	8	23	21	24	81	90	191	236
Rumania	34	14	57	.....	316	98	388	.....
Poland[3]	[5] 170	175	197	265	[5] 1,399	1,526	1,244	2,715
Finland	.....	2	3	2	.....	11	14	13
Russia, including northern Caucasia (Kuban) and Ukraine	[5] 1,586	[6] 705	[6] 400	.....	[5] 12,203	[6] 2,043	[6] 777	.....
Total[3]	2,978	2,489	2,660	2,432	37,028	25,792	26,117	24,620
Total all countries reporting	6,136	4,342	4,323	3,467	69,598	39,020	38,235	30,021

[1] Two-year average, 1912–1913.
[2] 1922 figures compiled from reports received up to Nov. 24, 1922.
[3] Indicates countries reporting for all periods either as listed or as part of some other country.
[4] Includes Wales.
[5] One year.
[6] Unofficial.

MAPLE SUGAR AND SIRUP.

TABLE 349.—*Maple sugar and sirup production, 1839–1922.*

[Figures for 1922 subject to revision.]

CENSUS DATA.

State and year.	Trees tapped.	Sugar made.	Sirup made.	Total product in terms of sugar.[1]	Average per tree.	
					As sugar.	As sirup.
United States:	*Number.*	*Pounds.*	*Gallons.*	*Pounds.*	*Pounds.*	*Gallons.*
1839	.....	[2] 34,516,266	(3)	.....	.....	.....
1849	.....	34,253,436	(3)	.....	.....	.....
1859	.....	40,120,205	1,597,589	52,900,917	.....	.....
1869	.....	28,443,645	921,057	35,812,101	.....	.....
1879	.....	36,576,061	1,796,048	50,944,445	.....	.....
1889	.....	32,952,927	2,258,376	51,019,935	.....	.....
1899	.....	11,928,770	2,056,611	28,381,658	.....	.....
1909	18,899,523	14,024,206	4,106,418	46,911,550	2.48	0.31
1919	17,457,144	9,691,854	3,507,745	37,753,814	2.16	0.27

BUREAU OF AGRICULTURAL ECONOMICS DATA.

State and year.	Trees tapped.	Sugar made.	Sirup made.	Total product in terms of sugar.[1]	Average per tree.	
					As sugar.	As sirup.
Total 13 States: [4]	*Number.*	*Pounds.*	*Gallons.*	*Pounds.*	*Pounds.*	*Gallons.*
1917	17,466,000	10,839,000	4,286,000	45,127.000	2.58	0.32
1918	19,312,000	13,271,000	4,905,000	52,513,000	2.72	.34
1919	17,531,000	10,466,000	3,528,000	38,692,000	2.21	.28
1920	17,638,000	7,070,000	3,340,000	33,768,000	1.92	.24
1921	15,219,000	4,887,000	2,411,000	24,178,000	1.59	.20
1922	16,385,000	5,321,000	3,686,000	34,806,000	2.12	.26
Maine:						
1920	320,000	36,000	60,000	512,000	1.60	.20
1921	285,000	12,000	48,000	398,000	1.40	.17
1922	290,000	31,000	62,000	522,000	1.80	.22
New Hampshire:						
1920	900,000	324,000	162,000	1,620,000	1.80	.22
1921	800,000	456,000	133,000	1,520,000	1.90	.24
1922	800,000	247,000	189,000	1,760,000	2.20	.28
Vermont:						
1920	5,956,000	4,068,000	904,000	11,300,000	1.90	.24
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
Massachusetts:						
1920	309,000	158,000	54,000	587,000	1.90	.24
1921	269,000	113,000	50,000	512,000	1.90	.24
1922	272,000	134,000	82,000	788,000	2.90	.36
Connecticut:						
1920	12,000	3,000	4,000	36,000	3.00	.38
1921	8,000	6,000	2,000	24,000	3.00	.38
1922	10,000	2,000	4,000	35,000	3.50	.44
New York:						
1920	4,875,000	1,755,000	999,000	9,750,000	2.00	.25
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
Pennsylvania:						
1920	1,061,000	415,000	253,000	2,440,000	2.30	.29
1921	785,000	173,000	98,000	960,000	1.22	.15
1922	815,000	242,000	245,000	2,201,000	2.70	.34
Maryland:						
1920	76,000	114,000	9,000	190,000	2.50	.31
1921	65,000	109,000	16,000	238,000	3.66	.46
1922	65,000	102,000	24,000	292,000	4.50	.56
West Virginia:						
1920	60,000	86,000	16,000	214,000	3.57	.45
1921	40,000	48,000	9,000	120,000	3.00	.38
1922	46,000	72,000	22,000	251,000	5.50	.71
Ohio:						
1920	2,156,000	39,000	478,000	3,862,000	1.79	.23
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

[1] 1 gallon of sirup taken as equivalent to 8 pounds of sugar.
[2] Reported as "Sugar" (not "maple sugar"), but for States which are too far north to make cane sugar. No beet sugar was made at this time.
[3] Not reported.
[4] These 13 States produced in 1919 99.4 per cent of the maple sugar crops of the United States and 98.5 per cent of the maple sirup.

MAPLE SUGAR AND SIRUP—Continued.

TABLE 349.—*Maple sugar and sirup production, 1839–1922*—Continued.

BUREAU OF AGRICULTURAL ECONOMICS DATA—Continued.

State and year.	Trees tapped.	Sugar made.	Sirup made.	Total product in terms of sugar.	Average per tree.	
					As sugar.	As sirup.
Indiana:	*Number.*	*Pounds.*	*Gallons.*	*Pounds.*	*Pounds.*	*Gallons.*
1920	560,000	8,000	97,000	784,000	1.40	0.18
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	.26
Michigan:						
1920	833,000	45,000	182,000	1,499,000	1.80	.22
1921	816,000	52,000	157,000	1,306,000	1.60	.20
1922	857,000	54,000	197,000	1,628,000	1.90	.24
Wisconsin:						
1920	520,000	19,000	122,000	974,000	1.87	.23
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

TABLE 350.—*Maple sugar and sirup: Farm price, 15th of month, 1916–1922.*

Date.	Sugar (cents per pound).							Sirup (dollars per gallon).						
	1916	1917	1918	1919	1920	1921	1922	1916	1917	1918	1919	1920	1921	1922
Feb. 15	12.6	14.7	18.8	22.0	29.3	24.9	17.5	1.08	1.22	1.58	1.86	2.35	2.27	1.84
Mar. 15	13.4	14.7	20.5	25.3	31.6	25.7	21.9	1.11	1.30	1.76	1.99	2.58	2.17	1.95
Apr. 15	13.9	16.3	22.5	26.9	37.0	25.7	23.1	1.17	1.33	1.80	2.03	2.92	2.21	1.93
May 15	13.6	16.2	22.6	26.3	36.0	21.5	21.6	1.15	1.34	1.85	2.02	2.93	2.08	1.86
June 15	13.7	15.9	22.0	26.2	35.1	20.7	21.3	1.16	1.33	1.85	2.19	2.84	2.10	1.86

SORGHUM FOR SIRUP.

TABLE 351.—*Sorghum for sirup: Acreage, production, and value, by States, 1921 and 1922, and totals, 1917–1922.*

State and year.	Thousands of acres.		Average yield, in gallons per acre.		Production (thousands of gallons).		Average farm price per gallon Dec. 1.		Farm value (thousands of dollars).	
	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922
Virginia	13	13	83	94	1,079	1,222	90	85	971	1,639
West Virginia	8	8	95	105	760	840	100	100	760	840
North Carolina	32	30	94	98	3,008	2,940	78	80	2,346	2,352
South Carolina	21	21	90	83	1,890	1,743	68	61	1,285	1,063
Georgia	37	30	94	83	3,478	2,490	40	55	1,391	1,370
Florida	1	1	120	130	120	130	50	52	60	68
Ohio	4	4	80	62	320	248	100	105	320	260
Indiana	12	11	80	85	960	935	100	95	960	888
Illinois	10	9	88	72	880	648	99	94	871	609
Wisconsin	2	2	70	60	140	120	140	110	196	132
Minnesota	2	2	110	75	220	150	100	105	220	158
Iowa	8	7	84	90	672	630	106	99	712	624
Missouri	28	24	86	80	2,408	1,920	88	85	2,119	1,632
Nebraska	2	2	86	83	172	166	103	95	177	158
Kansas	5	3	81	84	405	252	92	88	373	222
Kentucky	48	48	85	83	4,080	3,984	72	80	2,938	3,187
Tennessee	42	35	96	84	4,032	2,940	59	78	2,379	2,293
Alabama	90	74	85	81	7,650	5,994	42	56	3,213	3,357
Mississippi	53	42	88	88	4,664	3,696	39	46	1,819	1,700
Louisiana	1	1	90	100	90	100	52	45	47	45
Texas	35	35	87	69	3,045	2,415	70	72	2,132	1,739
Oklahoma	18	17	81	66	1,458	1,122	73	72	1,064	808
Arkansas	45	28	88	64	3,960	1,792	57	75	2,257	1,344
New Mexico	1	1	75	55	75	55	95	106	71	58
Total	518	448	88.0	81.5	45,566	36,532	62.9	71.0	28,681	25,946
1920	536		92.4		49,505		106.9		52,943	
1919	487		80.9		39,413		110.8		43,683	
1918	422		79.2		33,387		93.4		31,191	
1917	415		90.2		37,472		69.5		26,055	

SORGHUM FOR SIRUP—Continued.

TABLE 352.—*Sorghum (for sirup): Forecasts of production, monthly, with preliminary and final estimates.*

Year.	July.	August.	September.	October.	November production estimate.	Final estimate.
	1,000 gallons.	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*
1918	33,817	31,320	29,430	29,973	29,757	33,387
1919	35,013	33,757	34,011	33,128	33,668	39,413
1920	36,112	36,968	38,525	38,760	37,402	49,505
1921	45,016	44,801	46,854	45,867	43,864	45,566
1922	40,631	40,663	38,464	36,787	38,225	36,532

TEA.

TABLE 353.—*Tea: International trade, calendar years 1909–1921.*

["Tea" includes tea leaves only and excludes dust, sweepings, and yerba mate. See "General note," Table 161.]

Country.	Average, 1909–1913.		1919		1920		1921	
	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.*
British India	8,002	267,887	15,014	375,390	11,466	270,957	11,581	349,361
Ceylon	[1] 1	189,016	2	208,561	1	184,770	1	160,732
China	18,890	197,997	10,756	91,149	6,069	40,537	6,387	57,358
Dutch East Indies	6,742	46,675	4,974	117,007	6,730	100,703	6,704	77,518
Formosa	68	23,640	116	23,009	155	14,377	.....	.....
Japan	590	35,823	415	28,519	540	26,438	996	15,863
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	3,890	.....	3,983	.....	.....	.....	.....	.....
Australia	35,442	(2)	56,857	.....	34,060	.....	.....	.....
Austria-Hungary	3,424	3	.....	.....	[3] 864	[3] 28	[3] 858	[3] 74
British South Africa	5,462	62	7,705	333	7,111	47	8,573	5
Canada	37,927	.....	27,026	.....	36,740	.....	35,653	.....
Chile	3,505	.....	5,142	.....	4,690	.....	3,036	.....
France	2,806	61	4,579	88	4,017	160	2,321	195
French Indo-China	3,295	1,145	2,719	1,989	2,726	787	.....	.....
Germany	8,964	23	.....	.....	3,850	25	.....	.....
Netherlands	11,383	45	63,710	17,089	23,407	63	26,697	43
New Zealand	7,542	.....	8,503	.....	12,838	.....	6,195	.....
Persia	9,446	125	8,006	280	6,623	490	.....	.....
Russia	157,704	866	.....	.....	.....	.....	.....	.....
Singapore	6,009	2,575	.....	.....	5,476	2,774	.....	.....
United Kingdom	293,045	.....	464,817	.....	389,915	.....	412,848	.....
United States	98,897	.....	80,963	.....	90,247	.....	76,487	.....
Other countries	33,635	4,661	20,996	4,146	37,394	10,182	21,723	2,033
Total	756,669	770,604	786,283	867,560	684,919	652,338	620,060	663,182

[1] Two-year average. [2] Less than 500. [3] Austria only.

COFFEE.

TABLE 354.—*Coffee: International trade, calendar years 1909–1921.*

[The item of coffee comprises unhulled and hulled, ground or otherwise prepared, but imitation or "surrogate" coffee and chicory are excluded. See "General note," Table 161.]

Country.	Average, 1909–1913.		1919		1920		1921	
	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*
Brazil	.....	1,672,282	.....	1,714,765	.....	1,524,478	.....	1,636,119
British India	[1] 605	27,780	1,872	36,792	5,655	19,407	2,366	30,070
Colombia	.....	104,398	.....	.....	.....	.....	.....	.....
Costa Rica	.....	27,515	.....	30,784	.....	.....	.....	.....
Dutch East Indies	4,227	54,149	3,713	273,738	2,080	137,223	1,961	96,323
Guatemala	.....	85,951	.....	.....	.....	207,685	.....	.....
Haiti	.....	61,943	.....	79,876	.....	68,292	.....	45,690
Jamaica	.....	8,263	.....	8,247	.....	4,622	.....	.....
Mexico	[1] 167	48,991	.....	.....	.....	.....	.....	.....
Nicaragua	[2] 138	19,033	.....	33,688	.....	.....	.....	.....
Salvador	[3] 1,593	62,830	.....	72,868	.....	.....	.....	.....
Venezuela	.....	111,326	97	179,790	.....	73,727	.....	121,965
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	28,125	.....	37,541	.....	.....	.....	.....	.....
Austria-Hungary	128,304	8	.....	.....	[4] 6,274	[4] 242	[4] 11,909	[4] 302
Belgium	111,738	33,627	86,861	14,978	84,469	3,411	105,361	21,541
British South Africa	26,703	39	18,349	53	29,704	55	29,759	14
Cuba	24,906	4	23,278	2	44,425	3	.....	.....
Denmark	33,102	152	62,583	140	44,823	402	46,572	3,450
Egypt	15,654	.....	16,004	239	22,530	3,408	20,722	226
Finland	28,624	.....	21,618	.....	14,953	.....	27,968	.....
France	245,752	41	460,749	758	323,254	1,983	322,420	1,155
Germany	399,965	1,757	.....	.....	90,602	62	.....	.....
Italy	58,278	458	80,405	96	66,509	14	105,594	13
Netherlands	283,633	189,288	120,738	28,234	133,749	37,551	136,567	66,568
Norway	29,309	.....	70,265	.....	24,853	.....	29,836	.....
Russia	26,073	.....	.....	.....	.....	.....	.....	.....
Singapore	6,000	4,700	.....	.....	25,730	27,006	.....	.....
Spain	29,317	9	42,391	130	48,519	5	48,219	56
Sweden	74,486	24	86,118	107	98,829	2,355	89,661	.....
Switzerland	25,029	62	22,534	100	22,777	75	31,583	48
United Kingdom	28,581	241	48,789	71	27,434	108	165	87
United States	907,899	[5] 44,251	1,373,564	[5] 34,352	1,297,439	[5] 36,757	1,340,980	[5] 34,573
Other countries	96,646	49,225	98,956	32,229	120,632	17,998	86,599	15,603
Total	2,614,854	2,608,347	2,676,425	2,542,037	2,535,240	2,166,869	2,438,242	2,073,803

[1] Four-year average.
[2] Three-year average.
[3] One year only.
[4] Austria only.
[5] Chiefly from Porto Rico.

ROSIN.

TABLE 355.—*Rosin: International trade, calendar years 1909–1921.*

[For rosin, only the resinous substance known as "rosin" in the exports of the United States is taken. See "General note," Table 161.]

Country.	Average, 1909-1913.		1919		1920		1921	
	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.*
France	2,432	118,286	1,694	107,319	1,634	129,007	349	175,607
Greece	35	10,423	.....	5,989	.....	10,303	.....	6,072
Spain	1,827	20,073	203	28,748	617	26,855	990	22,416
United States	.....	655,520	.....	338,696	.....	326,012	.....	280,432
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	32,719	[1] 45	34,965	29	.....	.....	.....	.....
Australia	13,724	1,255	13,420	43	13,727	157	.....	.....
Austria-Hungary	75,705	2,205	.....	.....	[2] 2,183	[2] 689	[2] 5,014	[2] 723
Belgium	47,163	32,830	32,120	9,129	82,856	46,822	109,762	47,545
Brazil	36,905	.....	37,945	.....	36,456	.....	16,628	.....
British India	6,171	.....	687	.....	3,936	.....	1,073	.....
Canada	25,506	.....	23,142	.....	28,763	.....	20,905	.....
Chile	7,410	.....	2,533	.....	4,313	.....	1,550	.....
Cuba	4,123	.....	5,187	.....	3,571	.....	.....	.....
Denmark	3,236	.....	6,602	24	2,575	24	2,176	.....
Dutch East Indies	15,039	.....	13,055	.....	22,262	.....	16,658	.....
Finland	6,027	144	3,124	789	3,682	67	429	163
Germany	233,100	50,110	.....	.....	49,255	514	.....	.....
Italy	34,171	33	33,912	42	36,134	315	55,280	389
Japan	10,073	.....	20,038	.....	36,686	.....	18,019	.....
Netherlands	73,991	59,366	8,303	259	9,618	64	7,416	182
Norway	6,732	.....	3,857	126	5,411	23	1,188	.....
Rumania	5,004	[3] 1	2,977	([4])	3,068	.....	.....	.....
Russia	68,429	.....	.....	.....	.....	.....	.....	.....
Serbia	1,162	.....	.....	.....	.....	.....	.....	.....
Switzerland	4,983	[5] 8	3,197	.....	4,302	.....	3,077	5
United Kingdom	166,075	.....	196,131	.....	124,368	.....	85,260	.....
Other countries	18,699	82	9,739	9,197	23,313	7,354	9,555	5,502
Total	900,441	950,381	452,831	500,390	498,730	548,206	355,329	539,036

[1] Four-year average. [2] Austria only. [3] One year only. [4] Less than 500. [5] Three-year average.

TURPENTINE.

TABLE 356.—*Turpentine (spirits): International trade, calendar years 1909–1921.*

["Spirits of turpentine" includes only "spirits" or "oil" of turpentine and for Russia skipidar; excludes crude turpentine, pitch, and for Russia turpentine. See "General note," Table 161.]

Country.	Average, 1909–1913.		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*	*1,000 gallons.*
France	48	2,594	83	1,765	85	3,659	18	3,818
Russia	273	2,322	.....	.....	.....	.....	.....	.....
Spain	.....	1,156	.....	1,360	.....	944	.....	1,439
United States	.....	17,868	.....	10,672	.....	9,458	.....	9,268
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	554	.....	480	.....	.....	.....	.....	.....
Australia	564	.....	391	.....	538	3	.....	.....
Austria-Hungary	2,581	53	.....	.....	[1] 19	[1] 14	[1] 205	[1] 27
Belgium	1,932	1,144	1,086	315	1,580	1,558	2,418	1,587
Canada	1,175	.....	1,139	.....	962	.....	1,088	.....
Chile	198	.....	45	.....	267	.....	67	.....
Germany	9,368	460	.....	.....	1,252	18	.....	.....
Italy	940	3	1,198	2	749	3	444	9
Netherlands	3,998	2,750	971	50	947	12	1,159	11
New Zealand	178	.....	67	.....	93	.....	.....	.....
Sweden	134	62	115	102	112	271	134	259
Switzerland	466	9	473	(2)	550	.....	522	.....
United Kingdom	7,782	.....	6,642	.....	6,752	236	4,281	158
Other countries	1,009	522	1,197	939	1,528	485	664	256
Total	31,200	28,943	13,887	15,205	15,434	16,661	11,000	16,832

[1] Austria only.

[2] Less than 500.

INDIA RUBBER.

TABLE 357.—*India rubber: International trade, calendar years 1909–1921.*

[Figures for india rubber include "india rubber," so called, and caoutchouc, caucho, jebe (Peru), hule (Mexico), borracha, assaranduba, amabeira, manicoba, sorva, and seringa (Brazil), gomelastiek (Dutch East Indies), caura, ser nambi (Venezuela). See "General note," Table 161.]

Country.	Average, 1909–1913.		1919		1920		1921	
	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.*
Angola	.....	5,620	.....	.....	.....	.....	.....	.....
Belgian Kongo	.....	7,755	1	3,407	.....	.....	.....	.....
Bolivia	.....	8,395	.....	11,789	.....	8,288	.....	.....
Brazil	.....	84,938	.....	73,227	.....	51,896	.....	38,217
Ceylon	[1] 1,299	10,953	4,655	100,822	4,465	88,553	3,867	88,125
Dutch East Indies	[2] 1	7,679	.....	198,719	11	199,908	.....	164,045
Ecuador	.....	1,040	.....	886	.....	.....	.....	.....
French Guiana	241	3,937	.....	.....	.....	.....	.....	.....
French Kongo	([3])	3,797	.....	5,574	.....	.....	.....	.....
Gold Coast	.....	2,393	.....	.....	.....	.....	.....	.....
Ivory Coast	[2] 10	2,740	.....	168	.....	.....	.....	.....
Kamerun	.....	6,409	.....	.....	.....	.....	.....	.....
Mexico	.....	14,262	.....	.....	.....	.....	.....	.....
Peru	.....	5,030	.....	7,126	.....	3,258	.....	.....
Senegal	[4] 4	1,087	.....	68	.....	.....	.....	.....
Singapore	2,867	5,843	.....	.....	202,867	301,162	.....	.....
Nigeria	.....	3,054	.....	.....	.....	.....	.....	.....
Negri Sembilan	.....	3,995	.....	.....	20	47,289	.....	.....
Perak	.....	7,313	.....	.....	13	85,239	.....	.....
Selangor	.....	13,736	.....	.....	22	89,242	.....	.....
Venezuela	.....	772	81	519	132	388	48	50
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary	6,696	1,619	.....	.....	[5] 3,090	.....	[5] 4,927	.....
Belgium	25,891	20,749	12,389	3,441	14,120	5,519	7,140	3,322
Canada	3,945	.....	19,645	.....	26,682	([3])	18,476	.....
France	32,704	21,615	59,627	20,012	60,042	23,588	42,030	8,820
Germany	42,004	9,844	.....	.....	26,918	254	.....	.....
Italy	5,381	225	23,211	1,050	15,000	1,284	9,749	1,282
Netherlands	10,822	7,172	14,001	7,793	27,296	14,954	32,657	30,369
Russia	19,131	.....	.....	.....	.....	.....	.....	.....
United Kingdom	43,141	.....	95,245	.....	127,614	.....	94,275	.....
United States	100,180	.....	535,940	.....	566,546	.....	415,283	.....
Other countries	8,002	27,092	42,500	24,469	60,567	69,256	63,927	12,454
Total	302,319	289,064	807,295	459,070	1,135,405	990,078	692,379	346,684

[1] Three-year average.
[2] One year only.
[3] Less than 500.
[4] Two-year average.
[5] Austria only.

SILK.

TABLE 358.—*Production of raw silk in undermentioned countries, 1909–1921.*

[Estimates of the Silk Merchants' Union, Lyon, France.]

Country.	Average, 1909–1913.	1916	1917	1918	1919	1920	1921, preliminary.
Western Europe:	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Italy	8,524,000	7,963,000	6,217,000	5,942,000	4,079,000	7,330,000	7,066,000
France	992,000	485,000	452,000	529,000	408,000	551,000	430,000
Spain	182,000	198,000	154,000	165,000	154,000	176,000	132,000
Austria	726,000	187,000	188,000	188,000	165,000	.....	.....
Hungary		143,000	143,000	143,000	110,000	.....	.....
Total	10,424,000	8,976,000	7,154,000	6,967,000	4,916,000	8,057,000	7,628,000
Levant and Central Asia	6,186,000	2,293,000	2,293,000	2,293,000	1,764,000	[2] 1,653,000	[2] 1,213,000
Far East:							
China—							
Exports from Shanghai	12,576,000	10,340,000	10,097,000	10,251,000	8,598,000	7,826,000	8,411,000
Exports from Canton	5,146,000	5,346,000	5,170,000	4,134,000	5,071,000	4,167,000	5,578,000
Japan—							
Exports from Yokohama	21,898,000	29,431,000	34,050,000	31,416,000	32,188,000	24,008,000	36,376,000
British India—							
Exports from Bengal and Cashmere	428,000	254,000	232,000	242,000	220,000	176,000	187,000
Indo-China—							
Exports from Saigon, Haiphong, etc	[1] 31,000	7,000	11,000	11,000	11,000	33,000	44,000
Total	40,079,000	45,378,000	49,560,000	46,054,000	46,088,000	36,210,000	50,596,000
Grand total	56,689,000	56,647,000	59,007,000	55,314,000	52,768,000	45,920,000	59,437,000

[1] For three years, 1911–1913.
[2] Comprises Hungary, Czechoslovakia, Yugoslavia, Rumania, Bulgaria, Greece, Saloniki, Adrianople Crete, the Caucasus, Anatolia (Brussa Region), Turkestan, Central Asia, Syria, Cyprus, and Persia.

WOOD PULP.

TABLE 359.—*Wood pulp: International trade, calendar years 1909–1921.*

[All kinds of pulp from wood have been taken for this item, but no pulp made from other fibrous substances. See "General note," Table 161.]

Country.	Average, 1909–1913		1919		1920		1921	
	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.*
Austria-Hungary	13,366	205,364	.....	.....	[1] 11,839	[1] 55,850	[1] 22,876	[1] 68,069
Canada	9,481	606,203	26,141	1,418,259	42,282	1,639,970	34,710	1,054,446
Finland	526	236,881	3	304,664	(2)	424,441	.....	422,386
Germany	112,660	384,709	.....	.....	143,027	28,573	.....	.....
Norway	[3] 64,911	1,437,078	158,973	1,123,677	44,923	1,318,287	.....	792,827
Sweden	9,515	1,822,023	25,210	1,980,778	24,494	2,220,331	.....	1,161,639
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	52,016	.....	42,856	.....	.....	.....	.....	.....
Belgium	291,254	80,647	121,205	3,186	258,458	34,572	144,929	10,855
Denmark	110,866	.....	74,010	.....	149,984	.....	42,314	.....
France	836,899	1,720	607,071	88	794,680	668	339,661	1,078
Italy	179,267	485	87,257	.....	157,602	269	86,022	2,748
Japan	79,260	.....	90,901	.....	104,849	.....	87,527	2,558
Portugal	18,662	4,144	4,759	1,892	.....	.....	.....	.....
Russia	56,072	52,735	.....	.....	.....	.....	.....	.....
Spain	92,770	.....	84,830	.....	145,363	.....	52,091	.....
Switzerland	21,059	13,072	29,272	20,570	20,544	27,180	7,840	21,300
United Kingdom	1,891,006	.....	2,101,613	.....	2,446,535	112	1,315,227	688
United States	1,007,239	24,309	1,272,033	80,114	1,812,595	63,932	1,394,201	56,965
Other countries	10,134	69,137	99,226	188	148,210	678	56,072	1,017
Total	4,856,963	4,938,507	4,825,360	4,933,416	6,305,385	5,814,863	3,583,470	3,596,576

[1] Austria only. [2] Less than 500. [3] Four-year average.

LIVE STOCK, 1922.

FARM ANIMALS AND THEIR PRODUCTS.

LIVE STOCK, ALL CLASSES.

TABLE 360.—*Live stock in the undermentioned countries.* *

NOTE.—In order to secure comparable totals, that pre-war estimate nearest to 1913 giving statistics for each class of animal is compared with the latest estimate available giving similar data.

[Census returns in *italics*, other returns in roman.]

Country.	Date.	Cattle.	Buffaloes.	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
United States:									
On farms	Jan. 1, 1914	56,592	.....	58,933	49,719	[1] 2,915	20,962	4,449	[1] 106
	Jan. 1, 1923	66,352	.....	63,424	37,209	[2] 3,459	18,853	5,506	[2] 72
Not on farms	*Apr. 15, 1910*	*1,879*	.....	*1,288*	*391*	*115*	*3,183*	*270*	*17*
	Jan. 1, 1920	*2,112*	.....	*2,638*	*451*	*105*	*1,706*	*378*	*15*
Alaska (on farms and not on farms)	*Jan. 1, 1910*	*1*	[3] *22*	(4)	(4)	(4)	*2*	[5] *20*	(4)
	Jan. 1, 1920	*1*	[3] *93*	*1*	(4)	(4)	*1*	[5] *18*	(4)
Hawaii (on farms and not on farms)	*Apr. 15, 1910*	*149*	.....	*31*	*77*	*5*	*28*	*9*	*3*
	Jan. 1, 1920	*142*	.....	*39*	*44*	*5*	*24*	*11*	*2*
Porto Rico (on farms and not on farms)	*Apr. 15, 1910*	*316*	.....	*106*	*6*	*49*	*58*	*5*	*1*
	Jan. 1, 1920	*279*	.....	*137*	*4*	*58*	*57*	*7*	*1*
Virgin Islands:									
On farms	Nov. 1, 1917	12	.....	2	1	2	2	2	1
Not on farms	do	.....	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Algeria	Sept., 1913	1,108	.....	112	8,811	3,848	216	193	272
	[6] 1918	1,090	.....	125	8,500	.....	190	170	.....
Argentina	*June 1, 1914*	*25,867*	.....	*2,901*	*43,225*	*4,325*	*8,324*	*565*	*260*
	1919	27,721	.....	3,199	45,767	4,763	9,293	611	284
Australia	Dec. 31, 1913	11,484	.....	801	85,057	262	2,523	8	
	Dec. 31, 1920	13,500	.....	764	77,898	.....	2,416	.....	.....
Austria	[7] *Dec. 31, 1910*	*9,159*	*1*	*6,432*	*2,428*	*1,257*	*1,803*	*21*	*53*
	Apr., 1920	2,114	.....	1,189	368	.....	.....	.....	.....
Azores and Madeira Islands	1900	89	.....	93	87	38	2	3	9
Bahamas	1913	2	.....	.....	12	5	1	.....	.....
	1918	2	.....	.....	14	6	1	.....	.....
Barbados	1913	.....	.....	.....	.....	.....	2	9	
	1919	.....	.....	.....	.....	.....	2	10	
Basutoland	*1911*	*437*	.....	.....	*1,369*	*989*	*88*	*4*	
Bechuanaland Protectorate	*1911*	*324*	.....	.....	*358*		*2*	.....	.....
	1921	426	.....	.....	120	238	2	.....	6
Belgium	*Dec. 31, 1910*	*1,880*	.....	*1,494*	*185*	*218*	*317*	*3*	*8*
	1921	1,515	.....	976	[8] 126	[8] 33	222	.....	.....
Bermuda	*1911*	*1*	.....	.....	.....	.....	*1*	.....	.....
	1919	.....	.....	.....	.....	.....	1	.....	.....
Bolivia	1910	734	.....	114	1,499	468	97	45	173

* Figures compiled from reports received up to November 23, 1922, except for the United States.
[1] Census 1910.
[2] Census 1920.
[3] Reindeer.
[4] Less than 500.
[5] Dogs used as work animals; mules less than 500.
[6] Unofficial.
[7] Old boundaries.
[8] Data for preceding year.

LIVE STOCK, ALL CLASSES—Continued.

TABLE 360.—*Live stock in the undermentioned countries**—Continued.

Country.	Date.	Cattle.	Buffaloes.	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Bosnia-Herzegovina [1]	*Oct. 10, 1910* / Nov. 10, 1910	*1,309*	*1*	*527*	*2,499*	*1,393*	*222*	(2)	*6*
Brazil	1912–13	30,705		18,401	10,550	10,049	8,290	3,208	
	Sept. 1, 1920	*34,271*	.....	*16,169*	*7,933*	*5,087*	*5,254*	*1,865*	
British Guiana	[3] 1913	81	(2)	14	18	14	1	2	6
	1921	123	12	12	21	12	2	2	7
British Southwest Africa (former German Southwest Africa)	1913	206	[4] 1	8	555	517	16	14	
	[5] 1920	400	.....	.....	2,225		.....	.....	.....
Bulgaria	*Dec. 31, 1910*	*1,603*	*415*	*527*	*8,632*	*1,459*	*478*	*12*	*117*
	1920	854	150	.....	.....	.....	177	.....	.....
Cape Verde Islands (Portuguese)	1914	8	.....	14	4	30	1	1	10
	1916	9	.....	17	6	38	1	1	17
Canada	June 30, 1913	6,656	.....	3,448	2,129	.....	2,866	.....	.....
	June 30, 1921	10,206	.....	3,905	3,676	.....	3,814	10	.....
Cayman Islands (British)	1913	2	.....	1	.....	(2)	(2)	.....	.....
	1919	1	.....	1	.....	(2)	(2)	.....	.....
Ceylon	1913	1,484		86	90	203	5	.....	.....
	[5] 1920	1,599		59	57	156	3	.....	.....
Chile	1913	2,084	.....	184	4,567	288	489	34	30
	1919	2,163	.....	292	[6] 4,500	460	392	51	36
China	1914	21,997	.....	76,819	22,186	.....	4,934	.....	4,394
	[7] 1916	15,973	.....	44,711	22,232	.....	4,401	.....	3,660
Colombia	1916	4,832	.....	1,139	246	232	858	324	168
Costa Rica	1915	347	.....	76	(2)	(2)	65	.....	.....
Croatia-Slavonia [1]	*Mar. 24, 1911*	*1,135*		*1,164*	*850*	*96*	*350*	*3*	
Cuba	Dec. 31, 1913	3,141	.....	.....	.....	.....	625	46	2
	1918	3,966	.....	.....	.....	.....	779	65	.....
Cyprus	Mar. 31, 1913	61	.....	40	[8] 256	253	69		
	1921	52	.....	17	266	169	4	51	
Czechoslovakia	Dec. 31, 1920	4,213	.....	2,015	976	1,174	581	.....	.....
Denmark	*July 15, 1914*	*2,463*	.....	*2,497*	*515*	*41*	*567*	.....	.....
	[9] July 15, 1922	2,525	.....	1,899	442	44	576	.....	.....
Dominican Republic (Santo Domingo)	[5] *May 15, 1921*	*647*	.....	*674*	.....	*706*	*163*	*65*	.....
Dominica (British)	1903	1	.....	.....	1	.....	1	.....	.....
	1919	.....	.....	.....	.....	.....	1	.....	.....
Dutch East Indies: Java and Madura	*1915*	*3,243*	*2,541*	.....	.....	.....	*304*	.....	.....
	Dec. 31, 1919	3,699	2,128	66	739	2,268	296	.....	.....
Outer possessions	*1915*	*712*	.....	.....	.....	.....	*323*	.....	.....
	Dec. 31, 1919	*641*	*959*	*600*	*114*	*309*	*307*	.....	.....

* Figures compiled from reports received up to November 23, 1922, except for the United States.

[1] Old boundaries.
[2] Less than 500.
[3] Not including cattle of interior prairies estimated at 30,000 head.
[4] Camels.
[5] Unofficial.
[6] In addition there were 42,019 llamas and alpacas.
[7] Data for the following Provinces are lacking: Ssu-Chuan, Kwantung, Yunnan, Kweichow, and part of Hunan.
[8] One year of age and over.
[9] Including incorporated South Jutland Provinces where census was taken in October, 1920.

LIVE STOCK, ALL CLASSES—Continued.

TABLE 360.—*Live stock in the undermentioned countries**—Continued.

Country.	Date.	Cattle.	Buffaloes.	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Dutch West Indies: Curacao and dependencies	1913	3	.....	4	12	46	1	(1)	4
	1918	3	.....	3	27	70	1	(1)	5
Surinam or Dutch Guiana	1913	8	.....	5	(1)	3	(1)	(1)	1
	1918	10	.....	3	(1)	2	1		
Egypt [2]	1914	601	568	.....	816	331	40	22	632
	Sept.-Oct. 1921	596	646	.....	986	424	34	19	623
Esthonia [3]	1920	443	.....	261	530	.....	165	.....	.....
Falkland Islands (British)	1913	8	.....	(1)	698	.....	4	.....	.....
	1919	7	.....	(1)	670	.....	3	.....	.....
Faroe Islands (Danish)	1914	4	.....	(1)	112	(1)	1	.....	.....
	1919	4	.....	.....	69	(1)	1	.....	.....
Fiji Islands (British) [4]	1913	49	.....	2	3	.....	7		
	1920	57	.....	.....	1	15	10		
Finland	1910	1,605	[5] 127	422	1,330	11	366	.....	.....
	Sept. 1, 1920	1,812	[5] 53	370	1,032	13	372	.....	.....
France [6]	Dec. 31, 1913	14,788	.....	7,036	16,131	1,435	3,222	188	356
	Dec. 31, 1921	13,343	.....	5,166	9,600	1,361	2,706	186	296
French Equatorial Africa (French Congo)	1918	400	[7] 25	150	1,000	1,500	20	.....	.....
French establishments in India	1913	51		.....	13	24	.....	.....	.....
	1920	45		.....	23	24	.....	.....	.....
French Guiana	1916	6	(1)	7	(1)	(1)	(1)	.....	.....
French Indo-China: Annam	1914	215	.....	.....	.....	.....	.....	.....	.....
Cochin-China	1914	109	242	709	3		.....	.....	.....
	[8] 1920	.....	435	277	3		12	.....	.....
Germany [6]	Dec. 1, 1913	20,994	.....	25,659	5,521	3,548	3,227	.....	.....
	Dec. 1, 1921	16,840	.....	15,876	5,882	4,337	[9] 3,683	27	6
Gold Coast (British)	1920	68	.....	(1)	153		1	.....	.....
Grenada (British)	*1911*	*5*	.....	.....	.....	.....	*2*	.....	.....
	1918	.....	.....	2	4	5	.....	1	1
Greece	[10] 1914	300	25	227	3,547	2,638	149	80	133
	1920	659	9	416	5,811	3,418	201	364	
Guam	1913	6		.....	.....	.....	.....	.....	.....
Guatemala	1913	557	.....	188	514	11	64	33	.....
	[8] 1920	700	.....	100	300		150		.....
Honduras, Republic of	1913–1914	489	.....	180	5	23	68	20	4
	[11] 1919	103	.....	23	(1)	(1)	13	3	(1)
Hongkong (British)	1913	1	.....	.....	.....	.....	(1)	.....	.....
	1919	2	.....	.....	.....	(1)	(1)	.....	.....

* Figures compiled from returns received up to November 23, 1922 except for the United States.
[1] Less than 500.
[2] In addition there were 118,414 camels in 1914 and 145,008 in 1921.
[3] Excluding the district of Petseri.
[4] Animals owned by Europeans.
[5] Reindeer.
[6] Alsace-Lorraine included with Germany in 1913 and with France in 1921.
[7] Camels.
[8] Unofficial.
[9] Exclusive of army horses.
[10] Old boundaries.
[11] Enumerated from tax returns.

LIVE STOCK, ALL CLASSES—Continued.

TABLE 360.—*Live stock in the undermentioned countries* *—Continued.

Country.	Date.	Cattle.	Buffaloes.	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Hungary	[1] Apr. 30, 1913	6,045	162	6,825	6,560	269	2,005	1	16
	1920	2,148	.....	3,320	1,817	.....	718	.....	.....
Iceland	1913	27	.....	.....	635	1	47	.....	.....
	1919	25	.....	.....	583	2	52	.....	.....
India (British)	1913–1914	[2] 124,965	[2] 18,214	.....	[3] 23,081	[3] 30,694	[3] 1,644	[3] 79	[3] 1,508
	Dec. to Apr., 1919–20	*117,428*	*28,493*	.....	*21,984*	*24,134*	*1,699*	*75*	*1,372*
India (native States)	1913–14	[2] 12,254	[2] 1,772	.....	8,326		176	182	
	Dec. to Apr., 1919–20	*24,877*	*6,507*	.....	*12,073*	*7,312*	*432*	*3*	*329*
Italy	*Mar. 19, 1908*	*6,199*	*19*	*2,508*	*11,163*	*2,715*	*956*	*388*	*850*
	Apr. 6, 1918	*6,240*	*24*	*2,339*	*11,754*	*3,083*	[4] *990*	*497*	*949*
Ivory Coast (French)	*1918*	*53*	.....	*11*	*126*	*168*	*1*	.....	([5])
Jamaica	1913	116	.....	31	10	.....	53	.....	.....
	1919	170	.....	[6] 32	[6] 12	[6] 30	[6] 50	.....	.....
Japan	Dec. 31, 1913	1,389	.....	310	3	89	1,582	.....	.....
	Dec. 31, 1920	1,376	.....	528	9	133	1,468	.....	.....
Chosen (Korea)	Dec. 31, 1913	1,211	.....	761	([5])	10	51	1	13
	Dec. 31, 1920	1,490	.....	977	1	21	55	2	10
Formosa (Taiwan)	Dec. 31, 1913	1	[7] 418	1,322	([5])	129	([5])	.....	.....
	Dec. 31, 1919	2	[7] 402	1,313	([5])	99	([5])	.....	.....
Karafuto (Japanese)	Dec. 31, 1913	1	.....	1	.....	.....	2	.....	.....
	Dec. 31, 1919	2	.....	1	.....	.....	4	.....	.....
Kwantung (leased Province of Japan):									
Within the leased Province	Dec. 31, 1913	31	.....	60	2	12	2	12	27
	Dec. 31, 1919	35	.....	85	1	8	3	13	30
Outside the leased Province	Dec. 31, 1913	([5])	.....	6	([5])	([5])	1	1	([5])
	Dec. 31, 1919	1	.....	6	1	([5])	2	1	1
Kenya Colony and Protectorate (British East Africa)	Mar. 31, 1913	780	.....	3	6,500	.....	1	.....	.....
	June 30, 1920	*2,512*	[8] *103*	*9*	*2,528*	*3,579*	*1*	*1*	*32*
Latvia	1922	810	.....	402	1,162	.....	303	.....	.....
Libia (Italian)	1910	45	[8] 140	.....	996	680	34	([5])	39
Lithuania	[9] 1921	780	1,262	.....	1,036		370	.....	.....
Luxemburg	*Dec. 1, 1913*	*102*	.....	*137*	*5*	*10*	*19*	.....	.....
	Dec. 4, 1919	89	.....	89	5	13	18	([5])	([5])
Madagascar	[10] *1915*	*6,606*	.....	*666*	*299*	*173*	*3*	.....	.....
	[9] Dec. 31, 1921	7,829	.....	[11] 457	[11] 166	[11] 116	[11] 3	([11] [5])	.....
Malta	Mar. 31, 1913	4	.....	4	15	.....	9		
	Mar. 31, 1920	3	.....	3	18	17	2	5	

* Figures compiled from reports received up to November 23, 1922, except for the United States.
[1] Old boundaries.
[2] Buffalo calves included with cattle.
[3] Exclusive of Bengal.
[4] Including 855 in transit and 186,328 belonging to the Royal army.
[5] Less than 500.
[6] Year 1917.
[7] Includes zebus.
[8] Camels.
[9] Unofficial
[10] Enumerated from tax returns.
[11] Data for preceding year.

LIVE STOCK, ALL CLASSES—Continued.

TABLE 360.—*Live stock in the undermentioned countries**—Continued.

Country.	Date.	Cattle.	Buffaloes.	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Mauritius[1]	1913	22	.....	8	1	.....	1	.....	.....
	1920	17	.....	4	1	6	1		
Mexico	*June 30, 1902*	*5,142*	.....	*616*	*3,424*	*4,206*	*859*	*334*	*288*
	[2] 1921	2,304	.....	1,913	[3] 293	[3] 1,254	635	133	168
Morocco:									
Eastern	1915–1916	22	[4] 21	.....	664	285	.....	.....	.....
Western	May–June, 1915–16	856	[4] 63	29	4,054	1,227	141		251
	1921	1,300	[4] 86	130	6,600	2,000	65	54	420
Mozambique (Portuguese East Africa)	1913	25	.....	15	10	29	.....	.....	.....
	1916	38	.....	24	10	34	.....	.....	.....
Netherlands	June —, 1913	2,097	.....	1,350	842	232	334	.....	.....
	Mar. —, 1921	2,063	.....	1,519	668	272	364	.....	.....
New Caledonia	(2)	130	.....	25	25	25	.....	.....	.....
Newfoundland (British)	*1911*	*32*	.....	*19*	*75*	*15*	*13*	.....	.....
New Zealand	*Apr. —, 1911*	*2,020*	.....	*349*	*23,996*	*6*	*404*	(5)	
	Jan. 31, 1922	3,273	.....	380	22,222	.....	332	.....	
Norway	Sept. 30, 1914	1,146	.....	228	1,327	237	182	.....	.....
	Dec. 31, 1920	1,095	.....	127	957	178	216	.....	.....
Nyasaland Protectorate	Mar. 31, 1913	63	.....	22	23	138	.....	(5)	.....
	[2] 1920	89	.....	19	42	138	.....	(5)	.....
Palestine	[2] 1921	.....	[3] 9	.....	262	272	.....	.....	.....
Panama	1916	200	.....	30	.....	5	15	2	.....
Papua (territory of British)	1913	2	.....	(5)	(5)	.....	(5)	.....	.....
	1919	1	.....	(5)	.....	.....	(5)	.....	.....
Paraguay	1915	5,249	.....	61	600	87	478	17	18
	Dec. 31, 1918	5,500	.....	87	600	93	490	19	20
Peru	[2] 1921	250	.....	.....	[6] 10,050		30	50	.....
Philippine Islands	Dec. 31, 1913	418	[7] 1,047	2,087	104	528	179	.....	.....
	[2] 1920	761	[7] 1,464	3,639	196	822	269		.....
Poland[8]	Summer, 1913	2,011	(5)	491	683	9	1,116	(5)	(5)
	Sept. 30, 1921	*7,896*	.....	*5,171*	*2,178*	.....	*3,201*	.....	.....
Portugal	*Oct. —, 1906*	*703*	.....	*1,111*	*3,073*	*1,034*	*88*	*58*	*144*
	Mar. —, 1920	741	.....	921	3,851	1,493	.....	.....	.....
Rhodesia:									
Southern	Dec. 31, 1914	748	.....	[9] 13	324	675	.....	[10] 3	
	Dec. 31, 1921	1,763	.....	[9] 27	[9] 53	[9] 19	[9] 3	[9] 2	[9] 10
Northern	1912	255	.....	.....	.....	.....	.....	.....	.....
Rumania	[11] 1911	2,667		1,021	5,269	187	825	4	
	[2] 1921	5,521	200	3,089	11,195	574	1,687	2	11

* Figures compiled from reports received up to Nov. 23, 1922, except for the United States.
[1] Animals on sugar estates only.
[2] Unofficial.
[3] In addition there were 216,440 designated as "sheep and goats."
[4] Camels.
[5] Less than 500.
[6] Includes 50,000 vicunas.
[7] Caraboas only.
[8] Pre-war figures are for former Russia or Congress Poland, while postwar estimate gives the number of live stock within the Polish frontier in 1921, previous to a decision being reached concerning Upper Silesia.
[9] Animals owned by Europeans.
[10] Animals owned by natives only.
[11] Old boundaries.

LIVE STOCK, ALL CLASSES—Continued.

TABLE 360.—*Live stock in the undermentioned countries**—Continued.

Country.	Date.	Cattle.	Buffaloes.	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Russia, including Ukraine and Northern Caucasia	[1] Summer, 1913.	34,768	[2] 605	14,316	46,885	1,222	24,491	6	7
Asiatic Russia	[3] Summer, 1913.	15,609	.....	2,037	33,237	4,442	10,239	.....	.....
Russia and Ukraine (Soviet)	1921	38,132	.....	13,501	47,157		23,670	.....	.....
Salvador	1906	284	.....	423	21	.....	74	.....	.....
St. Helena (British)	*1911*	*1*	.....	(4)	*4*	*1*	(4)	.....	.....
St. Lucia (British)	1914	.....	.....	.....	.....	.....	1	.....	.....
	1916	.....	.....	.....	.....	.....	1	.....	.....
Senegal	[5] 1919	417	.....	.....	.....	.....	.....	.....	.....
Serbia	*Dec. 31, 1910*	*957*	*7*	*866*	*3,819*	*631*	*153*	*1*	.....
Shetland Islands	1919	14	.....	(4)	141	.....	5	.....	.....
Seychelles Islands (British)	1913	1	.....	6	(4)	.....	(4)	.....	.....
	1919	1	.....	3	(4)	.....	(4)	.....	.....
Siam	Jan. 1, 1916	2,337	2,120	.....	.....	.....	105	.....	.....
	Mar. 31, 1920	2,621	2,508	750	.....	.....	[6] 133	.....	.....
Sierra Leone (British)	1910	2	(4)	1	.....	.....	(4)	.....	.....
Somaliland (Italian)	*Feb. 1, 1920*	*1,246*	[7] *2,101*	*1,666*	.....	.....	*11*	.....	.....
Spain	*1913*	*2,879*	.....	*2,710*	*16,441*	*3,394*	*542*	*948*	*849*
	1921	*3,718*	.....	*5,152*	*20,522*	*4,298*	*722*	*1,295*	*1,138*
Straits Settlements and Labuan	1913	46	.....	158	.....	.....	2	.....	.....
	1919	67	.....	267	.....	.....	2	.....	.....
Swaziland (British)	1913	73	.....	9	170		1	.....	.....
	1920	230	.....	9	[8] 250		1	(4)	2
Sweden	Dec. 31, 1913	2,721	.....	968	988	71	596	.....	.....
Switzerland	June 1, 1919	2,551	[2] 276	717	1,564	133	716	.....	.....
	Apr. 21, 1911	*1,443*	.....	*570*	*161*	*341*	*144*	*3*	*2*
	Apr. 21, 1921	1,425	.....	639	244	329	134	4	1
Tanganyika Territory (former German East Africa)	[5] 1912	3,994	.....	.....	6,440		.....	.....	.....
Trinidad and Tobago	1913	13	.....	9	2	.....	5	.....	.....
	1919	13	.....	11	5	.....	5	.....	.....
Tunis [9]	Dec. 31, 1913	217	.....	17	729	505	37	23	95
	1921	488	.....	18	2,038	1,114	73	174	
Turkey (European and Asiatic)	1913	[10] 3,835	[11] 2,697	.....	18,722	16,463	711	145	1,374
	1919	[10] 3,740	[11] 378	.....	11,200	2,065	630	85	825
Turks and Caicos Islands (British)	1913	1	.....	(4)	(4)	.....	(4)	.....	.....
	1919	1	.....	(4)	(4)	.....	(4)	.....	.....
Uganda Protectorate	[12] 1913	775	.....	.....	537	.....	(4)	.....	.....
	1919	615	.....	(4)	218	.....	.....	.....	.....
Upper Senegal and Niger (French)	July —, 1918	1,299	.....	1	2,161	2,368	68	(4)	134

* Figures compiled from reports received up to Nov. 23, 1922, except for the United States.
[1] Poland excluded.
[2] Reindeer.
[3] 30 governments of the Caucasus, Central Asia, and Siberia.
[4] Less than 500.
[5] Unofficial.
[6] In addition there were 6,294 elephants.
[7] Camels.
[8] Data for preceding year.
[9] Enumerated from tax returns.
[10] Excludes territories of Mesopotamia, Palestine, Syria, and Arabia
[11] Oxen included.
[12] Exclusive of horned cattle and sheep in certain Provinces and districts.

LIVE STOCK, ALL CLASSES—Continued.

TABLE 360.—*Live stock in the undermentioned countries**—Continued.

Country.	Date.	Cattle.	Buffaloes.	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Union of South Africa..	*Dec. 31, 1911*	*5,797*	.....	*1,082*	*30,657*	*11,763*	*719*	*94*	*337*
	[1] Apr. 30, 1921	8,557	.....	915	31,730	7,837	920	117	722
United Kingdom:									
England and Wales [2].....	June 4, 1913	5,757	.....	2,114	17,207	.....	1,412	.....	.....
	June 4, 1921	5,553	.....	2,517	13,907	.....	1,394	.....	.....
Scotland.....	June 4, 1913	1,247	.....	132	6,801	.....	204	.....	.....
	June 3, 1922	1,145	.....	150	6,671	.....	211	.....	.....
Ireland.....	1913	4,933	.....	1,060	3,621	246	614	30	243
	June 1, 1921	5,197	.....	977	3,708	261	555	27	230
Uruguay.....	*1908*	*8,193*	.....	*180*	*26,286*	*20*	*556*	*22*	.....
	Apr. 20, 1916	*7,802*	.....	*304*	*11,473*	*12*	*555*	*14*	*3*
Venezuela.....	1912	2,004	.....	1,618	177	1,667	191	89	313
	1920	2,078	.....	512	113	2,155	168	55	200
Yugoslavia.....	Jan. 31, 1921	4,960	51	3,373	7,011	1,553	1,069	18	84
Grand totals: [3]									
Pre-war.....	.....	[4] 501,616	[4] 30,085	257,610	[6] 569,787	[6] 112,998	[8] 116,495	[8] 11,491	[8] 12,127
Recent.....	.....	[5] 517,642	[5] 43,395	219,759	[7] 499,810	[7] 87,011	[9] 103,554	[9] 11,895	[9] 11,537

* Figures compiled from reports received up to Nov. 23, 1922, except for the United States.

[1] Unofficial.

[2] Including the Isle of Man and Channel Islands.

[3] Totals include figures only for countries having comparable data. In order to include in the grand totals the territories formerly belonging to Russia, the figures for Russia or Congress Poland and Russia (European and Asiatic) for 1913 have been added in the pre-war totals, while the most recent estimates available for Soviet Russia (including Soviet Ukraine), Poland (1921 boundaries including some former German and Austrian territory), and the Balkan States; Esthonia, Latvia, and Lithuania have been included in the postwar totals. Figures for Czechoslovakia and Yugoslavia are included in the total of recent estimates, since they were included in the pre-war estimates in the countries to which they formerly belonged.

[4] 36,042,000 designated as "cattle and buffaloes" included with cattle.

[5] 1,644,000 designated as "cattle and buffaloes" included with cattle.

[6] 8,687,000 designated as "sheep and goats" included with sheep.

[7] 51,187,000 designated as "sheep and goats" included with sheep.

[8] 3,635,000 designated as "horses, mules, and asses," and "horses and mules," and "mules and asses" included with horses.

[9] 2,900,000 designated as "horses, mules, and asses," and "horses and mules," and "mules and asses" included with horses.

POULTRY.

TABLE 361.—*Poultry: Number of different kinds in the undermentioned countries.*[1]

[Census returns are in *italics;* other returns are in roman.]

Country.	Date.	Chickens.	Turkeys.	Ducks.	Geese.	Guinea fowls, pigeons, and undesignated poultry.	Total poultry.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
United States	*Apr. 15, 1910*	*280,341*	*3,689*	*2,907*	*4,432*	*4,496*	*295,865*
	Jan. 1, 1920	*359,537*	*3,627*	*2,818*	*2,939*	*3,904*	*372,825*
	Jan. 1, 1921	412,000	.....	.....	.....	.....	.....
	Jan. 1, 1923	428,000	.....	.....	.....	.....	.....
Porto Rico	*Apr. 15, 1910*	*599*	*14*	*9*	*1*	*46*	*669*
	Jan. 1, 1920	*599*	*12*	*8*	*2*	*57*	*678*
Austria	1900	23,114	.....	518	1,771	1,269	26,672
	Dec. 31, 1910	*31,743*	.....	*647*	*1,990*	*1,601*	*35,981*
Bulgaria	*Dec. 31, 1900*	*4,045*	*200*	*134*	*373*	.....	*4,752*
Canada	*Mar. 31, 1901*	*16,651*	*585*	*291*	*396*	.....	*17,923*
	June 1, 1911	*29,773*	*863*	*527*	*630*	.....	*31,793*
	1920	28,287	806	651	762	.....	30,506
	1921	34,340	1,199	762	880	.....	37,181
Denmark	1909	11,816	.....	792	119	.....	12,727
	1914	15,140	.....	1,021	162	.....	16,323
	July 12, 1917	12,288	.....	.....	.....	.....	12,288
	July 15, 1918	9,884	.....	.....	.....	.....	9,884
	July 15, 1919	12,134	.....	.....	.....	.....	12,134
	[2] July 15, 1920	14,395	.....	.....	.....	.....	14,395
	[2] July 15, 1921	17,803	.....	.....	.....	.....	17,803
Finland	Sept. 1, 1920	.....	.....	.....	.....	879	879
Germany	Dec. 2, 1912	.....	.....	.....	.....	82,702	82,702
	Dec. 1, 1919	44,282	.....	2,332	4,408	.....	51,023
	Dec. 1, 1920	53,057	.....	2,371	5,525	.....	60,953
	Dec. 1, 1921	60,320	.....	2,025	5,630	.....	67,975
Greece	1917	.....	.....	.....	.....	3,794	3,794
	1918	.....	.....	.....	.....	4,453	4,453
	1920	.....	.....	.....	.....	5,073	5,073
Japan	1913	19,533	.....	337	.....	.....	19,870
	1914	19,152	.....	333	.....	.....	19,485
	1915	20,246	.....	335	.....	.....	20,581
	1916	22,846	.....	372	.....	.....	23,218
	1917	26,060	.....	390	.....	.....	26,450
	1918	25,092	.....	374	.....	.....	25,466
	1919	25,027	.....	406	.....	.....	25,433
	1920	24,994	.....	410	.....	.....	25,404
Chosen (Korea)	1913	.....	.....	.....	.....	4,194	4,194
	1914	.....	.....	.....	.....	4,110	4,110
	1915	.....	.....	.....	.....	4,278	4,278
	1916	.....	.....	.....	.....	4,400	4,400
	1917	.....	.....	.....	.....	4,567	4,567
	1918	.....	.....	.....	.....	4,913	4,913
Netherlands	May-June, 1904	4,935	.....	.....	.....	.....	4,935
	May-June, 1910	9,778	.....	.....	.....	.....	9,778
	May-June, 1921	9,661	.....	.....	.....	.....	9,661
New Zealand	1906	2,784	77	282	44	4	3,191
	1911	3,215	98	329	45	6	3,693
	1916	3,141	57	221	47	2	3,468
	1921	3,492	46	380	73	.....	3,991

[1] No data available for Argentina, Australia, Belgium, Brazil, Chile, China, France, Hungary, India, Italy, Poland, Rumania, Russia (European), Russia (Asiatic), Serbia, Spain, Switzerland, Tunis, Uruguay, Venezuela. Figures for other countries compiled from reports received up to November 15, 1922, except for the United States.

[2] Includes incorporated South Jutland provinces where the poultry amounted to 408,000 in 1920 and 618,000 in 1921.

POULTRY—Continued.

TABLE 361.—*Poultry: Number of different kinds in the undermentioned countries* [1]—Con.

Country.	Date.	Chickens.	Turkeys.	Ducks.	Geese.	Guinea fowls, pigeons, and undesignated poultry.	Total poultry.
		Thousands.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Norway	[2] Sept. 30, 1907	1,390	3	8	10	.....	1,411
	[2] Sept. 30, 1917	1,860	5	6	12	.....	1,883
	Jan. 1, 1918	1,668	3	4	5	.....	1,680
Sweden	June 1, 1917	6,035	5	23	17	.....	6,080
	June 1, 1918	4,775	4	15	18	.....	4,812
	June 1, 1919	4,829	4	17	21	.....	4,871
Union of South Africa [3]	*1911*	*9,381*	*269*	*612*	*272*	.....	*10,534*
	May 5, 1918	8,436	218	495	271	.....	9,420
	Apr. 30, 1919	4,868	244	221	368	.....	5,701
	Apr. 30, 1920	4,195	163	236	192	.....	4,786
United Kingdom:							
England and Wales [4]	June 4, 1908	28,249	628	2,669	686	.....	32,232
	June 4, 1913	29,026	652	2,188	577	.....	32,443
	June 4, 1921	24,816	445	2,391	517	.....	28,169
Ireland [5]	1911	.....	.....	.....	.....	25,448	25,448
	1912	.....	.....	.....	.....	25,526	25,526
	1913	.....	.....	.....	.....	25,701	25,701
	1914	.....	.....	.....	.....	26,919	26,919
	1915	.....	.....	.....	.....	26,089	26,089
	1916	.....	.....	.....	.....	26,473	26,473
	1917	.....	.....	.....	.....	22,245	22,245
	1918	.....	.....	.....	.....	24,424	24,424
Yugoslavia	1921	.....	.....	.....	.....	15,076	15,076

[1] No data available for Argentina, Australia, Belgium, Brazil, Chili, China, France, Hungary, India, Italy, Poland, Rumania, Russia (European), Russia (Asiatic), Serbia, Spain, Switzerland, Tunis, Uruguay, Venezuela. Figures for other countries compiled from reports received up to Nov. 15, 1922, except for the United States.

[2] Rural districts only.

[3] Years 1919 and 1920 exclude native locations, reserves, also urban areas; numbers in native locations and reserves on Apr. 30, 1918—Chickens, 2,942,578; ducks, 81,946; geese, 17,950; turkeys, 17,874.

[4] 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.

[5] It was found impracticable to make an estimate of the number of poultry in 1919 and 1920, but the returns indicated an increase.

HIDES AND SKINS.

TABLE 362.—*Hides and skins: International trade, calendar years 1909–1921.*

GENERAL NOTE.—Substantially the international trade of the world. It should not be expected that the world export and import totals for any year will agree. Among sources of disagreement are these (1) different periods of time covered in the "year" of the various countries; (2) imports received in year subsequent to year of export; (3) want of uniformity in classification of goods among countries; (4) different practices and varying degrees of failure in recording countries of origin and ultimate destination; (5) different practices of recording reexported goods; (6) opposite methods of treating free ports; (7) clerical errors, which, it may be assumed, are not infrequent.

The exports given are domestic exports, and the imports given are imports for consumption as far as it is feasible and consistent so to express the facts. While there are some inevitable omissions, on the other hand, there are some duplications because of reshipments that do not appear as such in official reports. For the United Kingdom, import figures refer to imports for consumption, when available, otherwise total imports, less exports, of "foreign and colonial merchandise."

Country.	Average, 1909–1913.		1919		1920		1921	
	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	207	293,950	.....	299,082	.....	136,967	.....	210,158
Brazil	.....	83,252	.....	134,964	.....	90,744	.....	99,700
British India	20,376	169,857	13,234	196,286	10,585	91,971	8,040	92,507
British South Africa	221	51,159	2,566	73,867	1,247	51,766	130	46,157
China	2,317	72,751	3,754	94,707	3,222	68,523	4,618	55,598
Chosen (Korea)	64	4,944	.....	.....	.....	.....	.....	.....
Cuba	166	14,293	.....	13,101	40	5,546	.....	.....
Denmark	9,842	21,998	5,638	12,135	4,176	9,606	6,137	22,067
Dutch East Indies	135	16,708	345	32,176	457	17,102	371	9,899
Egypt	.....	10,754	2,441	8,944	1,910	5,065	406	4,988
Mexico	[1] 107	41,012	.....	.....	.....	.....	.....	.....
New Zealand	752	25,577	503	32,727	611	33,661	.....	26,617
Peru	.....	6,195	.....	7,351	.....	3,955	.....	.....
Switzerland	6,659	22,866	1,519	4,324	1,944	4,102	4,379	10,872
Uruguay	.....	71,105	.....	61,341	.....	34,172	.....	.....
Venezuela	.....	9,764	83	16,129	.....	6,810	.....	4,624
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary	87,566	79,265	.....	.....	[2] 6,517	[2] 860	[2] 15,260	[2] 1,004
Belgium	180,930	117,213	30,647	11,413	54,192	17,494	73,204	41,431
Canada	46,820	45,469	37,543	46,000	33,772	33,501	25,853	36,716
Finland	10,717	7,136	9,506	408	4,357	124	6,365	2,661
France	155,508	131,041	151,314	53,764	111,179	54,670	73,346	92,050
Germany	440,200	152,373	.....	.....	98,082	1,080	.....	.....
Greece	5,770	2,283	8,092	6,707	7,831	3,629	8,164	5,181
Italy	53,524	48,428	92,990	6,304	55,721	17,573	47,567	47,779
Japan	6,321	710	22,575	.....	25,323	.....	23,919	.....
Netherlands	73,691	67,636	31,483	48,516	40,709	42,180	51,302	47,379
Norway	13,979	13,852	11,421	5,172	6,061	6,608	5,962	8,822
Portugal	6,804	3,121	5,335	3,836	.....	.....	.....	.....
Rumania	7,223	2,876	163	.....	232	190	.....	.....
Russia	110,143	96,351	.....	.....	.....	.....	.....	.....
Singapore	9,332	6,436	.....	.....	4,760	3,723	.....	.....
Spain	19,119	17,457	35,077	14,807	30,049	6,806	17,442	11,738
Sweden	25,662	24,130	26,648	3,586	26,226	9,120	21,925	21,836
United Kingdom	107,350	38,100	148,993	7,390	121,678	17,069	73,773	17,933
United States	514,249	25,432	744,836	24,924	510,240	17,402	348,047	30,577
Other countries	43,767	195,861	29,325	145,132	21,217	104,657	3,210	38,247
Total	1,959,521	1,991,355	1,416,031	1,365,093	1,182,338	896,676	819,420	986,541

[1] 4-year average.

[2] Austria only.

HIDES AND SKINS—Continued.

TABLE 363.—*Hides and skins—United States imports, 1910–1922.*[1]

Year.	Buffalo hides, dry.	Calfskins.		Cattle hides.		Goatskins.	
		Dry.	Green or pickled.	Dry.	Green or pickled.	Dry.	Green or pickled.
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1910	(3)	(4)	[5] 75,593	(3)	[5] 318,004	(4)	[5] 115,845
1911	3,425	23,522	36,261	54,630	95,498	64,338	22,576
1912	4,906	41,992	63,260	78,131	172,881	69,143	26,198
1913	16,235	39,974	54,585	82,595	185,447	70,563	25,687
1914	14,493	27,768	54,636	71,486	208,478	63,374	21,385
1915	12,423	15,678	30,289	93,001	241,340	50,713	15,834
1916	13,004	26,913	37,222	153,339	280,839	85,506	15,152
1917	24,801	20,474	9,112	141,665	229,020	76,462	12,441
1918	5,819	5,489	2,093	34,836	186,215	53,306	9,058
1919	15,620	42,325	22,230	96,190	311,092	111,134	22,523
1920	9,484	16,903	18,230	59,150	216,174	69,877	10,327
1921 [7]	1,918	14,261	33,677	13,257	166,929	54,925	8,202
1922	.....	.....	.....	.....	.....	.....	.....
1922.							
January	24	1,652	620	2,061	13,873	4,129	1,401
February	359	1,493	1,520	2,157	21,129	3,905	1,658
March	1,082	907	1,064	1,758	13,150	5,190	1,718
April	285	962	740	1,111	15,237	7,238	1,469
May	146	903	1,720	1,526	18,381	6,093	1,136
June	59	1,718	2,550	2,778	23,714	5,650	1,859
July	991	1,665	1,951	2,466	21,494	4,231	570
August	126	2,160	4,069	3,598	33,594	4,213	1,327
September	201	2,392	4,297	3,266	26,955	4,041	328
October	.....	.....	.....	.....	.....	.....	.....
November	.....	.....	.....	.....	.....	.....	.....
December	.....	.....	.....	.....	.....	.....	.....

Year.	Horse and ass skins.		Kangaroo and wallaby skins.	Sheepskins.[2]		All other.	Total.
	Dry.	Green or pickled.		Dry.	Green or pickled.		
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1910	(4)	[5] 19,512	(6)	(4)	[5] 67,406	12,259	608,619
1911	4,551	5,704	(6)	18,787	36,930	8,669	374,891
1912	7,194	5,675	(6)	25,645	34,755	7,988	537,768
1913	10,979	8,448	1,097	31,132	40,653	4,802	572,197
1914	7,620	4,645	1,329	29,338	40,739	15,780	561,071
1915	5,425	3,800	769	20,886	37,834	10,226	538,218
1916	6,780	11,347	1,219	54,600	46,859	10,890	743,670
1917	9,048	13,414	604	50,357	33,625	10,043	631,066
1918	873	4,125	679	21,530	30,934	6,934	361,891
1919	12,077	15,976	1,384	43,560	41,471	9,254	744,836
1920	5,043	11,803	1,389	29,833	52,916	9,111	510,240
1921 [7]	812	3,248	455	13,457	32,398	4,508	348,047
1922.							
January	17	173	70	563	2,650	599	27,832
February	14	378	32	787	1,506	252	35,190
March	5	476	56	2,582	1,935	416	30,339
April	46	530	79	1,239	2,541	458	31,935
May	389	790	120	1,305	5,070	539	38,118
June	392	388	57	1,822	3,475	671	45,133
July	1,007	458	48	1,328	3,081	452	39,742
August	620	877	68	1,247	7,593	388	59,880
September	668	637	90	1,261	5,883	568	50,587
October	.....	.....	.....	.....	.....	.....	.....
November	.....	.....	.....	.....	.....	.....	.....
December	.....	.....	.....	.....	.....	.....	.....

[1] Monthly summary of foreign commerce.
[2] Except sheepskins with wool on.
[3] Included in cattle hides.
[4] Included in green or pickled.
[5] Includes dry hides.
[6] Included in all other.
[7] Preliminary.

HIDES AND SKINS—Continued.

TABLE 364.—*Hides: Quarterly stocks of hides in United States, 1921–22.*[1]

[000 omitted.]

RAW PACKER.

Description and year.	Mar. 31.	June 30.	Sept. 30.	Dec. 31.
Steers:				
1921	1,564	1,522	1,451	1,090
1922	1,255	1,492	1,342	1,370
Cows:				
1921	2,251	1,537	1,169	1,173
1922	1,145	1,054	1,186	1,584
Bulls:				
1921	188	165	162	125
1922	100	99	132	144
Mixed cattle:				
1921	265	378	273	305
1922	292	202	208	241
Calfskins:				
1921	913	1,073	775	531
1922	703	713	670	596
Kipskins:				
1921	377	290	240	193
1922	124	87	196	274

DOMESTIC AND FOREIGN CATTLE HIDES (OTHER THAN PACKER).

Description and year.	Mar. 31.	June 30.	Sept. 30.	Dec. 31.
Calf, dry or dry salted:				
1921	384	456	590	564
1922	486	378	572	760
Calf, green salted:				
1921	1,763	2,362	2,110	1,870
1922	1,775	2,507	2,432	1,942
Cattle, dry or dry salted:				
1921	984	885	937	1,012
1922	1,064	968	1,020	1,143
Bulls, green salted:				
1921	58	76	54	58
1922	54	44	37	37
Cows, green salted:				
1921	703	1,105	496	775
1922	660	579	462	636
Steers, green salted:				
1921	685	545	354	259
1922	291	202	340	405
Mixed cattle, green salted:				
1921	1,109	847	1,191	1,021
1922	801	706	790	787
Kip, dry or dry salted:				
1921	20	46	61	45
1922	461	455	447	319
Kip, green salted:				
1921	396	254	269	392
1922	330	334	346	570

MISCELLANEOUS HIDES AND SKINS.

Description and year.	Mar. 31.	June 30.	Sept. 30.	Dec. 31.
Buffalo hides:				
1921	211	188	170	141
1922	138	139	156	109
Cabretta skins:				
1921	1,579	1,219	791	547
1922	361	878	810	930
Calf and kip skins (domestic):				
1921	4,302	4,926	4,413	3,990
1922	3,881	4,474	4,664	4,462
Cattle and kip hides and skins (foreign tanned):				
1921	293	240	202	151
1922	124	62	46	75
Cattle hides:				
1921	7,807	7,078	6,086	5,819
1922	5,662	5,347	5,515	6,346
Deer and elk skins:				
1921	119	212	216	275
1922	136	166	187	188
Goat and kid skins:				
1921	8,652	9,680	10,746	10,380
1922	8,044	10,799	8,641	8,730
Horse, colt, ass, and mule hides:				
1921	385	386	306	260
1922	254	140	109	128
Horse, colt, ass, and mule butts:				
1921	222	193	191	207
1922	220	224	310	456
Horse, colt, ass, and mule fronts:				
1921	43	57	57	62
1922	44	62	94	115
Horse, colt, ass, and mule shanks:				
1921	72	109	65	60
1922	56	42	60	154
Kangaroo and Wallaby skins:				
1921	410	363	359	389
1922	268	240	177	243
Pig and hog skins:				
1921	251	120	89	97
1922	111	111	106	96
Pig and hog strips (pounds):				
1921	1,163	859	349	517
1922	226	483	390	319
Sheep and lamb skins:				
1921	12,971	13,755	12,606	12,661
1922	11,941	10,971	10,475	9,151
Skivers and fleshers (pieces):				
1921	1,611	1,778	1,784	1,770
1922	1,732	1,858	2,031	2,141

[1] Bureau of Census.

HIDES AND SKINS—Continued.

TABLE 365.—*Hides: Monthly and yearly average price per pound, heavy native steers, at Chicago, 1910–1922.*[1]

PACKER HIDES.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	$0.17	$0.15	$0.14	$0.15	$0.16	$0.18	$0.16	$0.16	$0.16	$0.16	$0.15	$0.14	$0.16
1911	.13	.13	.13	.13	.14	.16	.16	.16	.16	.16	.16	.16	.15
1912	.16	.16	.16	.16	.17	.17	.18	.19	.20	.20	.20	19	.18
1913	.19	.18	.17	.17	.17	.18	.18	.19	.19	.20	.20	.18	.18
Average 1910–1913	.16	.16	.15	.15	.16	.17	.17	.18	.18	.18	.18	.17	.17
1914	.18	.18	.18	.18	.18	.19	.20	.21	.21	.21	.22	.23	.20
1915	.23	.23	.21	.19	.22	.24	.26	.27	.26	.26	.26	.25	.24
1916	.23	.23	.22	.23	.26	.27	.27	.26	.26	.28	.32	.33	.26
1917	.32	.31	.30	.30	.32	.32	.32	.32	.33	.34	.35	.35	.32
1918	.32	.29	.26	.27	.31	.33	.33	.30	.30	.30	.29	.29	.30
1919	.28	.28	.28	.31	.37	.41	.50	.53	.46	.48	.47	.40	.40
1920	.40	.40	.37	.36	.36	.36	.31	.28	.28	.26	.22	.20	.32
Average 1914–1920	.28	.27	.26	.26	.29	.30	.31	.31	.30	.30	.30	.29	.29
1921	.17	.15	.13	.11	.12	.14	.14	.14	.14	.15	.16	.16	.14
1922	.16	.16	.14	.14	.15	.17	.18	.20	.21	.23	.23	.21	.18

COUNTRY HIDES.

1910	$0.14	$0.13	$0.12	$0.13	$0.12	$0.12	$0.11	$0.12	$0.13	$0.12	$0.12	$0.11	$0.12
1911	.11	.11	.11	.11	.11	.12	.13	.13	.13	.13	.14	.13	.12
1912	.13	.13	.13	.13	.14	.14	.14	.15	.16	.16	.16	.16	.14
1913	.15	.15	.15	.15	.14	.14	.15	.15	.16	.17	.17	.16	.15
Average 1910–1913	.13	.13	.13	.13	.13	.13	.13	.14	.14	.14	.15	.14	.13
1914	.16	.16	.16	.15	.17	.16	.16	.16	.17	.17	.19	.20	.17
1915	.20	.20	.18	.17	.17	.18	.21	.20	.20	.22	.21	.20	.20
1916	.18	.19	.18	.19	.20	.20	.20	.21	.21	.23	.27	.26	.21
1917	.24	.24	.24	.24	.25	.26	.26	.27	.24	.28	.29	.26	.26
1918	.23	.21	.17	.19	.28	.28	.28	.24	.24	.24	.22	.22	.23
1919	.22	.22	.22	.24	.28	.34	.43	.47	.41	.38	.36	.28	.32
1920	.33	.33	.30	.28	.28	.24	.23	.20	.19	.18	.16	.14	.24
Average 1914–1920	.22	.22	.21	.21	.23	.24	.25	.25	.24	.24	.24	.22	.23
1921	.13	.11	.10	.09	.09	.09	.08	.08	.08	.09	.10	.10	.09
1922	.10	.09	.08	.09	.09	.11	.13	.14	.14	.15	.15	.14	.12

[1] Compiled from data in "Hides and Leather."

MEAT AND MEAT PRODUCTS.

TABLE 366.—*Meat and meat products: International trade, calendar years 1911–1921.*

[See "General note," Table 362.]

Country.	Average, 1911–1913.		1919		1920		1921	
	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	3,487	1,173,461	296	1,596,704	.....	1,172,631	.....	1,155,799
Australia	1,967	507,143	1,643	521,487	1,025	316,228	.....	.....
Brazil	54,012	1,520	3,115	254,663	10,964	195,479	10,232	174,160
British South Africa	32,479	537	6,434	46,481	17,847	14,250	6,392	2,957
Canada	43,327	60,242	74,842	410,481	70,111	203,013	75,436	158,780
China	85	64,684	1,221	148,088	1,757	89,599	1,363	71,190
Denmark	32,184	368,188	33,482	34,177	8,170	157,661	21,394	235,610
New Zealand	960	326,539	1,007	552,770	1,584	593,445	.....	551,531
Russia	130,897	53,175	.....	.....	.....	.....	.....	.....
United States	18,719	1,277,524	107,643	3,118,728	196,425	1,851,692	79,845	1,897,936
Uruguay	[2] 702	196,911	.....	407,028	.....	289,410	.....	.....
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary	49,268	12,420	.....	.....	[1] 155,210	[1] 7,516	[1] 131,345	[1] 9,287
Belgium	179,120	127,057	158,778	113,204	220,284	58,024	190,148	48,726
Cuba	128,362	([2], [3])	141,005	12	184,678	.....	.....	.....
France	111,496	98,281	1,261,402	72,558	601,076	81,475	293,714	72,308
Germany	559,752	19,525	.....	.....	884,375	4,466	.....	.....
Italy	104,619	15,708	525,523	5,374	174,708	8,507	118,852	7,414
Netherlands	359,864	497,402	167,916	216,048	157,179	287,185	219,781	316,437
Norway	42,416	3,365	88,349	7,346	67,401	3,362	71,299	1,444
Spain	37,974	3,200	19,021	5,853	28,328	2,776	21,070	6,578
Sweden	24,215	39,768	129,821	15,496	58,828	24,999	35,738	63,898
Switzerland	60,174	3,169	47,131	7,012	49,913	5,415	62,811	2,088
United Kingdom	2,843,605	117,226	3,057,420	99,391	2,854,559	98,296	3,329,020	90,134
Other countries	170,686	57,611	158,817	132,273	169,821	121,828	144,875	73,981
All countries:								
Beef	2,044,172	2,162,336	2,092,734	2,880,769	2,289,791	2,537,300	2,161,838	1,868,396
Mutton	611,744	560,284	558,381	741,318	876,661	620,854	832,754	516,971
Pork	1,632,382	1,638,145	2,318,233	3,164,637	2,051,929	1,937,396	1,467,643	2,179,926
Other	702,072	663,891	1,015,518	978,449	695,861	491,707	351,079	374,965
Total	4,990,370	5,024,656	5,984,866	7,765,173	5,914,243	5,587,257	4,813,314	4,940,258

[1] Austria only. [2] One year only. [3] Less than 500.

MEAT AND MEAT PRODUCTS—Continued.

TABLE 367.— *Yearly production of beef, veal, lamb and mutton, and pork, and percentage of total production, 1907–1922.*[1]

SLAUGHTER.

[In millions of pounds, i. e., 000,000 omitted.]

Year.	Beef.			Veal.			Total beef and veal.	Lamb and mutton.			Pork.			Total all meats.[2]
	Under Federal inspection.	Other.	Total.	Under Federal inspection.	Other.	Total.		Under Federal inspection.	Other.	Total.	Under Federal inspection.	Other.	Total.	
1907	4,336	2,983	7,319	210	416	626	7,945	431	128	559	4,420	3,071	7,491	15,995
1908	3,955	2,721	6,676	203	402	605	7,281	428	127	555	4,853	3,373	8,226	16,062
1909	4,189	2,882	7,071	230	454	684	7,755	466	138	604	3,946	2,744	6,690	15,049
1910	4,054	2,679	6,733	235	452	687	7,420	463	137	600	3,470	2,411	5,881	13,901
1911	3,984	2,513	6,497	229	428	657	7,154	569	169	738	4,431	3,080	7,511	15,403
1912	3,731	2,189	5,920	239	429	668	6,588	608	180	788	4,242	2,947	7,189	14,565
1913	3,595	2,318	5,913	176	312	488	6,401	569	169	738	4,420	3,072	7,492	14,631
1914	3,601	2,038	5,639	158	275	433	6,072	555	165	720	4,264	2,964	7,228	14,020
1915	3,979	1,837	5,816	168	260	428	6,244	482	144	626	4,749	3,301	8,050	14,920
1916	4,362	1,756	6,118	220	316	536	6,654	472	140	612	5,186	3,448	8,634	15,900
1917	5,169	1,517	6,686	296	366	662	7,348	364	109	473	4,071	2,830	6,901	14,722
1918	5,638	1,682	7,320	352	439	791	8,111	381	108	489	5,551	3,303	8,854	17,454
1919	4,774	1,509	6,283	378	482	860	7,143	470	132	602	5,584	3,349	8,933	16,678
1920	4,578	1,885	6,463	402	534	936	7,399	423	115	538	5,133	3,060	8,193	16,130
1921	4,113	2,081	6,194	267	521	888	7,082	494	107	601	5,363	3,124	8,487	16,170
1922	4,610	2,137	6,747	396	397	793	7,540	418	116	534	5,869	3,293	9,162	17,236
10-year av., 1907–1916	3,979	2,392	6,371	207	374	581	6,952	504	150	654	4,398	3,041	7,439	15,045
5-year av., 1917–1921	4,854	1,735	6,589	359	468	827	7,416	427	114	541	5,141	3,133	8,274	16,231

Year.	Percentage of total production.					
	Beef.	Veal.	Beef and veal.	Lamb and mutton.	Pork.	Total meats.
1907	45.8	3.9	49.7	3.5	46.8	100
1908	41.5	3.8	45.3	3.5	51.2	100
1909	47.0	4.5	51.5	4.0	44.5	100
1910	48.5	4.9	53.4	4.3	42.3	100
1911	42.2	4.2	46.4	4.8	48.8	100
1912	40.6	4.6	45.2	5.4	49.4	100
1913	40.4	3.3	43.7	5.1	51.2	100
1914	40.2	3.1	43.3	5.1	51.6	100
1915	39.0	2.9	41.9	4.2	53.9	100
1916	38.5	3.4	41.9	3.8	54.3	100
1917	45.4	4.5	49.9	3.2	46.9	100
1918	41.9	4.6	46.5	2.8	50.7	100
1919	37.7	5.1	42.8	3.6	53.6	100
1920	40.1	5.8	45.9	3.3	50.8	100
1921	38.3	5.5	43.8	3.7	52.5	100
1922	39.1	4.6	43.7	3.1	53.2	100
10-year av., 1907–1916	42.4	3.8	46.2	4.4	49.4	100
5-year av., 1917–1921	40.7	5.1	45.8	3.3	50.9	100

[1] 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.
[2] Not including goat meat.

MEAT AND MEAT PRODUCTS—Continued.

TABLE 368.—*Yearly consumption of beef, veal, lamb and mutton, and pork, and percentage of total consumption, 1907–1922.*[1]

CONSUMPTION.

[In millions of pounds, i. e., 000,000 omitted.]

Year.	Beef.	Veal.	Total beef and veal.	Lamb and mutton.	Pork.	Total meats.[2]
1907	6,967	626	7,593	558	6,477	14,628
1908	6,448	605	7,053	554	7,607	15,214
1909	6,908	684	7,592	602	6,218	14,412
1910	6,623	687	7,310	598	5,568	13,476
1911	6,405	657	7,062	735	7,055	14,852
1912	5,864	668	6,532	783	6,749	14,064
1913	5,902	488	6,390	733	7,037	14,160
1914	5,797	438	6,235	734	6,882	13,851
1915	5,542	429	5,971	636	7,151	13,758
1916	5,854	537	6,391	621	7,625	14,637
1917	6,335	663	6,998	476	5,962	13,436
1918	6,717	792	7,509	488	7,134	15,131
1919	6,022	865	6,887	606	7,043	14,536
1920	6,498	944	7,442	538	7,335	15,315
1921	6,223	892	7,115	661	7,859	15,635
1922	6,711	798	7,509	545	8,306	16,360
10-year average, 1907–1916	6,231	582	6,813	655	6,837	14,305
5-year average, 1916–1921	6,359	831	7,190	554	7,067	14,811

PERCENTAGE OF TOTAL CONSUMPTION.

1907	47.6	4.3	51.9	3.8	44.3	100
1908	42.4	4.0	46.4	3.6	50.0	100
1909	47.9	4.8	52.7	4.2	43.1	100
1910	49.1	5.1	54.2	4.4	41.4	100
1911	43.1	4.4	47.5	5.0	47.5	100
1912	41.7	4.7	46.4	5.6	48.0	100
1913	41.7	3.4	45.1	5.2	49.7	100
1914	41.8	3.2	45.0	5.3	49.7	100
1915	40.3	3.1	43.4	4.6	52.0	100
1916	40.0	3.7	43.7	4.2	52.1	100
1917	47.2	4.9	52.1	3.5	44.4	100
1918	44.4	5.2	49.6	3.2	47.2	100
1919	41.4	6.0	47.4	4.2	48.4	100
1920	42.4	6.2	48.6	3.5	47.9	100
1921	39.8	5.7	45.5	4.2	50.3	100
1922	41.0	4.9	45.9	3.3	50.8	100
10-year average, 1907–1916	43.5	4.1	47.6	4.6	47.8	100
5-year average, 1916–1921	43.0	5.6	48.6	3.7	47.7	100

[1] 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.
[2] Not including goat meat.

MEAT AND MEAT PRODUCTS—Continued.

TABLE 369.—*Annual per capita consumption of dressed meat and lard, 1907–1922.*[1]

Year.	Beef.	Veal.	Mutton and lamb.	Pork, excluding lard.	Total meat.[2]	Lard.	Total meat and lard.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
1907	79.7	7.1	6.4	74.1	167.3	12.5	179.8
1908	72.4	6.8	6.2	85.4	170.8	14.3	185.1
1909	76.2	7.5	6.6	68.6	158.9	11.6	170.5
1910	71.8	7.4	6.5	60.3	146.0	10.5	156.5
1911	68.4	7.0	7.8	75.1	158.3	11.8	170.1
1912	61.7	7.0	8.2	70.6	147.5	11.4	158.9
1913	60.8	5.0	7.5	72.5	145.8	11.7	157.5
1914	58.9	4.4	7.5	69.9	140.7	12.1	152.8
1915	55.7	4.3	6.4	72.0	138.4	13.6	152.0
1916	58.1	5.3	6.2	75.7	145.3	15.1	160.4
1917	62.0	6.5	4.7	58.4	131.6	11.7	143.3
1918	64.8	7.6	4.7	68.9	146.0	14.1	160.1
1919	57.3	8.2	5.8	67.1	138.4	12.4	150.8
1920	61.1	8.9	5.0	68.9	143.9	13.1	157.0
1921	57.7	8.3	6.1	72.9	145.0	11.3	156.3
1922	61.4	7.3	5.0	76.0	149.7	14.1	163.8

[1] 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.
[2] Not including goat meat.

HORSES AND MULES.

TABLE 370.—*Horses and mules: Number and value on farms in the United States, January 1, 1870–1923.*

NOTE.—Figures in *italics* are census returns; figures in roman are estimates of the Department of Agriculture. Estimates of numbers are obtained by applying estimated percentages of increase or decrease to the published numbers of the preceding year, except that a revised base is used for applying percentage estimates whenever new census data are available. It should also be observed that the census of 1910, giving the numbers as of Apr. 15, is not strictly comparable with former censuses, which related to numbers June 1.

[In thousands—i. e., 000 omitted.]

Year.	Horses.		Mules.		Year.	Horses.		Mules.	
	Number.	Farm value Jan. 1.	Number.	Farm value Jan. 1.		Number.	Farm value Jan. 1.	Number.	Farm value Jan. 1.
1870, June 1	*7,145*	$481,719	*1,125*	$101,431	1915	21,195	$2,190,102	4,479	$503,271
1880, June 1	*10,357*	560,916	*1,813*	112,749	1916	21,159	2,149,786	4,593	522,834
1890, June 1	*14,969*	1,051,182	*2,296*	179,176	1917	21,210	2,182,307	4,723	558,006
1900, June 1	*18,267*	797,907	*3,265*	167,855	1918	21,555	2,246,970	4,873	627,679
1910, Apr. 15	*19,833*	2,142,524	*4,210*	506,049	1919	21,482	2,114,897	4,954	672,922
1911	20,277	2,259,981	4,323	544,359	1920	19,766	1,907,646	5,427	805,495
1912	20,509	2,172,694	4,362	525,657	1921	19,208	1,619,423	5,455	636,568
1913	20,567	2,278,222	4,386	545,245	1922	19,056	1,344,136	5,467	481,578
1914	20,962	2,291,638	4,449	551,017	1923[1]	18,853	1,314,956	5,506	472,735

[1] Preliminary estimate.

TABLE 371.—*Horses and mules: Farm price per head, January 1, 1867–1923.*

Year.	Horses.	Mules.	Year.	Horses.	Mules.	Year.	Horses.	Mules.	Year.	Horses.	Mules.
1867	$59.05	$66.94	1882	$58.53	$71.35	1896	$33.07	$45.29	1910	$108.03	$120.20
1868	54.27	56.04	1883	70.59	79.49	1897	31.51	41.66	1911	111.46	125.92
1869	62.57	79.23	1884	74.64	84.22	1898	34.26	43.88	1912	105.94	120.51
1870	67.42	90.16	1885	73.70	82.38	1899	37.40	44.96	1913	110.77	124.31
1871	71.14	91.98	1886	71.27	79.60	1900	43.68	51.41	1914	109.32	123.85
1872	67.41	87.14	1887	72.15	78.91	1901	52.86	63.97	1915	103.33	112.36
1873	66.39	85.15	1888	71.82	79.78	1902	58.61	67.61	1916	101.60	113.85
1874	65.15	81.35	1889	71.89	79.49	1903	62.25	72.49	1917	102.89	118.13
1875	61.10	71.89	1890	70.22	78.04	1904	67.93	78.88	1918	104.24	128.81
1876	57.29	66.46	1891	67.00	77.88	1905	70.37	87.18	1919	98.45	135.83
1877	55.83	64.07	1892	65.01	75.55	1906	80.72	98.31	1920	96.51	148.42
1878	56.63	62.03	1893	61.22	70.68	1907	93.51	112.16	1921	84.31	116.69
1879	52.36	56.00	1894	47.83	62.17	1908	93.41	107.76	1922	70.54	88.09
1880	54.60	62.19	1895	36.29	47.55	1909	95.64	107.84	1923	69.75	85.86
1881	58.44	69.79									

HORSES AND MULES—Continued.

TABLE 372.—*Horses and mules: Number and value on farms, January 1, 1922, and 1923, by States.*

State.	Horses.						Mules.					
	Number (thousands) Jan. 1—		Average price per head Jan. 1—		Farm value (thousands of dollars Jan. 1)—		Number (thousands) Jan. 1—		Average price per head Jan. 1—		Farm value (thousands of dollars) Jan. 1—	
	1922	1923[1]	1922	1923	1922	1923[1]	1922	1923[1]	1922	1923	1922	1923[1]
Me.	92	91	$125.00	$122.00	$11,500	$11,102	.....	.....	.....	.....	.....	.....
N. H.	36	35	114.00	114.00	4,104	3,990	.....	.....	.....	.....	.....	.....
Vt.	76	76	110.00	104.00	8,360	7,904	.....	.....	.....	.....	.....	.....
Mass.	48	47	135.00	138.00	6,480	6,486	.....	.....	.....	.....	.....	.....
R. I.	6	6	138.00	133.00	828	798	.....	.....	.....	.....	.....	.....
Conn.	37	36	135.00	128.00	4,995	4,608	.....	.....	.....	.....	.....	.....
N. Y.	520	510	117.00	115.00	60,840	58,650	7	7	$133.00	$133.00	$931	$931
N. J.	72	72	133.00	129.00	9,576	9,288	6	6	151.00	131.00	906	786
Pa.	496	491	112.00	110.00	55,552	54,010	53	55	124.00	125.00	6,572	6,875
Del.	26	25	66.00	78.00	1,716	1,950	9	9	88.00	88.00	792	792
Md.	137	136	87.00	86.00	11,919	11,696	33	33	115.00	111.00	3,795	3,663
Va.	300	300	84.00	82.00	25,200	24,600	96	97	105.00	103.00	10,080	9,991
W. Va.	161	161	89.00	90.00	14,329	14,490	15	15	97.00	102.00	1,455	1,530
N. C.	166	166	108.00	108.00	17,928	17,928	257	260	129.00	128.00	33,153	33,280
S. C.	73	70	88.00	92.00	6,424	6,440	215	209	129.00	124.00	27,735	25,916
Ga.	99	95	76.00	83.00	7,524	7,885	394	390	99.00	105.00	39,006	40,950
Fla.	38	38	115.00	105.00	4,370	3,990	42	43	148.00	138.00	6,216	5,934
Ohio	787	771	99.00	93.00	77,913	71,703	31	32	100.00	97.00	3,100	3,104
Ind.	703	696	81.00	74.00	56,943	51,504	101	101	84.00	77.00	8,484	7,777
Ill.	1,207	1,183	69.00	70.00	83,283	82,810	168	170	75.00	77.00	12,600	13,000
Mich.	594	594	94.00	92.00	55,836	54,648	6	6	98.00	99.00	588	594
Wis.	656	643	93.00	104.00	61,008	66,872	4	4	98.00	103.00	392	412
Minn.	905	887	76.00	77.00	68,780	68,299	10	10	79.00	82.00	790	820
Iowa	1,305	1,305	73.00	79.00	95,265	103,095	90	101	78.00	80.00	7,020	8,080
Mo.	879	870	52.00	52.00	45,708	45,240	377	373	65.00	63.00	24,505	23,499
N. Dak.	813	797	55.00	56.00	44,715	44,632	8	8	72.00	69.00	576	552
S. Dak.	784	760	49.00	52.00	38,416	39,520	14	14	70.00	68.00	980	952
Nebr.	910	901	56.00	58.00	50,960	52,258	112	114	70.00	70.00	7,840	7,980
Kans.	1,019	1,019	48.00	45.00	48,912	45,855	301	307	59.00	58.00	17,759	17,806
Ky.	374	374	68.00	65.00	25,432	24,310	293	287	82.00	76.00	24,026	21,812
Tenn.	315	309	75.00	73.00	23,625	22,557	346	343	86.00	84.00	29,756	28,812
Ala.	130	129	76.00	78.00	9,880	10,062	299	311	94.00	99.00	28,106	30,789
Miss.	211	211	70.00	72.00	14,770	15,192	296	302	92.00	93.00	27,232	28,086
La.	173	171	77.00	71.00	13,321	12,141	178	176	118.00	113.00	21,004	19,888
Tex.	971	971	58.00	53.00	56,318	51,463	854	863	85.00	80.00	72,590	69,040
Okla.	708	715	45.00	40.00	31,860	28,600	337	337	65.00	58.00	21,905	19,546
Ark.	247	247	57.00	53.00	14,079	13,091	328	335	79.00	73.00	25,912	24,455
Mont.	670	643	41.00	38.00	27,470	24,434	9	9	69.00	60.00	621	540
Wyo.	202	198	39.00	33.00	7,878	6,534	3	3	61.00	58.00	183	174
Colo.	421	425	54.00	46.00	22,734	19,550	32	33	69.00	60.00	2,208	1,980
N. Mex.	177	181	50.00	45.00	8,850	8,145	21	21	72.00	66.00	1,512	1,386
Ariz.	135	135	68.00	62.00	9,180	8,370	12	12	89.00	76.00	1,068	912
Utah	128	128	70.00	69.00	8,960	8,832	3	3	66.00	62.00	198	186
Nev.	48	49	47.00	55.00	2,256	2,695	2	2	53.00	61.00	106	122
Idaho	281	273	63.00	58.00	17,703	15,834	8	8	73.00	65.00	584	520
Wash.	281	278	70.00	70.00	19,670	19,460	22	22	88.00	83.00	1,936	1,826
Oreg.	272	272	76.00	81.00	20,672	22,032	14	14	81.00	76.00	1,134	1,064
Calif.	367	363	82.00	81.00	30,094	29,403	61	61	102.00	103.00	6,222	6,283
U. S.	19,056	18,853	70.54	69.75	1,344,136	1,314,956	5,467	5,506	88.09	85.86	481,578	472,735

[1] Preliminary estimate.

HORSES AND MULES—Continued.

TABLE 373.—*Horses: Farm price per head, 15th of month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	$140	$147	$150	$154	$148	$151	$148	$148	$145	$144	$143	$141
1911	143	144	145	147	146	145	139	141	139	137	136	134
1912	134	137	140	142	144	145	142	142	141	140	139	139
1913	140	146	146	148	145	146	143	141	141	138	136	135
1914	137	139	138	138	139	136	137	135	132	131	130	130
1915	130	132	132	132	133	132	134	131	131	129	127	126
1916	128	129	131	133	134	132	133	131	131	130	129	129
1917	129	131	133	136	138	137	135	132	132	130	129	129
1918	130	133	137	137	136	135	132	131	128	126	122	121
1919	120	121	124	127	129	127	127	125	119	114	113	113
1920	118	123	127	131	132	130	127	124	119	112	103	97
1921	96	98	101	100	98	98	94	93	89	85	82	81
1922	82	84	86	87	89	88	88	86	84	81	79	79
AV. 1913–1922	121	124	126	127	127	126	125	123	121	118	115	114

TABLE 374.—*Horses:* [1] *Yearly losses per 1,000, from disease, 1888–1923.*

Year.	Losses per 1,000.	Year.	Losses per 1,000.	Year.	Losses per 1,000.	Year.	Losses per 1,000.
1888	18.3	1898	20.0	1908	17.1	1918	16.5
1889	14.6	1899	23.4	1909	18.2	1919	15.7
1890	16.4	1900	18.3	1910	19.9	1920	17.8
1891	16.6	1901	18.2	1911	19.0	1921	14.7
1892	15.3	1902	20.2	1912	21.9	1922	15.7
1893	17.0	1903	19.7	1913	22.6	1923	.....
1894	21.0	1904	19.6	1914	20.6		
1895	22.3	1905	17.9	1915	.....		
1896	20.2	1906	17.7	1916	17.5		
1897	21.3	1907	18.9	1917	16.9		

[1] Including mules since 1912.

HORSES AND MULES—Continued.

TABLE 375.—*Horses: Monthly farm price, per head, 15th of month, by States, 1922.*[1]

States.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Maine	$148	$150	$155	$149	$144	153	$151	$149	$143	$142	$145	$148	$148
New Hampshire	130	130	125	112	143	148	148	148	150	140	120	121	135
Vermont	118	125	117	137	125	125	130	135	146	146	120	129	129
Massachusetts	136	133	150	156	156	140	150	150	140	150	120	128	142
Rhode Island	150	150	.....	154	155	160	.....	167	150	.....	150	162	[2] 155
Connecticut	171	165	160	180	155	150	154	150	170	152	125	158	158
New York	131	138	138	137	134	131	131	134	125	127	125	120	131
New Jersey	145	145	135	150	150	150	150	150	150	150	150	150	148
Pennsylvania	125	130	135	131	130	132	130	130	135	130	125	120	129
Delaware	85	89	94	95	100	105	100	92	92	96	90	85	94
Maryland	95	93	95	100	103	104	104	90	97	91	98	89	97
Virginia	88	92	88	91	93	93	90	88	88	90	88	87	90
West Virginia	99	100	104	105	103	103	102	101	103	96	96	95	101
North Carolina	108	104	112	110	113	110	112	108	111	110	110	107	110
South Carolina	86	87	86	86	87	85	88	90	90	85	85	85	87
Georgia	80	84	82	77	84	75	82	85	78	78	78	82	80
Florida	120	121	120	122	120	123	122	115	120	125	125	120	121
Ohio	110	115	117	115	114	114	111	108	104	96	96	98	108
Indiana	92	95	96	95	95	95	92	89	82	83	82	83	90
Illinois	88	85	85	90	94	92	91	91	90	91	87	87	89
Michigan	108	126	126	122	120	126	120	110	115	107	106	104	116
Wisconsin	99	105	107	113	116	115	115	116	113	113	108	115	111
Minnesota	96	97	99	98	100	102	105	98	93	90	85	83	96
Iowa	95	95	98	94	102	97	97	98	100	97	93	93	97
Missouri	57	58	58	58	63	66	63	60	55	52	54	52	58
North Dakota	65	63	75	78	80	80	84	86	88	80	72	68	77
South Dakota	63	76	76	75	75	76	70	72	63	64	64	62	70
Nebraska	74	79	84	84	83	82	83	79	76	70	70	69	78
Kansas	60	62	64	65	68	71	65	61	58	53	55	.....	[3] 62
Kentucky	70	75	76	70	72	76	76	73	68	63	63	64	70
Tennessee	78	80	82	83	82	82	82	83	80	76	80	81	81
Alabama	75	78	71	81	82	81	82	75	78	81	78	78	78
Mississippi	72	62	69	75	74	75	76	75	75	72	75	70	72
Louisiana	88	73	72	69	81	67	88	75	80	69	70	86	76
Texas	64	65	66	67	70	66	68	64	68	61	64	65	66
Oklahoma	57	59	61	61	65	65	65	55	49	52	53	44	57
Arkansas	61	60	61	65	65	60	64	63	61	62	58	59	62
Montana	47	41	39	40	40	40	41	41	41	52	40	48	42
Wyoming	48	60	58	60	67	58	54	55	58	50	45	40	54
Colorado	67	72	72	78	78	80	78	74	67	67	53	52	70
New Mexico	57	58	60	58	58	63	60	60	55	48	51	54	57
Arizona	70	65	75	75	75	75	75	70	70	70	65	65	71
Utah	85	84	90	95	105	110	95	97	97	90	90	88	94
Nevada	47	47	50	52	50	50	55	55	60	60	60	60	54
Idaho	85	86	86	86	87	90	91	94	80	85	85	85	87
Washington	94	95	97	100	108	101	84	95	98	76	87	94	94
Oregon	80	85	85	95	100	95	90	75	80	75	75	80	85
California	90	95	98	100	98	95	98	98	98	98	98	94	97
United States	82	84	86	87	89	88	88	86	84	81	79	79	84

[1] Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.
[2] 9 months' average.
[3] 11 months' average.

HORSES AND MULES—Continued.

TABLE 376.—*Horses and mules: Yearly receipts at principal markets and all markets, 1900–1922.*[1]

[000 omitted.]

Year.	Chicago.	Denver.	East St. Louis.	Fort Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total.	All other markets.	Total all markets.[2]
1900	99	23	145	(3)	103	60	13	27	31	501	.....	.....
1901	109	17	129	(3)	97	36	23	15	18	444	.....	.....
1902	102	24	109	5	77	42	20	8	19	406	.....	.....
1903	101	19	129	10	67	53	20	8	12	419	.....	.....
1904	106	13	181	18	68	47	29	6	4	472	.....	.....
1905	127	16	178	18	66	45	32	6	15	503	.....	.....
1906	127	17	166	21	70	42	28	9	19	499	.....	.....
1907	102	11	117	19	62	44	27	15	16	413	.....	.....
1908	92	11	109	12	56	40	23	7	13	363	.....	.....
1909	91	15	122	21	68	32	23	6	15	393	.....	.....
1910	83	16	130	34	70	30	28	5	16	412	.....	.....
1911	105	18	171	37	85	32	42	8	17	515	.....	.....
1912	93	15	164	49	73	33	39	5	10	481	.....	.....
1913	91	16	157	57	82	32	32	5	10	482	.....	.....
1914	106	17	148	48	87	31	25	6	10	478	.....	.....
1915	165	72	271	55	102	42	41	10	22	780	327	1,107
1916	205	53	267	79	123	27	27	12	17	810	668	1,478
1917	107	20	280	115	128	33	34	10	29	756	720	1,476
1918	88	15	242	79	85	22	39	7	23	600	616	1,216
1919	46	23	250	60	83	25	43	11	16	557	511	1,068
1920	43	18	141	45	72	19	30	10	23	401	324	725
1921	34	10	68	13	30	7	12	5	7	186	131	317
1922	32	13	95	29	38	9	16	2	8	242	201	443
1922.												
January	3	1	12	2	7	(4)	2	(4)	1	28	20	48
February	4	1	8	1	3	1	1	(4)	1	[5] 20	17	37
March	6	1	9	(4)	4	1	2	1	1	[5] 25	22	47
April	3	1	5	(4)	2	(4)	1	(4)	1	[5] 15	14	29
May	3	1	4	(4)	2	1	(4)	(4)	(4)	11	10	21
June	2	1	2	(4)	1	(4)	(4)	(4)	(4)	[5] 7	9	16
July	2	2	3	(4)	1	(4)	1	(4)	(4)	[5] 10	7	17
August	1	1	6	2	2	1	1	(4)	(4)	[5] 15	9	24
September	2	2	10	5	3	1	2	(4)	1	26	15	41
October	2	1	14	7	5	2	2	(4)	1	34	27	61
November	2	1	13	6	5	1	2	(4)	1	29	26	55
December	2	.....	9	5	3	1	2	(4)	(4)	22	25	47

[1] Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.
[2] Figures prior to 1915 not available.
[3] Not in operation.
[4] Less than 500.
[5] Sum of monthly receipts for 9 cities varies from actual total due to converting figures into thousands.

HORSES AND MULES—Continued.

TABLE 377.—*Horses and mules: Yearly receipts at public stockyards in the United States, 1915–1922.*[1]

Market.	1915	1916	1917	1918	1919	1920	1921	1922
Albany, N. Y		6,014	3,303				40	
Amarillo, Tex	5,006	14,390	13,367	14,655	15,014	12,804	2,050	3,331
Atlanta, Ga				78,160	60,327	25,931	3,119	7,955
Augusta, Ga			23,125	33,219	22,089	7,055	905	269
Baltimore, Md	3,956	13,901	7,442	8,670	4,961	4,313	2,284	2,453
Billings, Mont		3	777	1,363	1,841	760	38	
Boston, Mass	3,237	8,106	627	253	276			
Buffalo, N. Y	12,280	56,482	16,515	10,034	18,594	22,526	23,687	21,159
Cheyenne, Wyo			5,539	3,824	2,076	1,782	965	3,264
Chicago, Ill	165,253	205,449	107,311	87,820	45,762	43,020	33,723	31,689
Cincinnati, Ohio	30,425	19,671	27,279	18,521	18,880	14,181	5,699	4,248
Cleveland, Ohio			9,060	4,320	5,260	5,580	2,300	2,020
Columbia, S. C		1,356	1,351	1,271	1,174	847	89	
Columbus, Ohio		32	100	2,035	1,224	224		
Dallas, Tex				58				
Dayton, Ohio		221	58	74	47			
Denver, Colo	71,870	52,800	19,758	14,599	22,936	17,591	9,639	13,485
Detroit, Mich			13,755	3,544	1,835	2,584	667	821
Dublin, Ga				245	13	26		
East St. Louis, Ill	270,612	266,818	279,837	241,751	250,311	141,230	67,756	95,048
El Paso, Tex	7,892	23,385	15,052	9,126	16,295	13,931	9,574	6,106
Emeryville, Calif				20				
Erie, Pa				1,608	761	1,706		
Evansville, Ind		658	993	1,080	1,135	962	43	192
Fort Worth, Tex	53,640	79,209	115,233	78,881	60,363	45,362	13,086	28,610
Indianapolis, Ind	28,203	29,444	61,692	19,608	9,080	8,814	2,710	2,481
Jacksonville, Fla		526	131		18	6		14
Jersey City, N. J	62,122	154,721	70,268	42,185	10,574	2,624	1,602	1,267
Kansas City, Mo	102,153	123,141	127,823	84,628	82,852	71,797	30,453	38,310
Knoxville, Tenn	7,040	7,378	8,254	6,430	7,214	4,160	2,276	4,057
LaFayette, Ind	35							
Lancaster, Pa	1,017	1,417	8,342	11,228	2,068	3,432	1,360	1,790
Logansport, Ind		1,068				52	1	
Louisville, Ky	2,800	5,200	14,127	16,967	11,274	9,031	1,598	2,718
Marion, Ohio				141	977	2,444	836	914
Memphis, Tenn		39,816	60,848	33,116	32,598	8,006	14,770	46,249
Milwaukee, Wis	1,126	1,714	1,849	2,185	1,879	2,246	1,243	1,878
Mobile, Ala	27							
Montgomery, Ala			7,169	24,102	22,291	11,969	4,002	14,133
Nashville, Tenn		15,855	74,280	103,818	97,425	29,572	101	
Nebraska City, Nebr				83	342	244	134	570
New Brighton, Minn	3,870	616	809	1,097	9,489	3,653	107	121
New Orleans, La		852	2,614	556	368	1,254	51	224
New York, N. Y	17,447	8,529	7,574	307	1,952	1,723	568	1,007
North Salt Lake, Utah		1,785	1,981	1,573	1,484	1,641	627	1,715
Ogden, Utah			25,425	18,809	6,467	5,630	1,460	1,387
Oklahoma, Okla	36,954	47,381	62,306	12,687	9,951	5,847	1,824	4,798
Omaha, Nebr	41,679	27,486	32,781	22,212	25,201	18,751	6,779	8,871
Pasco, Wash				159	380	303	126	320
Peoria, Ill	389	764	637	125	171	535	501	475
Philadelphia, Pa	7,214	11,002	9,892	7,800	7,222	5,792	2,731	2,836
Pittsburgh, Pa	48,340	53,505	39,073	35,265	17,992	20,472	10,742	14,131
Portland, Oreg	4,668	2,904	6,933	2,483	2,308	1,887	1,042	1,076
Pueblo, Colo	8,359	8,250	6,665	3,798	3,812	3,563	857	1,314
Richmond, Va		17,514	25,004	23,970	25,100	16,167	10,266	13,161
St. Joseph, Mo	41,254	27,206	33,584	39,260	43,380	29,768	11,580	15,961
St. Louis, Mo	3,577	2,108	1,968	930				
St. Paul, Minn	10,091	11,777	9,959	6,541	11,228	10,488	4,848	2,053
San Antonio, Tex	14,094	41,105	31,898	29,955	29,881	24,573	6,314	9,212
Seattle, Wash		20		420	923	671	292	443
Sioux City, Iowa	21,742	16,717	29,391	23,306	16,272	23,238	7,262	7,954
Sioux Falls, S. Dak			49	243	253	176	69	375
Spokane, Wash	3,657	6,493	7,125	4,733	2,926	2,535	761	1,103
Tacoma, Wash		20		12	63			
Toledo, Ohio		1,336	1,969	1,789	2,788	4,558	960	922
Washington, D. C		178	1,556	396	30	60	43	220
Watertown, Mass		44,514	22,084	6,578	1,440			
Wichita, Kans	14,472	17,146	19,312	11,150	16,750	24,714	10,885	17,936
Total	1,106,501	1,477,983	1,475,854	1,215,776	1,067,597	724,811	317,445	442,646

[1] Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

HORSES AND MULES—Continued.

TABLE 378.—*Horses and mules: Monthly and yearly receipts at all public stockyards, 1915–1922.*[1]

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
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
8-year average by month	109	90	88	58	55	53	64	70	94	116	106	76	979

[1] Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

TABLE 379.—*Horses and mules: Imports, exports, and prices, 1896–1921.*

Year ending June 30—	Imports of horses.			Exports of horses.			Exports of mules.		
	Number.	Value.	Average import price.	Number.	Value.	Average export price.	Number.	Value.	Average export price.
1896	9,991	$662,591	$66.32	25,126	$3,530,703	$140.52	5,918	$406,161	$68.63
1897	6,998	464,808	66.42	39,532	4,769,265	120.64	7,473	545,331	72.97
1898	3,085	414,899	134.49	51,150	6,176,569	120.75	8,098	664,789	82.09
1899	3,042	551,050	181.15	45,778	5,444,342	118.93	6,755	516,908	76.52
1900	3,102	596,592	192.32	64,722	7,612,616	117.62	43,369	3,919,478	90.38
1901	3,785	985,738	260 43	82,250	8,873,845	107.89	34,405	3,210,267	93.30
1902	4,832	1,577,234	326.41	103,020	10,048,046	97.53	27,586	2,692,298	97.61
1903	4,999	1,536,296	307.32	34,007	3,152,159	92.69	4,294	521,725	121.47
1904	4,726	1,460,287	308.99	42,001	3,189,100	75.93	3,658	412,971	112.90
1905	5,180	1,591,083	307.16	34,822	3,175,259	91.19	5,826	645,464	110.79
1906	6,021	1,716,675	285.11	40,087	4,365,981	108.91	7,167	989,639	138.08
1907	6,080	1,978,105	325.35	33,882	4,359,957	131.99	6,781	850,901	125.48
1908	5,487	1,604,392	292.40	19,000	2,612,587	137.50	6,609	990,667	149.90
1909	7,084	2,007,276	283.35	21,616	3,386,617	156.67	3,432	472,017	137.53
1910	11,620	3,296,022	283.65	28,910	4,081,157	141.17	4,512	614,094	136.18
1911	9,593	2,692,074	280.63	25,145	3,845,253	152.92	6,585	1,070,051	162.50
1912	6,607	1,923,025	291.06	34,828	4,764,815	136.81	4,901	732,095	149.30
1913	10,008	2,125,875	212.42	28,707	3,960,102	137.95	4,744	733,795	154.68
1914	33,019	2,605,029	78.89	22,776	3,388,819	148.79	4,883	690,974	141.51
1915	12,652	977,380	77.25	289,340	64,046,534	221.35	65,788	12,726,143	193.44
1916	15,556	1,618,245	104.03	357,553	73,531,146	205.65	111,915	22,946,312	205.03
1917	12,584	1,888,303	150.06	278,674	59,525,329	213.60	136,689	27,800,854	203.39
1918	5,111	1,187,443	232.33	84,765	14,923,663	176.06	28,879	4,885,406	169.17
1919	4,003	750,264	187.43	27,975	5,206,251	186.10	12,452	2,333,929	187.43
1920	4,906	799,012	162.86	18,952	3,285,066	173.34	8,991	1,815,888	201.97
1921	4,044	1,205,457	298.09	12,638	1,923,041	152.16	6,770	1,063,254	157.05
1922	3,136	531,783	169.57	17,827	1,868,099	104.79	11,241	1,009,567	89.81

CATTLE.

TABLE 380.—*Cattle (live): Imports, exports, and prices, 1896–1922.*

Year ending June 30—	Imports.			Exports.		
	Number.	Value.	Average import price.	Number.	Value.	Average export price.
1896	217,826	$1,509,856	$6.93	372,461	$34,560,672	$92.79
1897	328,977	2,589,857	7.87	392,190	36,357,451	92.70
1898	291,589	2,913,223	9.99	439,255	37,827,500	86.12
1899	199,752	2,320,362	11.62	389,490	30,516,833	78.35
1900	181,006	2,257,694	12.47	397,286	30,635,153	77.11
1901	146,022	1,931,433	13.23	459,218	37,566,980	81.81
1902	96,027	1,608,722	16.75	392,884	29,902,212	76.11
1903	66,175	1,161,548	17.55	402,178	29,848,936	74.22
1904	16,056	310,737	19.35	593,409	42,256,291	71.21
1905	27,855	458,572	16.46	567,806	40,598,048	71.50
1906	29,019	548,430	18.90	584,239	42,081,170	72.03
1907	32,402	565,122	17.44	423,051	34,577,392	81.73
1908	92,356	1,507,310	16.32	349,210	29,339,134	84.02
1909	139,184	1,999,422	14.37	207,542	18,046,976	86.96
1910	195,938	2,999,824	15.37	139,430	12,200,154	87.50
1911	182,923	2,953,077	16.14	150,100	13,163,920	87.70
1912	318,372	4,805,574	15.09	105,506	8,870,075	84.07
1913	421,649	6,640,668	15.75	24,714	1,177,199	47,63
1914	868,368	18,696,718	21.53	18,376	647,288	35.22
1915	538,167	17,513,175	32.54	5,484	702,847	128.16
1916	439,185	15,187,593	34.58	21,666	2,383,765	110.02
1917	374,826	13,021,259	34.74	13,387	949,503	70.93
1918	293,719	17,852,176	60.78	18,213	1,247,800	68.51
1919	440,399	36,995,921	84.01	42,345	2,092,816	49.42
1920	575,328	45,081,179	78.36	83,039	11,921,518	143.57
1921	329,974	23,634,361	71.62	145,673	11,050,507	75.86
1922	151,533	3,055,201	20.16	155,281	9,877,596	63.61

TABLE 381.—*Live cattle: Exports and imports, 1909–1922.*[1]

EXPORTS.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1909	19,049	13,824	16,976	18,259	18,013	13,336	10,025	10,479	15,494	13,749	13,399	22,354	184,957
1910	16,558	15,067	11,306	4,212	1,940	4,847	4,193	6,667	8,085	8,828	11,711	16,215	109,629
1911	14,509	8,525	11,528	14,435	20,232	25,172	16,821	12,709	9,867	9,950	8,540	11,799	164,087
1912	11,825	6,177	6,673	5,376	3,189	2,580	3,232	2,493	572	1,591	1,289	1,466	46,463
1913	1,009	1,006	956	2,367	1,269	7,464	3,058	967	1,654	4,074	1,372	1,040	26,236
1914	411	433	1,014	1,816	689	1,848	484	405	895	388	164	147	8,694
5-year av.[2]	8,863	6,242	6,295	5,641	5,464	8,382	5,558	4,648	4,215	4,966	4,615	6,133	71,022
1915	162	175	133	233	85	2,213	6,615	2,837	1,908	431	520	944	16,256
1916	877	428	1,171	1,243	978	3,335	467	713	972	551	917	527	12,179
1917	488	313	1,314	1,918	882	4,325	374	1,077	837	890	704	6,887	20,009
1918	669	508	1,245	1,457	1,108	2,457	427	542	243	418	3,598	4,608	17,280
1919	516	529	732	20,291	4,336	6,105	3,884	10,419	6,500	9,486	2,894	4,167	69,859
5-year av	542	391	919	5,028	1,478	3,687	2,353	3,118	2,092	2,355	1,727	3,427	27,117
1920	3,056	2,687	3,247	11,494	11,873	13,332	9,740	2,804	4,174	5,252	10,080	7,563	85,302
1921	6,004	7,498	11,886	23,066	28,076	29,530	20,345	20,662	14,541	11,108	12,536	11,281	196,533
1922	10,275	10,219	11,107	9,563	10,871	12,773	9,588	8,806	4,965	9,521	8,919	4,600	111,207

[1] Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
[2] 1910–1914.

CATTLE—Continued.

TABLE 381.—*Live cattle: Exports and imports, 1909–1922*—Continued.

IMPORTS.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1909	6,115	2,603	2,835	16,390	36,900	13,701	2,724	5,707	7,199	7,789	32,464	19,475	153,902
1910	7,440	4,283	5,815	36,125	56,336	10,581	1,267	1,788	7,592	20,377	33,663	25,963	211,230
1911	13,376	3,237	3,136	19,525	38,245	14,754	8,826	10,249	18,204	39,222	44,927	38,722	252,423
1912	21,262	8,038	14,822	31,793	59,229	23,078	21,637	15,355	18,527	27,696	43,758	40,522	325,717
1913	24,111	30,630	36,105	47,708	68,607	46,993	38,937	47,014	64,605	130,639	123,118	78,470	736,937
1914	90,694	72,558	54,786	65,772	58,647	43,128	30,217	54,459	53,574	77,219	73,427	53,410	727,891
5-year av.[1]	31,376	23,749	22,933	40,185	56,213	27,707	20,177	25,773	32,500	59,031	63,779	47,417	450,841
1915	38,233	51,018	33,891	14,538	15,159	43,022	58,379	49,985	57,050	82,276	83,037	25,901	552,489
1916	9,762	8,662	9,409	17,285	23,992	13,447	15,219	26,121	37,476	48,907	51,526	33,841	295,647
1917	22,266	22,094	23,444	32,181	33,049	28,702	18,780	20,881	39,244	49,061	37,359	20,449	347,510
1918	9,286	11,924	14,603	22,563	22,112	27,457	21,512	32,517	47,983	49,439	54,403	38,802	352,601
1919	29,937	38,813	27,067	31,592	44,856	23,478	32,863	40,830	68,094	103,624	108,159	93,082	642,395
5-year av.	21,897	26,502	21,683	23,632	27,834	27,221	29,350	34,067	49,969	66,661	66,897	42,415	438,128
1920	26,971	24,590	16,766	19,874	16,094	24,381	18,333	32,071	43,055	48,680	62,049	46,250	379,114
1921	17,469	8,066	11,677	23,674	14,498	4,152	5,057	10,948	18,814	28,662	37,955	13,899	194,871
1922	2,876	2,482	2,431	6,139	12,030	10,240	18,164	41,565	58,388	40,774	28,923	.....	.....

[1] 1910–1914.

TABLE 382.—*Cattle: Number and value on farms in the United States January 1, 1870–1923.*[1]

[See head note to table 370]

[000 omitted.]

Year	Milk cows.		Other cattle.		Year	Milk cows.		Other cattle.	
	Number.	Farm value Jan. 1.	Number.	Farm value Jan. 1.		Number.	Farm value Jan. 1.	Number.	Farm value Jan. 1.
1870, June 1	*8,935*	$290,577	*14,885*	$277,947	1915	21,262	$1,176,338	37,067	$1,237,376
1880, June 1	*12,443*	286,785	*23,482*	388,990	1916	22,108	1,191,955	39,812	1,334,928
1890, June 1	*16,512*	363,352	*34,852*	544,601	1917	22,894	1,365,251	41,689	1,497,621
1900, June 1	*17,136*	535,091	*50,584*	1,251,080	1918	23,310	1,644,231	44,112	1,803,482
1910, Apr. 15	*20,625*	727,802	*41,178*	785,261	1919	23,475	1,835,770	45,085	1,993,442
1911	20,823	832,209	39,679	815,184	1920	23,722	2,036,750	43,398	1,875,043
1912	20,699	815,414	37,260	790,064	1921	23,594	1,515,249	41,993	1,316,727
1913	20,497	922,783	36,030	949,645	1922	24,082	1,227,703	41,550	988,760
1914	20,737	1,118,487	35,855	1,116,333	1923[1]	24,429	1,241,673	41,923	1,076,254

[1] Preliminary estimate.

CATTLE—Continued.

TABLE 383.—*Cattle: Farm price per head, January 1, 1867–1923.*

Year.	Milk cows.	Other cattle.	Year.	Milk cows.	Other cattle.	Year.	Milk cows.	Other cattle.	Year.	Milk cows.	Other cattle.
1867	$28.74	$15.79	1882	$25.89	$19.89	1896	$22.55	$15.86	1910	$35.29	$19.07
1868	26.56	15.06	1883	30.21	21.81	1897	23.16	16.65	1911	39.97	20.54
1869	29.15	18.73	1884	31.37	23.52	1898	27.45	20.92	1912	39.39	21.20
1870	32.52	18.67	1885	29.70	23.25	1899	29.66	22.79	1913	45.02	26.36
1871	33.89	20.78	1886	27.40	21.17	1900	31.23	24.73	1914	53.94	31.13
1872	29.45	18.12	1887	26.08	19.79	1901	30.00	19.93	1915	55.33	33.38
1873	26.72	18.06	1888	24.65	17.79	1902	29.23	18.76	1916	53.92	33.53
1874	25.63	17.55	1889	23.94	17.05	1903	30.21	18.45	1917	59.63	35.88
1875	25.74	16.91	1890	22.01	15.63	1904	29.21	16.32	1918	70.54	40.88
1876	25.61	17.00	1891	21.62	14.76	1905	27.44	15.15	1919	78.20	44.22
1877	25.47	15.99	1892	21.40	15.16	1906	29.44	15.85	1920	85.86	43.21
1878	25.74	16.72	1893	21.75	15.24	1907	31.00	17.10	1921	64.22	31.36
1879	21.71	15.38	1894	21.77	14.66	1908	30.67	16.89	1922	50.98	23.80
1880	23.05	16.57	1895	21.97	14.06	1909	32.36	17.49	1923	50.83	25.67
1881	23.95	17.33									

TABLE 384.—*Cattle: Yearly losses per 1,000, from disease and exposure, 1890–1923.*

Year.	Losses from disease.	Losses from exposure.	Year.	Losses from disease.	Losses from exposure.	Year.	Losses from disease.	Losses from exposure.	Year.	Losses from disease.	Losses from exposure.
	Per 1,000.			Per 1,000.			Per 1,000.			Per 1,000.	
1890	13.0	23.0	1899	20.3	22.1	1908	18.9	12.0	1916	19.5	10.7
1891	14.3	15.3	1900	19.9	13.7	1909	19.2	14.8	1917	19.4	14.6
1892	12.8	13.0	1901	22.3	11.5	1910	21.0	17.6	1918	18.2	13.3
1893	16.6	17.3	1902	21.3	18.2	1911	19.7	13.3	1919	17.4	15.9
1894	19.0	12.5	1903	23.9	23.7	1912	21.6	21.5	1920	19.5	18.5
1895	21.4	20.7	1904	23.6	20.2	1913	20.5	14.1	1921	17.0	9.2
1896	19.3	11.3	1905	20.6	23.3	1914	19.8	10.9	1922	17.8	13.1
1897	19.4	16.0	1906	20.1	14.9	1915	.....	.....	1923	.....	.....
1898	19.7	13.0	1907	19.9	13.7						

CATTLE—Continued.

TABLE 385.—*Cattle: Number and value on farms January 1, 1922 and 1923, by States.*

State.	Milk cows.						Other cattle.					
	Number (thousands) Jan. 1—		Average price per head Jan. 1—		Farm value (thousands of dollars) Jan. 1—		Number (thousands) Jan. 1—		Average price per head Jan. 1—		Farm value (thousands of dollars) Jan. 1—	
	1922	1923 [1]	1922	1923	1922	1923 [1]	1922	1923 [1]	1922	1923	1922	1923 [1]
Maine	212	216	$48.00	$55.00	$10,176	$11,880	67	64	$20.20	$23.00	$1,353	$1,472
New Hampshire	121	126	60.00	59.00	7,260	7,434	41	34	22.70	25.50	931	867
Vermont	367	385	55.00	56.00	20,185	21,560	84	82	16.80	18.80	1,411	1,542
Massachusetts	180	189	79.00	74.00	14,220	13,986	42	39	28.20	25.70	1,184	1,002
Rhode Island	26	27	79.00	84.00	2,054	2,268	7	7	31.20	30.20	218	211
Connecticut	138	141	74.00	78.00	10,212	10,998	39	38	29.70	29.50	1,158	1,121
New York	1,695	1,678	67.00	63.00	113,565	105,714	402	410	24.70	24.50	9,929	10,045
New Jersey	151	153	86.00	87.00	12,986	13,311	31	32	37.60	38.80	1,166	1,242
Pennsylvania	1,071	1,071	60.00	60.00	64,260	64,260	491	506	29.00	29.00	14,239	14,674
Delaware	39	40	57.00	55.00	2,223	2,200	9	10	26.90	29.00	242	290
Maryland	192	194	63.00	60.00	12,096	11,640	98	101	33.20	35.20	3,254	3,555
Virginia	426	430	43.00	42.50	18,318	18,275	438	469	24.70	27.30	10,819	12,804
West Virginia	216	222	49.50	48.00	10,692	10,656	354	365	28.60	33.90	10,124	12,374
North Carolina	365	365	42.00	39.00	15,330	14,235	274	274	17.30	17.10	4,740	4,685
South Carolina	230	228	40.00	35.00	9,200	7,980	195	189	13.80	12.50	2,691	2,362
Georgia	509	509	29.00	28.00	14,761	14,252	686	700	10.90	11.00	7,477	7,700
Florida	95	97	57.50	56.00	5,462	5,432	774	774	16.10	16.00	12,461	12,384
Ohio	1,048	1,069	56.00	56.00	58,688	59,864	832	857	29.70	31.70	24,710	27,167
Indiana	727	742	53.00	53.00	38,531	39,326	778	794	30.00	32.40	23,340	25,726
Illinois	1,125	1,148	52.00	56.00	58,500	64,288	1,432	1,561	29.30	34.00	41,958	53,074
Michigan	967	977	53.00	55.00	51,251	53,735	576	611	21.80	24.50	12,557	14,970
Wisconsin	2,195	2,195	52.00	57.00	114,140	125,115	885	876	19.60	22.40	17,346	19,622
Minnesota	1,578	1,641	48.00	47.00	75,744	77,127	1,343	1,289	18.00	20.40	24,174	26,296
Iowa	1,115	1,160	53.00	58.00	59,095	67,280	3,134	3,479	29.60	35.20	92,766	122,461
Missouri	769	777	44.00	45.00	33,836	34,965	1,890	2,003	26.50	28.70	50,085	57,486
North Dakota	484	503	43.00	44.00	20,812	22,132	848	814	18.50	21.40	15,688	17,420
South Dakota	417	450	47.00	51.00	19,599	22,950	1,601	1,521	24.20	29.40	38,744	44,717
Nebraska	553	570	53.00	57.00	29,309	32,490	2,477	2,700	27.40	31.80	67,870	85,860
Kansas	709	716	46.00	46.00	32,614	32,936	2,282	2,487	24.50	27.20	55,909	67,646
Kentucky	520	530	40.00	40.00	20,800	21,200	511	526	20.00	22.80	10,220	11,993
Tennessee	495	495	35.00	34.00	17,325	16,830	597	627	15.20	15.70	9,074	9,844
Alabama	506	516	29.00	27.00	14,674	13,932	515	515	10.00	9.60	5,150	4,944
Mississippi	541	541	30.00	27.00	16,230	14,607	677	677	10.80	9.50	7,312	6,432
Louisiana	220	216	43.00	38.00	9,460	8,208	591	585	15.20	14.70	8,983	8,600
Texas	1,073	1,052	43.00	36.00	46,139	37,872	5,363	5,041	19.90	18.60	106,724	93,763
Oklahoma	560	566	39.00	34.00	21,840	19,244	1,421	1,364	17.50	16.80	24,868	22,915
Arkansas	516	516	29.00	24.00	14,964	12,384	549	516	10.90	8.80	5,984	4,541
Montana	160	165	58.00	55.00	9,280	9,075	1,260	1,235	27.20	30.90	34,272	38,162
Wyoming	44	46	71.00	67.00	3,124	3,082	852	835	29.70	30.70	25,304	25,634
Colorado	243	253	57.00	53.00	13,851	13,409	1,361	1,361	26.40	25.40	35,930	34,569
New Mexico	48	47	60.00	50.00	2,880	2,350	1,132	838	24.90	21.90	28,187	18,352
Arizona	40	46	95.00	93.00	3,800	4,278	1,050	1,050	26.90	31.40	28,245	32,970
Utah	87	90	61.00	63.00	5,307	5,670	433	455	26.40	27.40	11,431	12,467
Nevada	19	21	69.00	74.00	1,311	1,554	346	356	30.40	32.70	10,518	11,641
Idaho	153	162	65.00	63.00	9,945	10,206	521	542	27.50	26.80	14,328	14,526
Washington	289	283	70.00	61.00	20,230	17,263	261	253	28.30	26.40	7,386	6,679
Oregon	216	220	62.00	60.00	13,392	13,200	620	626	29.70	28.20	18,414	17,653
California	632	645	76.00	76.00	48,032	49,020	1,380	1,435	34.70	34.70	47,886	49,794
United States	24,082	24,429	50.98	50.83	1,227,703	1,241,673	41,550	41,923	23.80	25.67	988,760	1,076,254

[1] Preliminary estimate.

CATTLE—Continued.

TABLE 386.—*Milk cows: Farm price per head, 15th of month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	$41.18	$40.35	$41.75	$42.22	$42.38	$43.46	$42.86	$42.77	$42.68	$43.20	$43.34	$43.41
1911	44.70	44.48	45.42	44.81	44.54	43.86	42.44	42.26	42.22	42.69	42.70	42.72
1912	42.89	43.40	44.09	45.14	45.63	45.84	45.41	46.11	46.79	47.30	47.38	48.62
1913	49.51	51.42	54.02	55.34	54.80	55.20	54.80	54.78	55.78	56.47	57.71	57.19
1914	57.99	59.09	59.23	59.60	59.85	59.82	59.67	60.72	59.58	59.53	58.77	58.23
1915	58.47	57.99	58.00	57.78	58.29	58.59	60.31	58.34	58.38	58.76	57.35	56.79
1916	57.79	57.99	59.51	60.68	60.98	61.63	62.04	61.32	61.41	62.19	62.67	63.18
1917	63.92	65.93	68.46	72.09	72.78	72.87	72.81	72.53	73.93	75.79	75.00	76.16
1918	76.54	78.36	80.71	82.45	84.11	84.74	84.97	84.06	85.21	85.41	84.51	85.78
1919	86.10	86.15	88.15	90.91	93.43	93.84	94.51	94.72	93.42	93.43	93.27	95.54
1920	94.42	95.27	94.94	95.36	94.56	94.56	91.23	90.50	89.40	85.90	77.56	70.42
1921	66.82	63.44	65.37	64.35	62.63	59.89	56.55	55.85	54.33	53.39	53.28	53.30
1922	52.83	53.54	54.87	54.46	54.76	54.87	54.20	52.67	52.79	52.86	51.62	53.21
Av. 1913–1922	66.44	66.92	68.33	69.30	69.62	69.60	69.11	68.55	68.42	68.37	67.17	66.98

TABLE 387.—*Beef cattle and veal calves: Farm price per 100 pounds, 15th of month, 1910–1922.*

BEEF CATTLE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	$4.71	$4.64	$4.87	$5.31	$5.23	$5.20	$4.84	$4.64	$4.65	$4.64	$4.48	$4.45
1911	4.58	4.57	4.66	4.67	4.59	4.43	4.28	4.39	4.43	4.32	4.36	4.37
1912	4.46	4.61	4.75	5.15	5.36	5.23	5.17	5.37	5.35	5.36	5.22	5.33
1913	5.40	5.55	5.88	6.08	6.01	6.02	5.98	5.91	5.92	6.05	5.99	5.96
1914	6.04	6.16	6.28	6.29	6.33	6.32	6.38	6.47	6.38	6.23	6.02	6.01
1915	5.99	5.93	5.92	5.96	6.13	6.20	6.07	6.18	6.06	6.04	5.85	5.75
1916	5.85	5.99	6.37	6.66	6.73	6.91	6.78	6.51	6.55	6.37	6.44	6.56
1917	6.86	7.36	7.91	8.57	8.70	8.65	8.30	8.17	8.40	8.35	8.21	8.24
1918	8.33	8.55	8.85	9.73	10.38	10.40	10.07	9.71	9.63	9.33	9.14	9.28
1919	9.65	10.02	10.34	10.81	10.84	10.20	9.96	9.82	9.02	8.65	8.65	8.63
1920	8.99	8.98	9.08	9.20	8.97	9.32	8.93	8.56	8.29	7.77	7.15	6.36
1921	6.32	6.02	6.36	6.08	5.98	5.65	5.40	5.39	4.98	4.81	4.69	4.62
1922	4.75	5.07	5.46	5.53	5.70	5.84	5.76	5.51	5.44	5.48	5.29	5.28
Av. 1913–1922	6.82	6.96	7.24	7.49	7.58	7.55	7.36	7.22	7.07	6.91	6.74	6.67

VEAL CALVES.

1910	$6.41	$6.28	$6.59	$6.54	$6.30	$6.57	$6.37	$6.29	$6.43	$6.41	$6.39	$6.38
1911	6.50	6.38	6.48	5.96	5.98	5.72	5.74	5.93	6.11	6.15	6.10	5.98
1912	6.06	6.07	6.11	6.22	6.23	6.33	6.33	6.62	6.83	6.90	6.77	6.88
1913	7.06	7.23	7.49	7.38	7.17	7.53	7.46	7.53	7.73	7.72	7.70	7.74
1914	7.89	7.90	7.92	7.68	7.59	7.69	7.80	8.08	8.06	7.97	7.78	7.61
1915	7.66	7.62	7.50	7.31	7.35	7.53	7.87	7.75	7.80	7.91	7.69	7.61
1916	7.67	7.87	8.11	8.00	8.08	8.39	8.54	8.59	8.77	8.59	8.60	8.79
1917	9.15	9.88	9.94	10.49	10.48	10.60	10.77	10.56	11.08	11.10	10.66	10.98
1918	11.16	11.17	11.33	11.71	11.62	11.88	12.33	12.22	12.57	12.35	11.94	12.31
1919	12.39	12.18	12.65	12.78	12.11	12.40	13.38	13.43	13.39	12.87	12.65	12.67
1920	12.89	13.12	12.98	12.72	11.69	11.68	11.44	11.64	11.88	11.64	10.77	9.27
1921	9.34	9.08	9.05	7.73	7.55	7.43	7.37	7.31	7.67	7.61	7.20	7.14
1922	7.23	7.84	7.85	7.26	7.28	7.67	7.49	7.67	8.10	8.17	7.92	7.78
Av. 1913–1922	9.24	9.39	9.48	9.31	9.09	9.28	9.44	9.48	9.70	9.59	9.29	9.19

CATTLE—Continued.

TABLE 388.—*Cattle and calves: Monthly farm price per 100 pounds on 15th of month, by States, 1922.*[1]

BEEF CATTLE.

States.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Maine	$6.50	$6.00	$7.00	$6.90	$6.50	$7.00	$7.50	$6.70	$7.40	$7.60	$7.10	$6.80	$6.92
New Hampshire	5.30	5.10	5.70	4.80	5.30	6.00	5.90	6.00	6.60	6.10	6.30	5.80	5.74
Vermont	4.00	4.00	4.10	4.50	5.00	4.60	4.90	4.30	4.50	4.60	4.10	4.20	4.40
Massachusetts	5.20	5.10	5.30	5.40	6.60	7.00	6.40	5.50	5.70	5.30	5.80	5.30	5.72
Rhode Island	5.50	6.00	6.40	7.30	7.90	8.00	7.00	7.00	6.00	5.60	5.50	6.00	6.52
Connecticut	6.00	5.50	5.20	7.50	6.00	6.60	7.00	6.40	6.40	6.60	6.60	6.00	6.32
New York	4.90	5.10	5.20	5.20	5.50	5.60	5.20	5.10	5.60	5.40	5.10	5.10	5.25
New Jersey	6.20	6.50	7.20	6.50	5.50	6.50	6.50	6.00	7.00	7.00	6.00	6.00	6.41
Pennsylvania	6.40	6.50	7.00	6.70	7.00	7.50	7.20	7.00	7.00	7.40	7.00	7.20	7.00
Delaware	6.50	7.00	7.30	7.00	7.30	6.70	7.50	7.00	7.60	7.60	7.10	7.00	7.13
Maryland	6.00	6.10	6.70	6.70	7.30	6.60	7.10	6.70	7.10	7.20	7.00	7.10	6.80
Virginia	5.10	5.40	5.80	5.70	5.80	5.80	6.10	6.10	6.00	5.90	6.00	5.70	5.78
West Virginia	5.50	5.60	6.00	6.10	6.20	6.10	6.50	6.00	6.30	6.40	6.00	6.20	6.08
North Carolina	4.80	4.70	5.00	4.80	5.00	4.80	4.90	4.90	5.10	5.10	5.10	5.00	4.93
South Carolina	4.00	3.50	3.80	4.00	4.00	4.00	4.10	4.10	4.10	4.00	3.70	3.50	3.90
Georgia	3.50	3.20	3.30	3.60	3.70	3.50	3.50	3.40	3.20	3.10	3.20	3.20	3.37
Florida	4.00	4.20	4.70	5.20	5.00	4.70	4.60	4.20	4.00	4.20	4.30	4.00	4.42
Ohio	5.60	5.70	6.10	6.20	6.50	6.60	6.60	6.30	6.50	6.50	6.50	6.50	6.30
Indiana	5.30	5.70	6.00	6.10	6.20	6.30	6.50	6.20	6.40	6.70	6.50	6.50	6.20
Illinois	5.30	5.60	5.90	6.20	6.20	6.60	6.90	7.00	7.10	7.30	6.90	6.70	6.48
Michigan	5.10	5.30	5.50	5.60	6.10	6.20	6.20	6.00	5.80	5.60	5.50	5.60	5.71
Wisconsin	3.90	4.30	4.60	4.50	4.70	5.10	5.00	4.50	4.50	4.60	4.30	4.50	4.54
Minnesota	4.20	5.00	5.00	5.00	5.10	5.50	5.10	4.90	4.80	4.70	4.40	4.50	4.85
Iowa	5.80	6.00	6.40	6.50	6.70	7.00	7.60	7.20	7.30	7.90	7.30	7.30	6.92
Missouri	5.10	5.50	6.00	6.00	6.00	6.70	6.40	6.20	6.30	6.30	6.10	6.00	6.05
North Dakota	4.00	4.30	4.90	4.80	5.30	5.30	5.50	5.00	4.80	4.80	4.50	4.70	4.82
South Dakota	4.80	5.20	5.80	6.00	6.10	6.40	6.10	5.90	6.00	6.00	5.50	5.40	5.77
Nebraska	5.20	5.90	6.60	6.30	6.80	7.20	6.70	6.90	6.70	6.70	6.20	6.50	6.48
Kansas	5.20	5.70	6.10	6.10	6.40	6.50	6.50	5.90	5.90	6.10	5.70	5.30	5.95
Kentucky	5.20	5.10	5.50	5.40	5.60	5.40	5.60	5.60	5.60	5.10	5.30	5.20	5.38
Tennessee	3.70	3.90	4.00	4.00	4.20	4.00	4.50	4.20	4.30	4.20	4.00	4.10	4.09
Alabama	3.10	3.20	3.30	3.50	3.60	3.60	3.60	3.30	3.30	3.20	3.20	3.00	3.32
Mississippi	2.80	3.00	3.30	3.30	3.30	3.20	3.00	3.00	3.00	3.00	3.00	3.00	3.08
Louisiana	4.50	4.60	4.20	4.40	4.50	4.70	4.60	4.40	4.30	3.90	4.10	3.80	4.33
Texas	3.80	4.10	4.50	4.60	4.80	4.70	4.40	4.10	4.10	4.20	4.20	4.20	4.31
Oklahoma	4.00	4.30	4.80	4.80	5.20	4.90	4.70	4.40	4.30	4.20	4.20	4.10	4.49
Arkansas	3.10	3.20	3.70	3.70	3.80	3.60	3.30	3.50	3.20	3.20	3.00	3.30	3.38
Montana	5.20	5.30	5.70	5.90	5.80	6.00	6.00	5.90	5.00	5.00	5.10	5.30	5.52
Wyoming	5.30	5.70	6.20	6.30	6.50	7.30	7.00	6.30	6.10	6.40	5.80	5.60	6.21
Colorado	4.90	5.50	5.80	6.00	6.20	6.40	6.30	5.80	5.70	5.60	5.50	5.70	5.78
New Mexico	4.20	4.70	5.50	5.50	5.20	5.70	6.60	6.00	5.20	4.60	4.60	4.70	5.21
Arizona	5.00	5.20	5.70	5.70	5.70	5.70	5.60	5.70	5.70	5.00	5.00	5.20	5.43
Utah	4.70	5.00	5.50	5.50	5.50	6.00	6.00	5.20	5.20	5.50	5.10	5.10	5.36
Nevada	5.60	7.00	7.00	7.00	7.00	7.00	6.70	6.50	6.10	6.00	6.00	6.50	6.53
Idaho	4.50	5.40	5.60	5.60	5.80	6.40	5.70	5.50	5.00	5.00	5.10	4.70	5.36
Washington	5.00	5.60	5.80	6.10	6.40	6.50	5.50	4.90	5.10	4.70	5.50	4.60	5.48
Oregon	5.70	6.00	6.00	6.00	6.50	7.00	6.00	6.00	5.50	5.50	5.20	5.20	5.88
California	5.80	6.20	6.70	6.90	7.00	6.50	6.20	6.20	6.20	6.20	6.30	6.40	6.38
United States	4.75	5.07	5.46	5.53	5.70	5.84	5.76	5.51	5.44	5.48	5.29	5.28	[2] 5.48

[1] Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.
[2] Weighted average.

CATTLE—Continued.

TABLE 388.—*Cattle and calves: Monthly farm price per 100 pounds on 15th of month, by States, 1922*—Continued.

VEAL CALVES.

States	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Maine	$9.60	$9.60	$10.50	$9.70	$8.50	$8.80	$8.70	$9.30	$9.90	$10.10	$10.30	$9.70	$9.56
New Hampshire	10.20	10.60	10.70	10.20	9.20	9.50	9.60	9.50	9.80	9.80	9.90	10.20	9.93
Vermont	8.40	9.00	9.00	7.60	7.70	8.30	8.20	8.20	8.90	9.00	9.60	9.40	8.61
Massachusetts	11.30	11.00	11.20	10.30	9.80	9.70	9.90	9.60	10.50	11.50	11.10	11.10	10.58
Rhode Island	10.40	11.10	11.10	10.30	10.50	11.00	11.00	10.80	11.50	11.40	10.80	10.50	10.87
Connecticut	10.70	11.00	10.50	11.50	10.60	10.80	11.80	10.00	12.00	10.10	11.50	11.20	10.98
New York	10.40	10.70	10.20	8.60	8.20	9.00	9.80	10.50	11.20	11.70	11.00	10.90	10.18
New Jersey	11.60	12.50	11.50	10.60	10.00	11.50	11.50	12.00	11.50	12.00	11.70	11.00	11.40
Pennsylvania	10.20	10.50	10.50	9.50	9.00	9.60	9.50	9.70	10.00	10.70	10.50	10.40	10.01
Delaware	11.50	11.00	11.00	10.60	10.00	9.00	9.70	9.50	11.00	11.70	11.60	12.00	10.72
Maryland	10.40	10.60	10.00	9.50	8.70	8.70	9.10	9.30	10.40	10.80	10.90	11.00	9.95
Virginia	8.60	8.70	8.50	7.90	7.80	7.80	7.50	7.20	8.00	8.90	8.80	8.80	8.21
West Virginia	7.70	8.00	8.40	8.10	7.40	7.70	7.70	7.50	8.00	8.20	7.90	8.10	7.89
North Carolina	6.00	6.30	6.10	6.40	6.60	6.30	6.40	6.00	5.70	6.80	6.60	6.60	6.32
South Carolina	5.30	5.00	5.50	5.50	6.00	6.10	6.40	6.40	6.40	6.00	5.90	5.70	5.85
Georgia	5.00	4.80	4.80	4.60	5.40	4.80	5.00	5.00	4.90	5.80	5.70	5.50	5.11
Florida	5.50	6.00	6.00	7.00	7.20	6.20	6.20	6.50	5.20	5.50	5.70	5.50	6.04
Ohio	9.10	10.00	10.00	8.20	8.00	8.70	8.90	9.20	9.80	10.10	9.90	9.60	9.29
Indiana	8.20	8.90	9.10	7.60	7.70	8.30	8.30	8.10	9.40	9.20	9.10	8.80	8.56
Illinois	7.70	8.40	8.50	8.10	8.00	8.20	8.20	8.50	8.60	8.50	8.30	8.00	8.25
Michigan	8.90	9.70	9.50	8.00	8.30	9.20	8.80	9.10	10.50	10.00	9.60	9.50	9.26
Wisconsin	7.10	8.10	7.30	6.30	6.90	7.70	7.50	8.20	9.20	8.70	8.10	7.70	7.73
Minnesota	6.40	7.20	7.20	6.60	6.90	7.50	7.00	7.30	7.90	7.90	7.20	7.30	7.20
Iowa	7.20	8.00	7.80	7.50	7.50	7.90	7.90	8.30	8.70	8.70	8.20	8.00	7.98
Missouri	6.80	7.60	7.60	6.70	6.60	7.40	7.00	6.80	7.70	7.20	8.10	7.40	7.24
North Dakota	5.80	6.20	6.50	6.30	6.50	6.60	6.70	6.60	6.50	6.50	6.30	6.40	6.41
South Dakota	6.40	7.00	7.30	7.30	7.30	7.40	7.10	7.50	7.60	7.70	7.40	7.70	7.31
Nebraska	6.40	7.10	7.20	7.40	7.90	8.10	8.00	7.40	7.60	7.50	7.50	7.50	7.47
Kansas	6.40	6.90	7.50	7.20	7.00	7.60	7.10	6.80	7.30	7.20	7.20	6.50	7.06
Kentucky	7.20	7.60	7.80	6.40	6.70	7.00	6.70	7.00	7.70	7.20	7.40	7.20	7.16
Tennessee	5.20	5.40	5.40	5.50	5.60	5.90	3.50	4.70	5.40	5.70	5.30	5.60	5.27
Alabama	4.60	3.40	4.90	4.70	5.10	5.20	5.20	4.90	4.90	4.80	4.80	4.30	4.73
Mississippi	4.50	4.40	4.90	5.60	5.00	4.50	4.40	4.00	4.50	4.70	4.50	4.50	4.62
Louisiana	4.80	4.80	5.20	6.00	5.90	6.70	5.70	4.90	5.30	5.10	4.90	3.80	5.26
Texas	4.60	5.00	5.10	5.60	5.60	6.10	5.00	5.00	5.00	5.10	5.10	5.10	5.19
Oklahoma	5.00	5.60	5.70	5.70	6.10	6.40	5.50	6.00	5.10	5.20	5.30	5.10	5.56
Arkansas	5.00	5.10	5.60	5.60	5.70	5.40	5.10	5.00	4.90	5.30	4.70	5.30	5.22
Montana	7.10	7.50	8.00	8.30	8.60	8.30	8.70	8.20	8.20	8.20	8.10	8.20	8.12
Wyoming	7.50	8.00	8.50	9.20	9.20	9.30	10.00	8.60	8.90	8.20	7.80	7.60	8.57
Colorado	7.10	7.50	7.20	7.50	7.70	7.70	7.30	6.80	6.60	6.60	6.30	6.40	7.06
New Mexico	6.20	6.50	7.50	7.80	7.60	8.30	8.30	7.50	7.20	6.50	7.00	6.50	7.24
Arizona	6.00	7.50	6.50	7.00	7.60	7.00	7.00	7.50	7.50	6.50	7.00	7.00	7.01
Utah	7.00	8.00	8.20	9.00	8.20	9.00	9.50	8.90	8.00	8.70	8.80	8.50	8.48
Nevada	6.00	9.00	9.50	10.00	9.00	10.00	8.00	9.00	8.40	8.00	8.50	8.00	8.62
Idaho	6.30	7.00	7.40	7.80	7.30	8.00	7.00	7.80	6.90	7.00	7.00	6.60	7.18
Washington	7.10	7.90	8.50	8.40	8.10	7.20	7.30	7.10	7.10	7.20	6.50	6.70	7.42
Oregon	8.00	9.00	9.00	8.50	8.50	8.20	7.70	8.50	8.50	8.50	6.50	8.00	8.24
California	7.80	8.20	8.60	8.80	8.50	8.00	7.90	8.00	8.00	8.10	8.00	8.00	8.16
United States	7.23	7.84	7.85	7.26	7.28	7.67	7.49	7.67	8.10	8.17	7.92	7.78	7.69

CATTLE—Continued.

TABLE 389.—*Cattle and calves: Monthly and yearly average price per 100 pounds, Chicago, 1910 to 1922.*[1]

GOOD BEEF STEERS.

Year.	Jan.	Feb.	Mar.	Apr	May	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[2]
1910	$6.20	$6.35	$7.35	$7.55	$7.50	$7.50	$7.10	$6.85	$6.80	$6.60	$6.20	$6.00	$6.83
1911	6.15	6.15	6.20	6.10	5.95	6.05	6.30	6.95	6.80	6.75	6.70	6.65	6.40
1912	6.85	6.60	7.20	7.65	7.95	8.00	7.90	8.50	9.15	7.90	8.10	7.85	7.80
1913	7.80	8.25	8.30	8.15	8.00	8.15	8.25	8.30	8.50	8.40	8.25	8.20	8.21
1914	8.45	8.30	8.35	8.50	8.40	8.60	8.80	9.10	9.35	9.05	8.60	8.35	8.65
5-year average	7.09	7.13	7.48	7.59	7.56	7.66	7.67	7.94	8.12	7.74	7.57	7.41	7.58
1915	8.05	7.50	7.65	7.70	8.35	8.80	9.20	9.05	8.95	8.80	8.70	8.35	8.43
1916	8.35	8.35	8.75	9.10	9.50	9.85	9.25	9.45	9.40	9.75	10.15	10.00	9.33
1917	10.15	10.50	11.25	11.75	11.90	12.15	12.35	12.70	13.10	11.70	11.10	11.40	11.67
1918	12.10	12.00	12.60	14.70	15.40	15.85	16.05	15.75	16.00	14.80	15.05	14.90	14.60
1919	15.80	15.95	16.05	15.85	15.00	13.55	15.60	16.45	15.50	16.15	15.10	14.35	15.45
5-year average	10.89	10.86	11.26	11.82	12.03	12.04	12.49	12.68	12.59	12.24	12.02	11.80	11.89
1920	15.95	13.05	13.10	12.30	12.25	14.95	14.68	14.30	14.95	14.61	11.65	10.08	13.32
1921	8.94	8.57	9.41	8.22	8.33	7.94	8.09	8.32	7.67	7.59	7.52	7.31	8.16
1922	7.37	7.60	8.01	7.94	8.20	8.83	9.48	9.62	9.98	10.53	9.42	8.89	8.82

CALVES.

1910	$8.60	$8.65	$9.00	$7.85	$7.35	$7.85	$7.60	$7.75	$8.50	$8.55	$8.75	$8.50	$8.25
1911	8.75	8.40	7.40	6.60	7.25	7.60	7.40	8.00	8.75	8.60	8.35	7.85	7.91
1912	8.75	7.50	8.00	7.40	7.75	8.00	8.75	9.75	11.25	10.00	9.85	10.25	8.94
1913	9.75	9.85	10.50	8.50	9.25	9.75	10.40	11.50	11.25	10.50	10.35	10.75	10.19
1914	11.00	10.75	9.00	8.85	9.50	9.40	10.60	11.00	11.40	10.65	10.35	8.65	10.10
5-year average	9.37	9.03	8.78	7.84	8.22	8.52	8.95	9.60	10.23	9.66	9.53	9.16	9.08
1915	9.85	10.35	10.00	8.40	9.15	9.60	10.25	11.50	11.25	10.85	10.15	9.65	10.08
1916	10.15	10.65	9.65	8.75	10.40	11.25	11.40	12.00	12.40	11.50	11.85	11.75	10.98
1917	13.40	12.65	13.40	12.50	13.25	13.40	13.00	15.15	15.00	14.85	13.50	15.25	13.78
1918	15.35	14.15	15.25	14.50	13.50	16.02	16.67	17.28	18.63	16.83	16.86	16.01	15.92
1919	15.62	15.75	15.01	14.31	14.66	16.37	17.88	19.62	20.52	18.05	17.60	16.56	16.83
5-year average	12.87	12.71	12.66	11.69	12.19	13.33	13.84	15.11	15.56	14.42	13.99	13.84	13.52
1920	17.74	16.73	16.73	14.22	12.12	13.68	13.98	15.08	16.39	14.18	13.74	10.39	14.58
1921	11.49	11.02	10.33	8.12	8.66	8.72	9.73	9.39	10.71	8.68	7.70	7.81	9.36
1922	8.36	9.16	8.26	6.97	8.46	8.89	8.90	10.88	11.92	9.65	8.91	9.42	9.15

[1] Prices of cattle prior to July, 1920, and prices of calves prior to June, 1918, compiled from Chicago Drovers Journal Yearbook; subsequent figures compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

[2] Simple average of monthly average prices.

CATTLE—Continued.

TABLE 390.—*Cattle and calves: Monthly average price per 100 pounds, 1922.*[1]

CHICAGO.

Months.	Beef steers.								Butcher cattle.			Canners and cutters.		Veal calves.		Feeder steers.		Stock cattle.			
	Medium and heavyweight (1,101 pounds up).				Lightweight (1,100 pounds down).															Calves.	
	Choice and prime.	Good.	Medium.	Common.	Choice and prime.	Good.	Medium.	Common.	Heifers, common to choice.	Cows, common to choice.	Bulls, bologna and beef.	Cows and heifers.	Canner steers.	Light to medium weight, medium to choice.	Heavy weight, common to choice.	Heavy (1,001 lbs. up), common to choice.	Light and medium (750 to 1,000 lbs.), common to choice.	Steers, common to choice.	Cows and heifers, common to choice.	Good and choice.	Common and medium.
January	$9.45	$8.49	$7.46	$6.48	$9.60	$8.58	$7.40	$6.26	$5.94	$4.82	$4.98	$2.96	$3.66	$8.36	$5.76	$6.03	$5.94	$5.51	$3.98	.....	.....
February	9.50	8.68	7.75	6.76	9.35	8.53	7.57	6.54	6.02	5.10	4.79	3.35	3.91	9.16	5.88	6.26	6.20	5.84	4.34	.....	.....
March	9.25	8.60	7.84	7.03	9.23	8.54	7.74	6.87	6.53	5.59	5.18	3.61	4.52	8.26	5.57	6.59	6.51	6.22	4.73	.....	.....
April	9.04	8.46	7.86	7.14	9.11	8.50	7.82	7.04	6.90	5.84	5.26	3.88	4.77	6.97	5.54	6.61	6.56	6.44	4.82	.....	.....
May	8.97	8.44	7.96	7.41	9.09	8.55	8.04	7.45	7.18	5.98	5.49	4.11	5.22	8.46	5.99	6.98	6.98	6.80	5.16	.....	.....
June	9.56	8.99	8.39	7.63	9.48	8.93	8.33	7.54	7.12	5.74	5.28	3.52	4.78	8.89	6.05	6.86	6.86	6.60	4.80	.....	.....
July	10.27	9.53	8.71	7.73	10.15	9.40	8.59	7.60	7.11	5.98	5.60	3.34	4.36	8.90	5.85	6.70	6.70	6.20	4.58	.....	.....
August	10.52	9.68	8.65	7.27	10.45	9.59	8.56	7.14	7.04	6.07	5.14	3.30	4.28	10.88	6.20	6.71	6.55	6.13	4.52	.....	.....
September	11.17	10.00	8.58	6.99	11.00	9.86	8.45	6.84	7.09	6.03	5.12	3.31	4.09	11.92	5.78	6.94	6.67	5.78	4.41	.....	.....
October	12.26	10.27	8.31	6.63	12.04	10.14	8.18	6.46	7.18	5.92	5.10	3.17	3.91	9.65	5.26	6.92	6.76	5.95	4.33	.....	.....
November	12.66	10.62	8.28	6.22	12.48	10.50	8.17	6.09	7.40	5.75	5.01	3.02	3.42	8.91	5.05	6.45	6.44	5.95	4.14	.....	.....
December	12.48	10.72	8.65	6.70	12.36	10.57	8.53	6.49	7.39	5.77	4.98	3.02	3.45	9.42	5.39	6.58	6.58	6.01	4.19	.....	.....
Average	10.43	9.37	8.20	7.00	10.36	9.31	8.12	6.86	6.91	5.72	5.16	3.38	4.20	9.15	5.69	6.64	6.56	6.12	4.50	.....	.....

[1] Prices compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

EAST ST. LOUIS.

January	$8.84	$8.03	$6.99	$5.82	$9.47	$8.47	$7.18	$5.63	$6.65	$4.66	$4.83	$2.84	$2.99	$8.64	$6.26	$5.65	$5.44	$4.99	$3.80	$5.78	$4.38
February	.....	7.96	7.07	6.18	.....	7.94	7.07	5.98	6.66	4.71	4.46	3.14	3.09	9.11	6.16	5.95	5.82	5.42	4.04	5.86	4.46
March	8.72	8.15	7.46	6.60	8.68	8.07	7.37	6.46	6.29	5.26	4.87	3.41	3.55	8.15	6.10	6.58	6.41	5.93	4.59	6.17	4.76
April	8.78	8.20	7.48	6.56	8.77	8.15	7.44	6.56	6.66	5.47	5.03	3.53	3.80	6.87	5.94	6.64	6.27	5.96	4.63	6.26	5.00
May	8.88	8.47	7.82	6.95	8.90	8.47	7.82	6.91	7.64	5.68	5.26	3.60	4.03	7.63	6.29	6.53	6.12	5.68	4.85	6.35	4.55
June	9.35	8.95	8.15	7.06	9.23	8.80	8.10	6.86	7.31	5.18	5.03	3.25	3.85	7.62	5.60	6.38	6.05	5.44	4.54	6.38	4.62
July	9.97	9.46	8.50	7.04	9.85	9.22	8.27	6.62	7.62	5.08	5.20	3.17	3.62	7.60	5.45	6.25	5.95	5.33	4.24	.....	.....
August	10.47	9.81	8.53	6.60	10.32	9.66	8.46	6.16	7.56	5.05	4.94	3.04	3.48	8.92	5.69	6.49	6.28	5.40	4.12	.....	.....
September	10.90	10.13	8.64	6.59	10.86	10.04	8.52	6.18	7.36	5.18	5.22	3.02	3.52	9.32	5.91	6.50	6.38	5.38	3.88	6.72	5.11
October	11.74	10.45	8.55	6.08	11.69	10.33	8.31	5.72	7.11	5.06	4.98	2.87	3.30	8.44	5.57	6.52	6.40	5.38	3.92	6.70	5.08
November	12.12	10.44	8.24	6.02	12.12	10.36	8.03	5.77	7.12	4.90	4.98	2.87	3.12	7.87	5.80	6.47	6.33	5.35	3.89	6.82	5.00
December	12.20	10.34	8.10	6.14	12.20	10.31	8.04	6.08	7.06	5.06	5.09	2.86	3.16	8.37	5.76	6.39	6.16	5.38	3.82	6.67	4.84
Average	10.18	9.20	7.96	6.47	10.19	9.15	7.88	6.24	7.04	5.11	4.99	3.13	3.46	8.21	5.88	6.36	6.13	5.47	4.19	6.37	4.78

KANSAS CITY.

January	$8.63	$7.45	$6.44	$5.65	$8.98	$7.66	$6.48	$5.52	$5.51	$4.39	$4.03	$2.78	$3.02	$7.82	$5.79	$6.01	$6.04	$5.47	$4.14	$6.52	$4.67
February	8.65	7.68	6.88	6.12	8.60	7.58	6.73	5.95	5.51	4.67	4.05	3.12	3.24	8.11	5.82	6.30	6.31	5.76	4.59	6.66	4.88
March	8.62	7.89	7.28	6.67	8.45	7.73	7.15	6.52	5.97	5.18	4.24	3.49	3.64	7.96	5.70	6.73	6.69	6.17	4.94	6.90	5.15
April	8.56	7.90	7.50	6.89	8.64	8.06	7.51	6.81	6.28	5.41	4.28	3.58	3.85	7.22	5.98	6.92	6.90	6.55	5.00	7.27	5.68
May	8.68	8.18	7.71	7.20	8.76	8.24	7.74	7.10	6.81	5.66	4.85	3.76	4.24	6.90	6.72	7.11	7.17	6.62	5.09	7.49	5.97
June	9.20	8.68	8.07	7.37	9.23	8.63	8.00	7.22	6.86	5.28	4.61	3.16	4.02	7.60	6.24	7.12	7.20	6.36	4.74	7.25	5.50
July	9.97	9.34	8.44	7.31	9.82	9.11	8.14	6.93	6.97	5.26	4.76	3.06	4.00	7.59	6.19	7.28	7.27	6.51	4.64	7.21	5.39
August	10.28	9.38	8.08	6.59	10.12	9.13	7.75	5.98	6.76	5.11	4.20	2.92	3.50	8.42	6.24	7.21	7.11	6.31	4.51	7.29	5.44
September	10.55	9.27	7.79	6.18	10.38	9.01	7.42	5.62	6.92	5.02	4.24	2.82	3.49	8.92	5.79	6.96	6.82	6.14	4.50	7.12	5.39
October	11.57	9.66	7.69	5.88	11.20	9.32	7.31	5.33	6.60	4.98	3.98	2.86	3.14	8.54	5.39	6.70	6.61	6.05	4.40	7.28	5.28
November	12.09	9.94	7.73	5.71	11.75	9.63	7.38	5.38	6.26	4.86	4.08	2.91	2.96	7.64	4.97	6.43	6.45	6.01	4.22	7.14	4.85
December	11.97	10.11	8.16	6.19	11.78	9.81	7.80	5.85	6.16	4.84	4.28	2.85	3.11	7.66	5.38	6.35	6.38	5.94	3.96	7.05	4.88
Average	9.90	8.80	7.65	6.48	9.81	8.66	7.45	6.18	6.38	5.06	4.30	3.11	3.52	7.95	5.85	6.76	6.75	6.16	4.56	7.10	5.26

CATTLE—Continued.

TABLE 390.—*Cattle and calves: Monthly average price per 100 pounds, 1922*—Continued.

OMAHA.

Months.	Beef steers.								Butcher cattle.			Canners and cutters.		Veal calves.		Feeder steers.		Stock cattle.			
	Medium and heavyweight (1,101 pounds up).				Lightweight (1,100 pounds down).															Calves.	
	Choice and prime.	Good.	Medium.	Common.	Choice and prime.	Good.	Medium.	Common.	Heifers, common to choice.	Cows, common to choice.	Bulls, bologna and beef.	Cows and heifers.	Canner steers.	Light to medium weight, medium to choice.	Heavy weight, common to choice.	Heavy (1,001 lbs. up), common to choice.	Light and medium (750 to 1,000 lbs.), common to choice.	Steers, common to choice.	Cows and heifers, common to choice.	Good and choice.	Common and medium.
January	$8.44	$7.36	$6.38	$5.51	$8.68	$7.52	$6.42	$5.50	$5.53	$4.17	$3.87	$2.28	$2.91	$7.32	$5.29	$5.66	$5.76	$5.50	$4.20	$6.22	$4.51
February	8.30	7.38	6.68	6.00	8.48	7.40	6.68	5.90	5.58	4.63	3.90	2.87	3.24	8.24	5.74	6.08	6.14	6.07	4.27	6.26	4.74
March	8.43	7.81	7.26	6.70	8.47	7.76	7.16	6.63	6.05	5.35	4.29	3.53	3.78	8.60	6.42	6.66	6.47	6.34	4.98	6.92	5.53
April	8.33	7.81	7.29	6.66	8.50	7.89	7.29	6.66	6.15	5.45	4.29	3.50	3.79	8.94	6.46	6.78	6.56	6.48	5.08	7.10	5.79
May	8.46	7.98	7.55	7.07	8.58	8.10	7.63	7.06	6.67	5.81	4.92	3.93	4.20	9.44	6.78	6.93	6.84	6.75	5.40	7.48	6.16
June	9.10	8.66	8.16	7.61	9.06	8.62	8.08	7.42	6.88	5.64	4.77	3.72	4.02	8.79	6.63	6.84	6.82	6.69	5.30	7.45	6.13
July	10.02	9.49	8.76	7.79	9.84	9.17	8.28	7.28	7.18	5.96	5.21	3.44	3.82	8.79	6.62	6.88	6.84	6.68	4.87	7.52	6.09
August	10.27	9.62	8.59	6.90	10.21	9.49	8.31	6.53	6.97	5.60	4.76	3.15	3.49	8.70	6.52	7.09	6.81	6.35	4.54	7.42	5.96
September	10.62	9.46	8.04	6.34	10.68	9.38	7.81	6.02	6.86	5.41	4.62	2.89	3.25	9.52	6.85	7.16	6.85	6.41	4.30	7.25	5.88
October	11.50	9.68	7.86	6.06	11.41	9.47	7.60	5.76	6.70	5.16	4.48	2.96	3.25	9.14	6.77	6.90	6.60	6.39	4.30	7.25	5.81
November	11.97	9.82	7.76	5.83	11.86	9.65	7.58	5.60	6.48	4.91	4.45	2.90	3.25	8.36	5.89	6.38	6.26	6.13	4.26	7.03	5.35
December	11.78	9.71	7.65	5.89	11.67	9.61	7.53	5.54	6.50	4.94	4.22	2.89	3.18	8.05	5.32	6.50	6.30	5.99	4.10	6.74	5.24
Average	9.77	8.73	7.66	6.53	9.79	8.67	7.53	6.32	6.46	5.25	4.48	3.17	3.52	8.66	6.27	6.66	6.53	6.32	4.63	7.05	5.60

SOUTH ST. JOSEPH.[2]

June	$9.11	$8.44	$7.64	$6.98	$9.11	$8.47	$7.70	$6.96	$7.08	$5.64	$4.60	$3.28	.....	$7.56	$6.04	$6.86	$6.90	$6.73	$5.12	.....	.....
July	9.85	9.06	8.02	7.08	9.71	8.89	7.84	6.94	7.35	5.92	4.82	3.36	.....	6.98	5.60	7.08	7.08	6.51	4.99	.....	.....
August	10.28	9.48	8.08	6.29	10.20	9.34	7.79	5.92	6.93	5.55	4.39	3.14	.....	8.18	6.99	6.64	6.56	5.86	4.33	.....	.....
September	10.66	9.71	8.10	6.23	10.65	9.52	7.56	5.38	6.82	5.40	4.38	3.02	.....	8.70	7.20	6.62	6.37	5.64	4.36	.....	.....
October	11.60	10.01	8.93	5.94	11.46	9.78	7.46	5.24	6.67	5.42	4.61	3.14	.....	8.21	6.17	6.63	6.48	5.64	4.54	.....	.....
November	11.90	9.97	7.67	5.58	11.65	9.72	7.32	4.88	6.49	5.11	4.44	3.02	.....	7.61	5.96	6.16	6.03	5.39	3.99	.....	.....
December	12.03	10.22	8.00	6.03	11.94	10.10	7.71	5.72	6.57	5.24	4.49	3.00	.....	7.86	5.89	6.28	6.22	5.78	4.00	.....	.....
Average	10.78	9.56	7.92	6.30	10.67	9.40	7.63	5.86	6.84	5.47	4.53	3.14	.....	7.87	6.26	6.61	6.52	5.94	4.48	.....	.....

SOUTH ST. PAUL.

January	.....	$7.88	$6.63	$5.54	.....	$8.27	$6.84	$5.49	$5.78	$4.64	$3.95	$2.55	$2.91	$6.52	$4.52	$5.31	$5.15	$5.05	$3.44	.....	.....
February	.....	8.10	7.00	5.89	.....	8.09	6.98	5.82	5.57	4.52	4.03	2.71	3.14	7.04	4.75	5.58	5.38	5.18	3.64	.....	.....
March	.....	8.09	7.18	6.37	.....	8.09	7.18	6.30	6.02	5.05	4.35	2.93	3.50	5.97	4.55	6.05	5.83	5.67	4.00	.....	.....
April	.....	7.79	7.02	6.38	.....	7.79	7.02	6.27	6.21	5.29	4.46	3.15	3.50	5.23	4.44	6.01	5.64	5.53	4.10	.....	.....
May	.....	8.01	7.44	6.85	.....	8.06	7.47	6.83	6.63	5.52	4.95	3.40	3.50	6.25	4.58	6.39	6.19	6.07	4.54	.....	.....
June	.....	8.24	7.62	6.97	.....	8.46	7.72	6.90	6.57	5.57	4.76	3.10	3.68	6.34	4.91	5.94	5.74	5.61	4.04	.....	.....
July	.....	9.02	8.10	6.90	.....	9.03	8.10	6.76	6.40	5.49	4.65	2.94	3.45	6.28	4.97	5.74	5.50	5.33	4.08	.....	.....
August	.....	.....	7.90	6.53	.....	.....	7.92	6.40	6.21	5.31	4.55	2.82	3.34	7.16	5.33	5.93	5.68	5.32	4.04	.....	.....
September	.....	.....	7.57	6.10	.....	.....	7.50	6.00	6.11	5.15	4.40	2.60	3.30	8.04	5.32	5.99	5.75	5.25	3.75	.....	.....
October	.....	.....	7.48	5.88	.....	.....	7.42	5.76	5.99	5.08	4.30	2.67	3.22	7.28	4.86	6.00	5.75	5.14	3.78	.....	.....
November	.....	.....	7.14	5.53	.....	.....	7.14	5.41	5.88	4.96	4.21	2.54	3.02	6.43	4.75	5.91	5.65	4.91	3.65	.....	.....
December	.....	.....	7.68	5.98	.....	.....	7.68	5.85	5.98	5.06	4.38	2.62	3.00	6.51	4.80	5.65	5.52	4.99	3.62	.....	.....
Average	.....	8.16	7.40	6.24	.....	8.26	7.41	6.15	6.11	5.14	4.42	2.84	3.30	6.59	4.82	5.88	5.65	5.34	3.89	.....	.....

[2] Did not report previous to June, 1922.

CATTLE—Continued.

TABLE 391.—*Cattle and calves: Trend of average farm prices and average market prices at Chicago, 1910–1922.*[1]

Year.	Farm price.		Average market price at Chicago.		Price relatives, 1913=100			
					Farm price.		Market price.	
	Beef cattle, weighted average.	Veal calves, simple average.	Beef cattle, simple average.	Veal calves, simple average.	Beef cattle.	Veal calves.	Beef cattle.	Veal calves.
1910	$4.76	$6.41	$6.83	$8.25	80.5	85.7	83.2	81.0
1911	4.45	6.06	6.40	7.91	75.3	81.0	78.0	77.6
1912	5.15	6.45	7.80	8.94	87.1	86.2	95.0	87.7
1913	5.91	7.48	8.21	10.19	100.0	100.0	100.0	100.0
1914	6.24	7.83	8.65	10.10	105.6	104.7	105.4	99.1
1915	6.00	7.63	8.43	10.08	101.5	102.0	102.7	98.9
1916	6.47	8.33	9.33	10.98	109.5	111.4	113.6	107.8
1917	8.16	10.47	11.67	13.78	138.1	140.0	142.1	135.2
1918	9.44	11.88	14.60	15.92	159.7	158.8	177.8	156.2
1919	9.56	12.74	15.45	16.85	161.8	170.3	188.2	165.2
1920	8.32	11.81	13.32	14.58	140.8	157.9	162.2	143.1
1921	5.46	7.87	8.16	9.36	92.4	105.2	99.4	91.8
1922	5.48	7.69	8.82	9.15	92.7	102.8	107.4	89.8

[1] Farm prices from Division of Crop and Live Stock Estimates; market prices compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

TABLE 392.—*Prices of live steers in Chicago, wholesale prices of beef in Chicago and New York, and retail prices of certain beef cuts.*[1]

Date.	Live steers, good to choice, Chicago (cents).	Beef, wholesale price.				Beef, retail prices.											
		Good native steer, Chicago.		Native sides, New York.		Sirloin steak.						Round steak.					
						Chicago.		New York.		Average, 51 cities.		Chicago.		New York.		Average, 51 cities.	
		Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.
1913	8.5	13.0	153	12.5	147	23.2	273	25.9	305	25.4	299	20.2	238	25.0	294	22.3	262
1914	9.0	13.6	151	13.5	150	25.5	283	26.8	298	25.9	288	22.4	249	26.3	292	23.6	262
1915	8.7	12.9	148	12.6	145	25.7	295	26.8	308	25.7	295	22.1	254	26.0	299	23.0	264
1916	9.6	13.8	144	13.4	140	26.8	279	28.1	293	27.3	284	22.6	235	27.4	285	24.5	255
1917	12.8	16.7	130	16.4	128	29.3	229	32.6	255	31.5	246	25.8	202	32.6	255	29.0	227
1918	16.4	22.1	135	20.9	127	35.3	215	40.9	249	38.9	237	32.3	197	42.3	258	36.9	225
1919	17.5	23.3	133	21.5	123	38.3	219	43.9	251	41.7	238	34.3	196	45.7	261	38.9	222
1920	14.5	23.0	159	20.8	143	43.0	297	46.9	323	43.7	301	36.3	250	47.3	326	39.5	272
1921	8.8	16.3	185	14.8	168	38.0	432	42.1	478	38.8	441	31.0	352	41.3	469	34.4	391
1922	9.5	15.0	158	13.8	145	37.2	392	41.1	433	37.4	394	29.1	306	39.6	417	32.3	340
1922.																	
January	8.2	15.4	188	12.7	155	36.0	439	39.2	478	35.3	430	28.5	348	37.9	462	30.4	371
February	8.6	14.5	169	12.8	149	34.3	399	38.8	451	35.2	409	27.2	316	37.2	433	30.2	351
March	8.7	14.5	167	13.1	151	34.5	397	39.1	449	35.9	413	27.2	313	37.2	428	30.8	354
April	8.4	14.5	173	12.9	154	35.4	421	39.5	470	36.4	433	27.9	332	37.9	451	31.4	374
May	8.6	14.5	169	14.1	164	36.7	427	40.3	469	37.7	438	28.4	330	39.4	458	32.5	378
June	8.9	14.5	163	14.1	158	37.7	424	42.0	472	38.4	432	29.5	332	40.2	452	33.5	376
July	9.7	14.8	153	14.6	150	38.3	395	43.1	444	39.2	404	30.1	310	41.9	432	34.2	353
August	10.4	15.5	149	13.6	131	38.6	371	43.3	416	39.0	375	30.8	296	42.1	405	34.1	328
September	10.7	15.5	145	14.5	136	39.1	365	42.9	401	38.7	362	30.6	286	41.2	385	33.6	314
October	10.2	15.5	152	14.8	145	38.9	381	42.3	415	38.3	376	30.1	295	40.9	401	33.1	324
November	10.5	15.5	148	13.7	130	38.6	368	41.9	399	37.3	355	29.9	285	40.0	381	32.0	305
December	10.6	15.5	146	14.6	138	38.1	359	40.6	383	36.8	347	29.4	277	39.1	369	31.5	297

[1] Wholesale prices of good native steers in Chicago; native sides in New York; retail prices of sirloin steak, round steak, chuck roast, and rib roast, in Chicago and New York, and average for 51 cities throughout the United States, All prices from Bureau of Labor Statistics.

CATTLE—Continued.

TABLE 392.—*Prices of live steers in Chicago, wholesale prices of beef in Chicago and New York, and retail prices of certain beef cuts*—Continued.

Date.	Beef, retail prices.											
	Chuck roast.						Rib roast.					
	Chicago.		New York.		average, 51 cities.		Chicago.		New York.		Average, 51 cities.	
	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.
1913	15.4	181	16.0	188	16.0	188	19.5	229	21.8	256	19.8	233
1914	16.9	188	16.8	187	16.7	186	20.7	230	22.1	246	20.4	227
1915	16.7	192	16.5	190	16.1	185	21.3	245	22.2	255	20.1	231
1916	16.6	173	17.3	180	17.1	178	21.9	228	23.2	242	21.2	221
1917	20.3	159	21.3	166	20.9	163	24.1	188	27.4	214	24.9	194
1918	25.9	158	28.5	174	26.6	162	29.7	181	35.3	215	30.7	187
1919	26.7	153	29.9	171	27.0	154	31.4	179	39.1	223	32.5	186
1920	25.9	179	28.9	199	26.2	181	33.7	232	40.5	279	33.2	229
1921	20.7	235	23.1	262	21.2	241	30.2	343	36.4	414	29.1	331
1922	19.1	201	21.4	225	19.7	207	28.8	303	35.3	372	27.6	290
1922.												
January	18.8	229	21.4	261	19.0	232	28.8	351	34.2	417	26.7	326
February	18.2	212	20.9	243	18.9	220	28.1	327	34.0	395	26.5	308
March	18.5	213	20.8	239	19.3	222	27.7	318	34.5	397	26.9	309
April	18.5	220	20.6	245	19.5	232	28.4	338	34.8	414	27.3	325
May	19.0	221	20.8	242	19.9	231	29.0	337	35.5	413	27.9	324
June	19.3	217	21.3	239	20.1	226	28.9	325	35.8	402	28.2	317
July	19.6	202	21.7	224	20.3	209	29.1	300	35.8	369	28.6	295
August	19.3	186	21.8	210	20.0	192	28.8	277	36.0	346	28.2	271
September	19.5	182	22.0	206	20.0	187	29.0	271	36.0	336	28.1	263
October	19.7	193	22.3	219	19.9	195	29.5	289	36.1	354	28.0	274
November	19.8	189	21.8	208	19.6	187	29.5	281	35.3	336	27.5	262
December	19.5	184	21.7	205	19.4	183	28.9	273	35.3	333	27.3	258

TABLE 393.—*Monthly statement of the livestock and meat situation, 1922.*

CATTLE, CALVES, BEEF, AND VEAL.

[Numbers and quantities in thousands, i. e., 000 omitted.]

	January.	February.	March.	April.	May.	June.
Estimated number of cattle on farms in United States [1]	65,632	65,895	66,813	67,863	70,226	71,079
Receipts, cattle and calves, at public stockyards	1,628	1,417	1,622	1,470	1,878	1,759
Stocker and feeder shipments from public stockyards	233	243	282	235	365	318
Inspected slaughter: [2]						
Cattle	642	569	674	590	702	725
Calves	289	279	391	365	401	389
Average live weight: [3]						
Cattle ... pounds	1,020	1,005	1,013	1,009	1,002	982
Calves ... do	164	157	143	134	147	156
Average dressed weight: [3]						
Cattle ... do	554	547	559	567	561	546
Calves ... do	91	89	81	78	83	88
Total dressed weight (carcass): [3]						
Beef ... do	355,462	311,441	376,397	334,718	394,069	395,619
Veal ... do	26,255	24,952	31,851	28,353	33,323	34,073

[1] Reports of Division of Crop and Live-Stock Estimates, Bureau of Agricultural Economics.
[2] Reports of Bureau of Animal Industry.
[3] Reports of Division of Statistical and Historical Research, Bureau of Agricultural Economics.

CATTLE—Continued.

TABLE 393.—*Monthly statement of the livestock and meat situation, 1922*—Continued.

CATTLE, CALVES, BEEF, AND VEAL—Continued.

	January.	February.	March.	April.	May.	June.
Storage, 1st of month: [3]						
Fresh beef ..... pounds.	68,495	61,522	55,785	50,772	45,341	37,548
Cured beef ..... do....	16,313	16,774	17,997	18,744	19,166	19,304
Imports: [4]						
Fresh beef and veal ..... do....	867	536	1,004	2,221	2,756	3,143
Tallow ..... do....	5	.....	38	316	23	110
Exports: [4 5]						
Fresh beef and veal ..... do....	523	320	293	174	240	213
Cured beef ..... do....	1,765	2,051	2,799	2,037	1,928	2,547
Canned beef ..... do....	155	207	281	132	278	237
Oleo oil and stearin [6] ..... do....	5,706	8,672	10,837	9,329	14,180	13,583
Tallow ..... do....	1,878	1,774	4,278	2,497	3,683	4,592
Prices per 100 pounds:						
Average cost in United States of all classes and grades—						
Cattle	$5.92	$6.05	$6.82	$7.11	$7.33	$7.37
Calves	$8.22	$9.16	$8.05	$7.67	$9.05	$8.52
Cattle, good steers (Chicago)	$8.54	$8.60	$8.57	$8.48	$8.50	$8.96
Beef carcasses, good grade (eastern markets)	$13.36	$12.79	$13.36	$13.45	$14.06	$14.55
Veal calves (Chicago)	$8.36	$9.16	$8.26	$6.97	$8.46	$8.89
Veal carcasses, good grade (eastern markets)	$18.92	$18.94	$16.74	$14.41	$15.86	$15.28

	July.	August.	September.	October.	November.	December.	Total, January-December.
Estimated number of cattle on farms in United States [1]	71,145	70,751	69,636	69,176	69,176	69,045	.....
Receipts, cattle and calves, at public stockyards	1,709	2,149	2,397	2,936	2,427	1,825	23,217
Stocker and feeder shipments from public stockyards	223	469	630	864	710	357	4,929
Inspected slaughter: [2]							
Cattle	697	761	796	884	859	779	8,678
Calves	330	345	353	383	348	309	4,182
Average live weight: [3]							
Cattle ..... pounds..	985	973	965	958	946	958	.....
Calves ..... do....	172	193	200	197	189	176	.....
Average dressed weight: [3]							
Cattle ..... do....	538	526	514	501	490	504	.....
Calves ..... do....	98	109	111	105	106	102	.....
Total dressed weight (carcass): [3]							
Beef ..... pounds..	375,170	400,215	409,656	442,938	421,508	392,810	4,610,003
Veal ..... do....	32,161	37,598	39,109	40,355	36,993	31,368	396,391
Storage, 1st of month: [3]							
Fresh beef ..... do....	31,593	27,727	28,210	34,611	47,929	73,027	.....
Cured beef ..... do....	19,113	19,304	20,081	18,961	19,884	22,602	.....
Imports: [4 7]							
Fresh beef and veal .. do....	3,576	2,362	10,533	4,504	3,146	.....	.....
Tallow ..... do....	851	.....	153	.....	.....	.....	.....
Exports: [4 5]							
Fresh beef and veal .. do....	214	328	228	410	516	459	3,918
Cured beef ..... do....	2,016	2,621	2,841	2,369	1,888	1,346	26,208
Canned beef ..... do....	273	258	287	199	101	143	2,551
Oleo oil and stearin [6] . do....	11,684	8,993	9,071	9,095	10,773	7,452	119,375
Tallow ..... do....	2,569	2,357	2,142	1,718	1,649	2,239	31,376
Prices per 100 pounds:							
Average cost in United States of all classes and grades—							
Cattle	$7.36	$6.94	$6.53	$6.09	$5.63	$6.07	.....
Calves	$7.85	$8.02	$7.69	$6.96	$7.18	$7.79	.....
Cattle, good steers (Chicago)	$9.46	$9.64	$9.93	$10.20	$10.56	$10.64	.....
Beef carcasses, good grade (eastern markets)	$15.80	$15.97	$16.98	$16.92	$15.86	$15.59	.....
Veal calves (Chicago)	$8.90	$10.88	$11.92	$9.65	$8.91	$9.42	.....
Veal carcasses, good grade (eastern markets)	$16.37	$16.54	$18.22	$16.75	$15.42	$16.40	.....

[1] Reports of Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.
[2] Reports of Bureau of Animal Industry.
[3] Reports of Division of Statistical and Historical Research, Bureau of Agricultural Economics.
[4] Reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
Other figures from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.
[5] Including reexports.
[6] 1922 figure is for oleo stearin only.
[7] Import figures not available for December, 1922.

CATTLE—Continued.

TABLE 394.—*Cattle and calves: Yearly receipts and shipments at principal markets and all markets, 1900 to 1922.*[1]

[000 omitted.]

RECEIPTS.

Year.	Chicago.	Denver.	East St. Louis.	Fort Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total.	All other markets.	Total all markets.
1900	2,865	240	698	(2)	2,083	828	390	221	300	7,625	(3)	(3)
1901	3,213	227	892	(2)	2,127	818	439	190	309	8,215	(3)	(3)
1902	3,193	324	1,113	132	2,279	1,011	517	306	405	9,280	(3)	(3)
1903	3,704	286	1,140	447	2,137	1,071	625	303	379	10,092	(3)	(3)
1904	3,527	265	1,074	643	2,163	944	587	389	331	9,923	(3)	(3)
1905	3,791	294	1,124	813	2,423	1,026	547	489	403	10,910	(3)	(3)
1906	3,742	329	1,121	838	2,556	1,079	606	487	385	11,143	(3)	(3)
1907	3,727	307	1,133	1,022	2,670	1,159	616	520	410	11,564	(3)	(3)
1908	3,461	420	1,145	1,069	2,458	1,037	584	463	385	11,022	(3)	(3)
1909	3,340	426	1,241	1,197	2,660	1,125	592	497	426	11,504	(3)	(3)
1910	3,553	399	1,268	1,071	2,507	1,224	665	604	439	11,570	(3)	(3)
1911	3,453	298	1,067	884	2,370	1,174	513	539	487	10,785	(3)	(3)
1912	3,158	414	1,200	1,039	2,147	1,017	494	524	431	10,424	(3)	(3)
1913	2,888	499	1,100	1,186	2,319	962	450	532	394	10,330	(3)	(3)
1914	2,601	443	1,041	1,176	1,957	939	356	585	368	9,466	(3)	(3)
1915	2,685	424	992	944	1,963	1,218	441	856	534	10,057	4,496	14,553
1916	3,250	601	1,200	1,081	2,331	1,434	480	941	602	11,920	5,756	17,676
1917	3,820	653	1,405	1,960	2,902	1,720	670	1,197	707	15,034	8,032	23,066
1918	4,448	728	1,509	1,665	3,320	1,993	870	1,430	818	16,781	8,514	25,295
1919	4,253	824	1,473	1,267	3,085	1,975	750	1,491	814	15,932	8,691	24,623
1920	3,849	617	1,254	1,134	2,500	1,603	643	1,373	752	13,725	8,472	22,197
1921	3,540	482	1,077	984	2,469	1,435	558	985	620	12,150	7,637	19,787
1922	3,934	656	1,400	1,084	2,983	1,744	655	1,387	747	14,590	8,627	23,217

SHIPMENTS.[4]

1900	949	(3)	166	(5)	(3)	274	92	154	187	1,822	(3)	(3)
1901	1,051	(3)	224	(5)	(3)	239	82	126	189	1,911	(3)	(3)
1902	937	(3)	316	(5)	(3)	365	112	230	283	2,243	(3)	(3)
1903	1,296	(3)	318	(5)	(3)	301	174	212	279	2,580	(3)	(3)
1904	1,350	(3)	308	(5)	(3)	261	140	275	230	2,564	(3)	(3)
1905	1,437	(3)	359	(5)	(3)	315	133	352	237	2,833	(3)	(3)
1906	1,376	(3)	365	(5)	(3)	303	143	353	210	2,750	(3)	(3)
1907	1,477	(3)	371	(5)	(3)	362	150	379	227	2,966	(3)	(3)
1908	1,387	(3)	347	(5)	(3)	330	178	302	213	2,757	(3)	(3)
1909	1,297	(3)	374	(5)	(3)	374	185	322	232	2,784	(3)	(3)
1910	1,347	(3)	370	347	(3)	425	161	369	213	3,232	(3)	(3)
1911	1,245	(3)	309	297	(3)	446	157	318	249	3,021	(3)	(3)
1912	994	(3)	315	427	(3)	418	158	293	240	2,845	(3)	(3)
1913	1,001	(3)	344	549	(3)	432	157	322	228	3,033	(3)	(3)
1914	824	(3)	306	459	(3)	394	124	328	197	2,632	(3)	(3)
1915	392	359	269	506	1,032	536	175	523	289	4,081	1,771	5,852
1916	726	512	313	511	1,028	591	149	556	369	4,755	2,198	6,953
1917	867	521	317	838	1,202	723	211	723	410	5,812	3,661	9,473
1918	1,025	544	370	562	1,422	855	299	896	432	6,405	3,906	10,311
1919	1,221	642	454	475	1,467	840	220	935	459	6,713	4,044	10,757
1920	1,247	471	510	544	1,209	689	234	634	410	5,948	3,883	9,831
1921	1,163	360	611	412	1,244	635	188	391	346	5,350	3,250	8,600
1922	1,137	532	871	467	1,534	829	251	609	447	6,677	3,988	10,665

[1] Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

[2] Not in operation.

[3] Figures not available prior to 1915.

[4] Prior to 1915 figures compiled from yearbooks of stockyard companies, except East St. Louis (1900 to 1906 from the Fourteenth Annual Report of Bureau 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, Bureau Agricultural Economics.

[5] Figures not available prior to 1910.

CATTLE—Continued.

TABLE 395.—*Cattle and calves: Monthly and yearly receipts at Chicago, East St. Louis, Kansas City, and Omaha, combined, 1910–1922.*[1]

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1910	641	515	590	498	553	630	662	915	995	1,040	834	617	8,490
1911	700	516	555	498	612	620	680	764	766	1,044	757	555	8,067
1912	660	486	502	515	484	462	516	667	868	1,010	674	676	7,520
1913	606	486	481	523	452	525	568	688	923	824	606	588	7,270
1914	526	445	481	445	404	473	457	565	784	813	558	581	6,532
5-year average	627	490	522	496	501	542	577	720	867	946	686	603	7,576
1915	518	377	523	465	461	474	462	611	730	834	798	605	6,858
1916	606	534	558	452	558	530	535	807	861	1,146	915	716	8,218
1917	807	567	533	600	708	701	773	808	1,029	1,309	1,148	864	9,847
1918	763	709	779	881	688	705	967	911	1,347	1,320	1,167	1,032	11,269
1919	998	682	646	706	668	641	881	926	1,131	1,362	1,169	976	10,786
5-year average	738	574	608	621	617	610	724	813	1,020	1,194	1,039	839	9,396
1920	847	642	698	532	642	696	669	868	1,032	932	1,029	618	9,205
1921	744	520	679	608	625	675	542	863	866	1,019	795	585	8,521
1922	717	617	682	577	748	750	719	981	1,097	1,339	1,045	789	10,061

[1] Prior to 1915 figures compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

TABLE 396.—*Cattle and calves: Yearly receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1919–1922.*[1]

[000 omitted.]

Market.	Receipts.				Local slaughter.				Stocker and feeder shipments.			
	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922
Albany, N. Y	39	36	23	21	4	3	2	1	1	1	(2)	(2)
Amarillo, Tex	185	147	113	140	1	1	1	(2)	122	91	84	103
Atlanta, Ga	18	21	29	30	11	15	18	19	4	1	3	2
Augusta, Ga	14	13	12	14	9	8	8	11	3	2	3	2
Baltimore, Md	249	287	279	241	145	170	156	157	5	5	3	3
Billings, Mont	16	2	(2)	.....	.....	(2)	(2)	.....	9	1	.....	.....
Birmingham, Ala	24	24	20	8	22	23	19	8	1	(2)	(2)	.....
Boston, Mass	98	75	61	76	.....	.....	.....	.....	.....	.....	.....	.....
Buffalo, N. Y	749	677	609	637	202	190	167	192	39	14	8	7
Chattanooga, Tenn	12	13	15	19	10	10	11	13	2	2	4	4
Cheyenne, Wyo	47	23	9	9	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Ill	4,253	3,849	3,540	3,934	3,032	2,603	2,377	2,797	509	417	332	409
Cincinnati, Ohio	460	441	454	446	305	283	302	252	28	28	22	26
Cleveland, Ohio	305	281	248	281	244	228	228	253	6	3	6	5
Columbia, S. C	6	6	5	7	6	6	5	8	(2)	.....	.....	.....
Columbus, Ohio	3	2	3	4	(2)	1	1	2	(2)	(2)	.....	.....
Dallas, Tex	9	8	8	8	9	8	8	8	.....	.....	.....	.....
Dayton, Ohio	31	33	31	33	25	26	27	29	(2)	(1)	.....	.....
Denver, Colo	824	617	482	656	174	153	122	124	483	407	274	413
Detroit, Mich	227	234	201	253	189	202	168	206	17	16	14	14
Dublin, Ga	2	4	3	3	.....	(2)	(2)	(2)	(2)	(2)	1	1
East St. Louis, Ill	1,473	1,254	1,077	1,400	1,019	744	466	530	234	168	185	275
El Paso, Tex	203	152	170	149	24	21	24	20	151	115	102	84
Emeryville, Calif	36	38	35	35	36	38	35	35	(2)	.....	.....	.....
Erie, Pa	38	28	.....	.....	13	9	.....	.....	.....	.....	.....	.....
Evansville, Ind	38	45	35	44	16	24	21	23	1	1	1	3
Fort Worth, Tex	1,267	1,134	984	1,084	715	558	576	620	327	278	172	225
Fostoria, Ohio	11	14	11	15	2	3	1	1	5	5	3	7
Indianapolis, Ind	515	597	483	509	245	257	230	238	50	48	41	44
Jacksonville, Fla	16	7	6	5	16	6	3	3	(2)	(2)	.....	1

[1] Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.
[2] Less than 500.

CATTLE—Continued.

TABLE 396.—*Cattle and calves: Yearly receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1919–1922*—Continued.

Market.	Receipts.				Local slaughter.				Stocker and feeder shipments.			
	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922
Jersey City, N. J	745	833	844	905	745	833	843	903	.....	.....	.....	.....
Kansas City, Mo	3,085	2,500	2,469	2,983	1,617	1,264	1,200	1,407	1,036	778	788	1,151
Knoxville, Tenn	21	21	18	21	9	11	10	13	8	4	3	6
Lafayette, Ind	17	19	18	13	7	8	9	8	2	1	1	1
Lancaster, Pa	239	287	205	234	45	55	37	48	95	87	1	.....
Logansport, Ind	1	1	1	1	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Louisville, Ky	246	245	246	283	87	87	81	89	36	30	37	42
Marion, Ohio	13	32	7	16	1	1	1	2	1	(2)	(2)	(2)
Memphis, Tenn	6	19	8	13	1	(2)	5	8	(2)	2	1	2
Milwaukee, Wis	398	444	439	504	334	390	402	458	16	15	12	13
Montgomery, Ala	52	68	50	59	3	4	4	4	9	28	10	9
Moultrie, Ga	.....	.....	4	5	.....	.....	1	2	.....	.....	(2)	(2)
Nashville, Tenn	83	99	96	109	41	46	42	47	11	14	12	15
Nebraska City, Nebr	2	2	1	1	(2)	.....	.....	.....	1	(2)	(2)	.....
New Brighton, Minn	121	73	36	98	.....	.....	.....	.....	1	1	(2)	3
New Orleans, La	191	213	188	193	162	174	160	159	18	17	16	21
New York, N. Y	402	316	301	258	400	315	300	257	.....	.....	.....	.....
North Salt Lake, Utah	67	49	57	88	19	14	25	14	25	16	12	15
Ogden, Utah	104	64	76	91	11	16	13	12	48	28	25	23
Oklahoma, Okla	593	400	315	382	368	228	203	219	136	106	80	80
Omaha, Nebr	1,975	1,603	1,435	1,744	1,136	914	797	916	656	451	443	621
Pasco, Wash	6	8	3	6	(2)	(2)	.....	.....	.....	(2)	.....	.....
Peoria, Ill	27	36	43	40	18	18	21	20	(2)	1	4	7
Philadelphia, Pa	201	226	227	264	196	221	225	261	.....	.....	.....	.....
Pittsburgh, Pa	616	733	745	867	151	171	175	161	.....	.....	.....	.....
Portland, Oreg	125	141	120	140	62	70	59	67	21	26	9	12
Pueblo, Colo	217	178	79	199	.....	.....	1	(2)	7	5	4	16
Richmond, Va	29	30	28	32	17	19	20	25	2	2	2	2
St. Joseph, Mo	750	643	558	655	531	410	370	403	124	103	103	176
St. Paul, Minn	1,491	1,373	985	1,387	530	710	564	783	416	316	270	439
San Antonio, Tex	250	233	151	198	14	37	36	54	138	96	26	83
Seattle, Wash	66	58	47	46	64	56	46	45	(2)	.....	(2)	(2)
Sioux City, Iowa	814	752	620	747	363	342	273	301	329	238	240	335
Sioux Falls, S. Dak	8	14	17	33	1	6	7	13	1	1	4	11
Spokane, Wash	74	67	41	49	36	35	23	26	28	23	7	12
Tacoma, Wash	29	22	25	28	24	22	25	27	3	(2)	(2)	(2)
Toledo, Ohio	57	64	25	25	13	18	14	12	4	5	4	4
Washington, D. C	23	27	28	29	20	25	27	28	1	(2)	(2)	.....
Wichita, Kans	311	242	285	407	133	84	83	93	116	104	132	202
Total	24,623	22,197	19,787	23,217	13,633	12,194	11,078	12,435	5,286	4,102	3,504	4,929

[2] Less than 500.

TABLE 397.—*Cattle and calves: Monthly and yearly stocker and feeder shipments from all public stockyards, 1916–1922.*[1]

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1916 [2]	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	4,805
1918	222	214	319	385	491	393	274	418	604	704	623	366	5,013
1919	364	264	277	391	442	272	236	397	611	839	723	470	5,286
1920	349	240	241	244	323	272	218	314	488	580	553	280	4,102
1921	205	166	236	238	214	209	122	355	395	622	497	245	3,504
1922	233	243	282	235	365	318	223	469	630	864	710	357	4,929

[1] Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.
[2] Complete information for 1916 not obtainable from many markets.

CATTLE—Continued.

TABLE 398.—*Cattle and calves: Monthly and yearly receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1922.*[1]

[000 omitted.]

Stock yards.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Buffalo, N. Y.:													
Receipts	51	45	47	63	64	56	51	45	47	58	55	55	637
Local slaughter	14	12	17	18	19	16	15	14	14	21	19	13	192
Stocker and feeder shipments	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	1	2	2	(2)	7
Chicago, Ill.:													
Receipts	330	275	324	281	353	332	283	307	319	407	391	332	3,934
Local slaughter	223	190	234	211	266	254	220	227	227	283	243	219	2,797
Stocker and feeder shipments	20	21	24	14	21	71	12	23	38	61	70	34	409
Cincinnati, Ohio:													
Receipts	36	29	36	33	36	38	36	38	45	50	37	32	446
Local slaughter	27	21	26	24	22	21	18	19	20	21	17	16	252
Stocker and feeder shipments	1	1	1	1	1	1	1	4	4	6	3	2	26
Cleveland, Ohio:													
Receipts	19	19	24	23	27	23	22	25	26	26	22	25	281
Local slaughter	18	18	22	21	24	21	20	22	22	22	21	22	253
Stocker and feeder shipments	(2)	(2)	(2)	(2)	(2)	1	(2)	1	1	1	1	(2)	5
Denver, Colo.:													
Receipts	43	33	40	28	88	47	30	38	55	113	90	51	656
Local slaughter	9	8	10	9	13	11	11	10	10	12	12	9	124
Stocker and feeder shipments	27	18	22	16	66	38	17	18	36	70	64	21	413
East St. Louis:													
Receipts	85	66	72	56	92	114	106	158	176	207	154	114	1,400
Local slaughter	38	30	30	24	45	46	43	56	59	78	43	38	530
Stocker and feeder shipments	9	9	11	8	10	15	11	24	39	56	55	28	275
Fort Worth, Tex.:													
Receipts	59	46	65	56	83	76	84	109	132	157	129	88	1,084
Local slaughter	41	30	35	20	26	30	49	63	78	102	80	66	620
Stocker and feeder shipments	7	9	23	28	37	22	8	7	16	24	30	14	225
Indianapolis, Ind.:													
Receipts	38	33	38	36	40	45	38	52	50	57	40	42	509
Local slaughter	22	18	22	19	21	21	18	19	19	21	18	20	238
Stocker and feeder shipments	2	2	2	1	2	3	3	4	5	10	6	4	44
Jersey City, N. J.:													
Receipts	66	76	73	80	82	75	72	83	78	87	62	71	905
Local slaughter	66	76	72	80	82	75	72	83	78	87	62	71	904
Kansas City, Mo.:													
Receipts	188	160	157	131	158	165	213	357	406	481	351	216	2,983
Local slaughter	95	78	90	79	99	98	117	155	150	175	155	116	1,407
Stocker and feeder shipments	50	55	54	39	44	43	49	142	179	233	181	82	1,151
Oklahoma, Okla.:													
Receipts	28	27	31	17	19	22	36	45	48	39	37	33	382
Local slaughter	19	17	19	10	10	12	20	22	22	19	24	25	219
Stocker and feeder shipments	3	4	8	4	8	4	7	8	11	7	11	5	80
Omaha, Nebr.:													
Receipts	114	116	129	109	145	139	117	159	196	244	149	127	1,744
Local slaughter	54	61	73	67	95	96	78	80	75	81	81	75	916
Stocker and feeder shipments	34	39	39	23	15	20	25	67	112	128	77	42	621
Pittsburgh, Pa.:													
Receipts	68	51	49	52	57	68	85	98	97	87	84	71	867
Local slaughter	12	11	12	13	17	14	14	15	13	15	13	12	161
St. Joseph, Mo.:													
Receipts	51	40	40	34	43	37	40	70	85	96	65	54	655
Local slaughter	34	25	29	24	31	28	26	39	44	46	40	37	403
Stocker and feeder shipments	7	9	7	4	4	4	7	25	33	43	21	12	176
St. Paul, Minn.:													
Receipts	73	68	98	81	93	99	127	153	147	180	162	106	1,387
Local slaughter	47	44	64	53	62	67	66	73	68	85	86	68	783
Stocker and feeder shipments	15	15	24	19	22	23	37	72	63	67	56	26	439
Sioux City, Iowa:													
Receipts	57	56	60	53	65	56	53	61	78	90	68	50	747
Local slaughter	22	22	26	28	28	29	22	24	25	18	29	28	301
Stocker and feeder shipments	20	23	26	13	25	18	20	31	48	59	34	18	335

[1] Compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

[2] Less than 500.

CATTLE—Continued.

TABLE 399.—*Beef, fresh, chilled, and frozen: Yearly exports and imports, by principal countries.*

[000 omitted.]

EXPORTS.

Country.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Exported by—											
Argentina	689,674	755,849	807,388	813,427	799,694	942,907	870,458	1,092,631	883,452	896,285	859,578
Australia[1]	108,786	142,210	218,919	292,066	114,676	242,082	180,249	119,990	121,079	179,642	.....
Brazil	.....	.....	.....	.....	18,770	74,209	146,500	133,397	113,831	134,255	129,689
British South Africa	240	312	165	488	5,986	17,687	47,256	18,656	44,409	12,662	[3] 2,124
Canada	.....	1,013	12,034	17,837	29,460	45,836	84,376	[2] 126,334	107,170	64,412	32,256
Denmark	27,466	57,853	33,241	38,089	50,181	34,220	35,370	21,337	17,730	38,670	16,496
France	6,789	7,292	12,212	5,715	[4] 1,626	[4] 2,177	2,056	1,547	3,063	7,598	8,558
Netherlands	32,890	40,354	40,328	32,865	45,646	33,382	3,741	54	35,649	6,416	14,510
New Zealand	27,307	30,803	30,636	69,927	86,477	112,071	99,740	82,308	87,493	84,895	102,691
Sweden	19,720	17,609	8,604	12,280	16,521	7,186	6,148	10	3,694	4,768	21,957
United States	28,782	9,026	6,850	31,422	262,813	181,977	216,420	514,342	174,427	89,649	10,341
Uruguay	16,933	44,847	109,268	153,016	215,115	157,568	158,398	106,247	176,019	215,181	.....

IMPORTS.

Imported by—											
Austria-Hungary	10,465	3,374	.....	.....	.....	.....	.....	.....	.....	[5] 36,171	[5] 31,697
British South Africa	8,246	6,154	158 5,043	1,504	35	12	17	4	4	89	[3] 1
Canada	874	198	4,450	2,279	1,916	4,228	14,663	2,233	1,460	2,368	89
Cuba	48	52	76	136	34	17	65	147	557	.....	.....
Denmark	1,164	988	415	1,387	1,297	.....	.....	.....	.....	.....	.....
France	5,522	5,250	5,098	33,747	381,614	460,763	414,366	458,495	504,173	293,617	115,076
Germany	39,734	79,114	66,746	.....	.....	.....	.....	.....	.....	143,471	.....
Netherlands	348	2,317	7,413	3,768	1,083	85	5	12	35,992	14,902	59,998
Sweden	843	1,157	1,442	453	52	82	291	10,755	17,466	13,503	.....
Switzerland	5,371	5,653	4,472	2,109	472	1,276	583	3	126	826	1,200
United Kingdom	824,443	896,652	1,030,771	990,591	963,389	789,826	681,796	844,055	721,287	1,032,708	1,241,744
United States	.....	.....	35,822	254,319	118,590	39,772	22,072	23,339	38,462	50,182	32,378

[1] Year beginning July 1, subsequent to 1913.
[2] Unclassified.
[3] Intercolonial trade excluded.
[4] Includes some "other than beef."
[5] Austria only.

TABLE 400.—*Beef products:*[1] *Monthly and yearly exports, all products combined, United States, 1910–1922.*[2]

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1910	16,763	19,016	23,778	19,905	18,518	23,319	18,090	18,826	16,146	15,398	18,227	15,598	223,524
1911	16,540	16,265	23,412	30,692	40,030	32,904	29,171	25,841	25,130	21,002	14,962	15,373	291,322
1912	14,266	15,739	19,203	19,838	15,967	13,804	16,754	15,574	10,871	10,518	8,068	8,908	169,510
1913	12,863	13,657	16,424	14,203	15,686	19,971	15,388	13,280	11,895	10,670	10,778	10,361	165,176
1914	10,499	9,286	11,073	14,181	15,326	13,221	12,410	10,960	17,131	16,495	31,587	18,895	181,061
5-year average	14,174	14,792	18,778	19,764	21,105	20,644	18,363	16,896	16,235	14,817	16,724	13,827	206,119
1915	32,879	35,308	41,125	49,961	40,190	71,340	50,154	43,166	39,404	28,930	36,702	42,155	511,314
1916	21,461	28,422	26,378	33,361	35,105	53,830	28,242	24,679	25,783	36,024	31,724	26,908	371,917
1917	32,680	25,932	35,895	51,974	51,950	33,296	19,911	42,278	31,773	17,737	10,743	36,443	390,612
1918	43,475	31,892	87,199	72,882	96,982	92,150	53,583	69,217	49,124	43,523	83,803	49,504	773,334
1919	42,078	30,685	27,164	39,559	28,990	43,964	25,496	28,184	25,400	45,744	28,663	19,711	385,638
5-year average	34,515	30,448	43,552	49,547	50,643	58,916	35,477	41,505	34,297	34,392	38,327	34,944	486,563
1920	30,576	20,497	17,635	29,852	24,925	27,861	18,716	9,387	10,530	15,180	14,088	14,999	234,246
1921	24,767	14,523	12,626	14,625	15,911	13,065	18,019	18,496	18,568	12,772	10,044	9,369	182,785
1922	9,109	12,400	17,810	13,735	19,155	19,873	15,271	13,751	13,832	13,165	14,554	10,778	173,433

[1] These figures include fresh, canned, pickled, and other cured beef, tallow, and oleo oil.
Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.

CATTLE—Continued.

TABLE 401.—*Beef:*[1] *Yearly exports, United States, 1910–1915 and 1918–1922.*[2]

[000 omitted.]

Exported to—	Year ending June 30.						Calendar years.				
	1910[3]	1911	1912	1913	1914	1915	1918	1919	1920	1921	1922
Belgium	3,271	3,909	4,852	2,328	3,755	2,481	27,108	24,620	37,759	6,936	2,220
France	409	249	532	153	68	106,455	87,168	6,427	1,343	5,451	507
Germany	33,943	33,170	22,768	20,722	17,951	1,393	1,052	2,127	31,337	22,840	15,586
Italy	858	831	971	409	438	11,872	55,553	39,814	1,029	801	693
Netherlands	48,043	68,694	67,884	47,073	47,751	35,234	.....	6,829	38,093	46,909	47,499
Sweden	2,303	2,293	3,353	2,448	2,014	6,690	2,240	9,025	3,828	3,806	2,586
United Kingdom	111,699	63,068	33,323	17,183	14,551	144,554	558,344	113,383	29,299	21,386	17,981
Canada	1,677	2,107	2,461	1,517	1,987	2,503	13,240	4,347	6,753	2,410	1,979
Newfoundland and Labrador	7,739	7,476	7,037	5,225	6,219	5,457	7,499	7,567	7,274	8,087	8,449
Other countries	43,555	50,519	47,665	35,851	35,408	41,402	16,907	132,545	56,840	50,361	44,558
Total	253,497	232,316	190,846	132,909	130,142	358,041	769,111	346,684	213,555	168,987	142,058

[1] Includes canned, fresh, pickled, and other cured beef, and oleo oil.
[2] Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
[3] For 1910 oleo oil includes neutral lard.

TABLE 402.—*Cattle: Percentage crippled in shipments by cooperative associations, 1921.*

BY MARKETS.

Market.	Straight shipments.[1]					Mixed shipments.[2]				
	Number of animals upon which figures are based.	Average weight of animals.	Percentage crippled of total number shipped.	Percentage crippled of total weight shipped.	Average weight of crippled animals.	Number of animals upon which figures are based.	Average weight of animals.	Percentage crippled of total number shipped.	Percentage crippled of total weight shipped.	Average weight of crippled animals.
		Pounds.			*Pounds.*		*Pounds.*			*Pounds.*
Buffalo	652	1,050	0.15	0.18	1,220	1,840	956	0.27	0.16	546
Chicago	7,462	888	.12	.07	543	14,973	862	.18	.....	.....
East St. Louis	912	735	.22	.23	760	573	815	.35	.39	905
Kansas City	1,229	679	.....	.....	.....	3,794	770	.08	.07	703
Milwaukee	673	985	.....	.....	.....	2,127	999	.09	.07	790
Omaha	480	846	.....	.....	.....	909	823	.11	.13	980
Pittsburgh	1,601	1,010	.13	.07	540	729	873	.27	.16	500
Sioux City	2,333	814	.17	.14	665	1,020	792	.10	.06	480
St. Joseph	259	814	.....	.....	.....	1,728	803	.06	.03	400
St. Paul	238	655	.....	.....	.....	6,047	872	.07	.05	708
BY DISTANCE.										
Less than 100 miles	2,330	799	0.09	0.06	540	7,888	874	0.06	0.05	667
100–150 miles	5,130	934	.10	.08	796	8,086	847	.17	.17	815
150–200 miles	3,437	829	.09	.07	694	8,030	826	.10	.08	683
200–250 miles	2,427	953	.17	.10	578	3,720	873	.27	.18	605
250–300 miles	395	1,055	.....	.....	.....	187	550	.....	.....	.....
300–350 miles	2,004	929	.....	.....	.....	851	860	.11	.13	1,000
350–400 miles	1,805	854	.22	.13	502	4,052	880	.17	.13	648
400–450 miles	1,119	897	.....	.....	.....	1,460	873	.14	.05	345
450–500 miles	699	879	.15	.08	450	501	896	.20	.22	1,000
500–550 miles	101	723	.....	.....	.....	46	718	.....	.....	.....
550–600 miles	220	923	.91	.70	705	330	888	.....	.....	.....
BY MONTHS.										
January	2,088	838	0.19	0.17	738	4,097	844	0.12	0.10	690
February	1,775	870	.05	.06	950	3,541	825	.20	.18	733
March	1,981	873	.20	.....	.....	4,359	838	.16	.13	663
April	2,421	945	.16	.14	808	3,280	842	.21	.18	713
May	2,052	951	.14	.14	957	3,284	862	.12	.08	595
June	3,201	936	.03	.02	600	3,103	879	.26	.27	925
July	914	938	.11	.05	460	1,321	857	.....	.....	.....
August	818	835	.12	.06	450	2,032	882	.20	.10	433
September	941	796	.....	.....	.....	1,863	838	.05	.04	640
October	1,082	811	.....	.....	.....	2,288	868	.....	.....	.....
November	1,302	855	.15	.10	530	3,358	878	.06	.05	690
December	1,071	908	.09	.08	840	2,625	900	.11	.07	550

[1] Straight shipments contain but one species of livestock.
[2] Mixed shipments contain more than one species of livestock.

CATTLE—Continued.

TABLE 403.—*Cattle: Percentage of shrinkage* [1] *in shipments by cooperative associations, 1921.*

BY DISTANCE.

Distance.	Straight shipments.[2]		Mixed shipments.[3]	
	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped.	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped.
Less than 100 miles	1,661	2.56	6,261	2.34
100 to 150 miles	3,518	2.26	4,117	2.99
150 to 200 miles	3,158	3.46	7,151	3.30
200 to 250 miles	1,623	3.16	2,295	4.06
250 to 300 miles	350	2.91	179	3.03
300 to 350 miles	1,888	4.09	917	4.86
350 to 400 miles	1,522	5.03	2,627	5.28
400 to 450 miles	1,070	3.94	1,419	4.09
450 to 500 miles	376	4.20	345	4.27
500 to 550 miles	72	5.04	8	6.26
550 to 600 miles	220	4.60	330	4.80

BY MONTHS.

January	1,822	4.20	2,795	4.00
February	1,401	3.34	2,591	4.13
March	1,416	3.66	3,210	3.39
April	2,063	3.54	2,400	3.14
May	1,728	2.78	2,413	2.69
June	2,339	2.62	2,281	2.97
July	828	2.66	1,056	2.78
August	616	2.72	1,429	2.74
September	680	3.47	1,283	3.18
October	829	3.81	1,636	3.24
November	1,000	4.30	2,505	3.68
December	736	2.84	2,036	4.07

[1] Shrinkage represents the difference between the shipping-point weight and the terminal weight, including the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.
[2] Straight shipments contain but one species of livestock.
[3] Mixed shipments contain more than one species of livestock.

CATTLE—Continued.

TABLE 404.—*Calves: Percentage crippled and percentage dead in mixed shipments by cooperative associations, 1921.*[1]

BY MARKETS.

Market.	Number of animals upon which figures are based.	Average weight of animals.	Crippled.			Dead.		
			Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
		Pounds.			*Pounds.*			*Pounds.*
Buffalo	7,906	167	0.29	0.28	162	0.32	0.32	167
Chicago	7,803	153	.49	.34	106	.36	.....	.....
East St. Louis	868	259	.11	.05	120	.23	.11	120
Kansas City	2,627	201	.19	.18	190	.19	.....	.....
Milwaukee	20,928	110	.13	.....	.....	.23	.....	.....
Pittsburgh	3,976	160	.13	.11	130	.18	.13	117
Sioux City	130	219	.77	.35	100	.70	.35	100
St. Paul	10,555	136	.03	.02	93	.13	.12	120

BY DISTANCE.

Less than 100 miles	20,629	124	0.07	.....	.....	0.16	.....	.....
100 to 150 miles	15,646	137	.25	.....	.....	.30	.....	.....
150 to 200 miles	9,776	145	.09	.....	.....	.14	.....	.....
200 to 250 miles	2,980	203	.20	.....	.....	.13	.....	.....
250 to 300 miles	102	196	.....	.....	.....	.....	.....	.....
300 to 350 miles	2,194	162	.23	0.18	132	.23	.....	.....
350 to 400 miles	6,313	165	.35	.31	146	.41	.....	.....
400 to 450 miles	2,145	177	.19	.19	178	.33	0.27	144
450 to 500 miles	514	171	.78	.92	230	1.94	.....	.....
500 to 550 miles	.....	.....	.....	.....	.....	.....	.....	.....
550 to 600 miles	42	166	2.38	1.42	100	2.38	1.42	100

BY MONTHS.

January	4,968	141	0.28	0.23	116	0.36	.....	.....
February	5,093	140	.14	.12	126	.16	.....	.....
March	8,122	125	.11	.....	.....	.25	.....	.....
April	6,991	126	.14	.....	.....	.36	.....	.....
May	6,794	132	.15	.....	.....	.27	.....	.....
June	5,514	150	.15	.11	118	.27	.....	.....
July	3,095	152	.19	.15	117	.22	.....	.....
August	3,547	175	.23	.21	161	.14	0.13	160
September	3,231	178	.34	.28	145	.31	.....	.....
October	4,115	163	.15	.19	208	.12	.....	.....
November	4,904	150	.16	.....	.....	.16	.....	.....
December	3,967	138	.18	.....	.....	.15	.....	.....

[1] Mixed shipments contain more than one species of livestock.

CATTLE—Continued.

TABLE 405.—*Calves: Percentage of shrinkage* [1] *in mixed shipments* [2] *by cooperative associations, 1921.*

BY DISTANCE.

Distance.	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped.
Less than 100 miles	16,869	3.49
100 to 150 miles	9,781	4.99
150 to 200 miles	8,114	4.85
200 to 250 miles	1,767	6.48
250 to 300 miles	102	4.83
300 to 350 miles	2,194	5.96
350 to 400 miles	5,641	5.96
400 to 450 miles	2,063	7.40
450 to 500 miles	495	6.20
500 to 550 miles	.....	.....
550 to 600 miles	42	7.75

BY MONTHS.

January	3,858	5.26
February	4,172	5.22
March	6,183	5.55
April	5,517	5.64
May	5,632	5.20
June	4,386	5.67
July	2,541	5.00
August	2,691	5.08
September	2,332	4.98
October	2,794	5.30
November	3,919	4.62
December	3,053	4.87

[1] Shrinkage represents the difference between the shipping-point weight and the terminal weight, including the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.
[2] Mixed shipments contain more than one species of livestock.

MILK.

TABLE 406.—*Milk: Monthly wholesale price, cents per quart, in cases of 12 quarts, 1920–1922.*

[Standard or grade B milk.]

City and year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Boston:												
1920	15	15	15	15	14	14	15	15	16.5	16.5	16.5	16.5
1921	15.5	15	13.5	13.5	13.5	13.5	13.5	14	14	14	14	14
1922	11	10.5	10.5	10.5	10.5	10	11	11	11	12	12	12
New York:												
1920	17.5	16	16	15	15	15	.....	17	18	18	18	17
1921	17	16	15	.....	.....	.....	14	15	14.5	14.5	14.5	14.5
1922	14.5	14.5	13.5	.....	13	12.5	14	14.5	14.5	14.5	14.5	15.5
Philadelphia:												
1920	13	13	13	13	13	13	13	14	14	15	14	12
1921	12	12	12.5	.....	10	10	10	10	10	10	10	10
1922	10	10	10	10	10	10	10	10	10.5	11	11.5	11.5
Pittsburgh:												
1920	15.5	15	15	14.5	14.5	14.5	14.5	15.5	15.5	15.5	15.5	15.5
1921	14.5	14.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	12.5
1922	12.5	11.5	11.5	11.5	11.5	11.5	11.5	12	.....	12.5	13.5	13.5
Cincinnati:												
1920	14.5	14	14	.....	14	14	14	14	14	14	14	14
1921	14	13	13	.....	12	12	12	12	12	12	12	12
1922	12	11	11	11	11	11	11	11	11	11	11	11

MILK—Continued.

TABLE 406.—*Milk: Monthly wholesale price, cents per quart, in cases of 12 quarts, 1920–1922*—Continued.

[Standard or grade B milk.]

City and year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Cleveland:												
1920	14.5	14.5	14.5	13.5	13.5	13.5	13.5	14.5	14.5	14.5	13.5	13.5
1921	13.5	12.5	12.5	12.5	12.5	11.5	11.5	11.5	11.5	11.5	11.5	11
1922	9	9	9	9	8.5	8.5	8.5	8.5	8.5	10.5	10.5	11.5
Indianapolis:												
1920	12	12	12	12	12	12	12	12	12	12	12	12
1921	12	12	11	11	11	10	10	10	10	10	10	9
1922	10	9	9	9	9	8	8	8	8	8	8	8.5
Chicago:												
1920	14.5	14.5	13.5	13.5	13.5	13.5	14.5	15.5	15.5	15.5	14	13.5
1921	13.5	13.5	13.5	13	13	13.5	13.5	13	11.5	11.5	11.5	11.5
1922	11	11	11	9.5	11	11	11	11	11	10	11	11
Detroit:												
1920	15	15	15	15	14.5	14.5	15	15	15	15	15	13
1921	12	12	12	12	12	12	12	12	12	12	12	12
1922	12	12	11	11	10.5	10.5	10.5	11	11	11.5	10	11
Milwaukee:												
1920	12	12	11	11	11	11	12	12	12	12	10	10
1921	.....	8.5	8.5	8.5	7.5	7.5	7.5	8	7.5	7.5	7.5	7.5
1922	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	8.5	8.5
Minneapolis:												
1920	11.5	11.5	11.5	11.5	11.5	11.5	11.5	12.5	12.5	12.5	12.5	12.5
1921	11.5	11	10.5	10.5	9.5	8.5	8.5	9.5	9.5	9.5	9.5	9
1922	8.5	8.5	8.5	8.5	8	8.5	8	8.5	9	9	9	10
St. Paul:												
1920	12	12	12	11.5	11.5	.....	12	12.5	12.5	12.5	12.5	12.5
1921	11.5	11.5	10.5	10.5	9.5	8.5	.....	9.5	.....	9.5	9.5	9.5
1922	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	9.5	9.5	9.5	.....
Sioux City:												
1920	14.5	14.5	14.5	14.5	14.5	13.5	13.5	13.5	14.5	14.5	14.5	14.5
1921	13.5	12.5	11.5	11	11	11	11	11	11	11	11	.....
1922	9.5	8.5	8.5	8.5	8.5	8.5	.....	9	.....	.....	.....	.....
St. Louis:												
1920	15	15	15	.....	14	.....	14	15	15	15	15	15
1921	15	13.5	13	12	13	11	11	11	11	11	11	.....
1922	8	8	8	8	8	8	10	.....	10	10	10	11
Kansas City:												
1920	14	14	14	14.5	14	13.5	14	14.5	13.5	14.5	13.5	14.5
1921	12.5	13	11.5	11.5	11.5	12	12	12.5	12	12	11.5	11
1922	11.5	11	10	9	8.5	9	9	9.5	8.5	9.5	9.5	10
Washington:												
1920	15.5	15	15.5	15	13.5	13.5	13.5	14	14	15	15.5	15.5
1921	14.5	13	14	14	11	11	10	.....	11	12	12	12
1922	11	12	10	10	10	10	10	10	10	11	11	11
Richmond:												
1920	16	16	16	16	16	15	16	16	16	16	16	16
1921	16	.....	14.5	11	13	13	13	13	13	13	13	13
1922	13	13	13	12	12	12	13	12	12	12	13	13
Charleston:												
1920	20	20	20	.....	20	.....	.....	.....	.....	.....	.....	.....
1921	.....	.....	.....	.....	18	16	15.5	15	15	.....	15	.....
1922	15	15	.....	15	15	15	.....	15	15	15	14	14
Atlanta:												
1920	18	18	18	17.5	.....	.....	.....	.....	25	.....	.....	.....
1921	.....	15	.....	.....	.....	.....	14	.....	11	14	14	.....
1922	.....	.....	11	11	.....	9.5	10	11	10	10	.....	.....
Jacksonville:												
1920	17	17	.....	18	18	.....	22	22	22	18	18	18
1921	.....	15	15	.....	.....	16	.....	16	14	16	16	16
1922	13	.....	15	11	12.5	.....	13	12.5	14.5	14.5	15	14.5
Louisville:												
1920	14	.....	14	14	14	14	14	14	14	14	14	.....
1921	13	14	.....	.....	.....	.....	9	10	9	9	9	9
1922	9	7	7	7	7	7	7	8	9	9.5	10	11
Nashville:												
1920	16	16	16	16	16	16	16	16	16	16	16	15
1921	15	14	14	13	13	12	12	12	12	12	12	12
1922	10	9	9	9	9	9	9	9	9	9	9	10
Birmingham:												
1920	15	18	15	15	15.5	18	15	15	15	.....	.....	18
1921	18	15	.....	15	14	14	14	13	13.5	13.5	13.5	13.5
1922	13	12	.....	11	14	.....	.....	10	.....	.....	13	.....
New Orleans:												
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

MILK—Continued.

TABLE 406.—*Milk: Monthly wholesale price, cents per quart, in cases of 12 quarts, 1920–1922*—Continued.

City and year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Galveston:												
1920	.....	17.5	.....	16	16	.....	16	.....	.....	15	.....	16
1921	.....	15	14	14	.....	13.5	12.5	12	12.5	.....	12.5	15
1922	12.5	.....	.....	12.5	11	12	11	11	12.5	12	12	12.5
Butte:												
1920	.....	12.5	12.5	.....	.....	12.5	12.5	12.5	.....	15	.....	.....
1921	12.5	12.5	12.5	.....	10	.....	.....	10	9	10	10	10
1922	10	10	10	10	10	9.5	9.5	9.5	9	10	10	10
Denver:												
1920	11.5	11.5	12	12	.....	11	12	11	11	11	11	11
1921	.....	13	.....	10	9	9	8.5	9	8	8	8.5	8.5
1922	8	8	7.5	8	8	7.5	8	8	8	8	8	10
Salt Lake City:												
1920	11	11	11	11	11	11	11	11	11	11	11	11
1921	12	11	11	11	11	11	11	11	11	11	11	11
1922	8	8	8	8	8	9.5	8	8	.....	8	8	8
Seattle:												
1920	11.5	11	10	9	.....	10	11	11	11	10.5	.....	.....
1921	9	8.5	9	9	8.5	.....	.....	8.5	.....	8.5	8.5	8
1922	9.5	9.5	9.5	8	8.5	8.5	8.5	9.5	9.5	9	10.5	10.5
Portland:												
1920	13.5	13.5	13.5	12	12.5	12	12	12	13	13.5	13	13
1921	12.5	12	12	.....	9	9	9	8	9	9	9	9
1922	9	8.5	8.5	.....	8	8	8	9	9	9	9	9
Los Angeles:												
1920	15	15	15	15	15	15	17	17	.....	17	17	17
1921	17	15	15	15	.....	15	14	13	13	13	13	13
1922	13.5	13	13	13	13	13	13	13	13	13	14	14
San Francisco:												
1920	14	14	13.5	13.5	14	14	13.5	14	14	14.5	14.5	15
1921	13	13	13	12	12	12	11	11	11	11	11	11
1922	11	10.5	10.5	11	.....	10.5	10	10	10	10	10	11

TABLE 407.—*Milk: Monthly retail price, in cents per quart, delivered to family trade in cities, 1920–1922.*

[Standard or grade B milk.]

City and year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Boston:												
1920	17	17	17	17	16	16	17	17.5	18	18	18	18
1921	17	16.5	16	15.5	15	15	15	16	15.5	15	15	15
1922	13.5	13.5	13.5	13.5	12.5	12.5	13.5	13.5	13.5	14.5	14.5	14.5
New York:												
1920	18	16.5	16.5	15	15	15	16	17	18	18	18	17
1921	17	16	15	.....	.....	14	14	15	15	15	15	15
1922	15	15	15	.....	13	13	14	15	15	15	15	16
Philadelphia:												
1920	14	14	14	14	14	14	14	15	15	15	15	13
1921	13	13	13	13	11	11	11	11	11	11	11	11
1922	11	11	11	11	11	11	11	11	11	11	12	12
Pittsburgh:												
1920	16	16	16	15	15	15	15	16	16	16	16	16
1921	15	15	14	14	14	14	14	14	14	14	14	13
1922	13	12	12	12	12	12	12	12	.....	.....	14	14
Cincinnati:												
1920	15	15	15	15	15	15	15	15	15	16	15	15
1921	15	14	14	14	13	13	13	13	13	13	13	13
1922	13	12	12	12	12	12	12	12	12	12	12	12
Cleveland:												
1920	16	16	16	15	15	15	15	16	16	16	15	15
1921	15	14	14	14	14	13	13	13	13	13	13	13
1922	11	11	11	10	10.5	10.5	10.5	11	11	13	13	14
Indianapolis:												
1920	14	14	14	14	14	14	14	14	14	14	14	14
1921	14	14	13	13	13	12	12	12	12	12	11.5	11
1922	11.5	11	11	10.5	10.5	10	10	10	10	.....	10	10
Chicago:												
1920	15	15	14	14	14	14	15	16	16	16	15	14
1921	14	14	14	14	14	14	14	14	12	12	12	12
1922	12	12	12	12	12	12	12	12	12	12	12	12

MILK—Continued.

TABLE 407.—*Milk: Monthly retail price, in cents per quart, delivered to family trade in cities, 1920–1922*—Continued.

[Standard or grade B milk.]

City and year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Detroit:												
1920	16	16	16	16	15.5	15.5	16	16	16	16	16	14
1921	13	13	13	13	13	13	13	13	13	13	13	13
1922	13	13	12	11.5	11.5	11.5	12	13	13	13	13	14
Milwaukee:												
1920	13	13	12	12	12	12	13	13	13	13	11	11
1921	.....	10	10	10	9	9	9	10	9	9	9	9
1922	9	9	9	9	9	9	9	9	9	9	10	10
Minneapolis:												
1920	13	13	13	13	13	13	13	14	14	14	14	14
1921	13	12.5	12	12	11	10	10	11	11	11	11	10.5
1922	10	10	10	10	10	10	10	10	11	11	11	11.5
St. Paul:												
1920	13	13	13	13	13	13	13	14	14	14	14	14
1921	13	13	12	12	11	10	.....	11	.....	11	11	10.5
1922	10	10	10	10	10	10	10	10	11	.....	11	.....
Sioux City:												
1920	16	16	16	16	16	15	15	15	16	16	16	16
1921	15	14	13	8	12.5	12.5	12.5	12.5	12.5	12.5	12.5	.....
1922	11	10	10	10	10	10	.....	11	.....	.....	.....	.....
St. Louis:												
1920	16	16	16	15	15	15	15	16	16	16	16.5	16
1921	16	15	14	14	14	13	13	13	13	13	13	10
1922	10	10	10	10	10	10	12	12	12	12	12	13
Kansas City:												
1920	15.5	15.5	16	16	15.5	15.5	15	15.5	15	15.5	15.5	15.5
1921	14.5	14	13.5	13.5	13.5	13	14	14	14	14	14	14
1922	14	13	12	11	11	11.5	11.5	12	10	12	12	12.5
Washington:												
1920	18	17.5	17.5	17.5	16	16	16	16	16.5	17.5	17.5	17.5
1921	16.5	15	16	16	13	13.5	13.5	13.5	14	15	15	15
1922	13.5	13	13	13.5	13	13	13	13	13	14	14	14
Richmond:												
1920	16	16	16	16	16	17	16	16	16	16	16	16
1921	16	16	14.5	13	14	14	14	14	14	14	14	14
1922	14	14	14	13	13	13	13	13	13	13	14	14
Charleston:												
1920	25	25	25	.....	.....	25	25	.....	.....	25	.....	25
1921	25	25	.....	.....	22	.....	18	18	18	.....	18	.....
1922	18	18	.....	18	18	18	.....	18	18	18	17	17
Atlanta:												
1920	22.5	22.5	.....	.....	25	25	25	25	25	25	.....	.....
1921	.....	20	.....	.....	.....	20	17.5	.....	17.5	17.5	17.5	17.5
1922	.....	.....	15.5	16.5	.....	15	15	15	15	17.5	.....	.....
Jacksonville:												
1920	20	20	20	20	20	20	25	25	25	24	22.5	22.5
1921	.....	18	18	.....	.....	20	.....	19	20	20	18.5	18.5
1922	17.5	.....	17	14	14	14	16.5	15.5	17	16.5	17	17
Louisville:												
1920	16	16	16	16	16	16	16	16	16	16	16	.....
1921	15	20	.....	.....	.....	.....	11	12	11	11	11	11
1922	11	9	9	9	9	9	9	10	11	11.5	12	13
Nashville:												
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	.....
Birmingham:												
1920	21.5	20	20	20	23	20	20	22.5	22.5	20	20	22.5
1921	22.5	22.5	.....	20	.....	18	20	17.5	17.5	17.5	17.5	17.5
1922	20	18	.....	17.5	15	16	.....	17.5	.....	.....	16	.....
New 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	.....	14	14	14
Dallas:												
1920	.....	23	23	21	21	21	21	21	21	21	21	21
1921	.....	19	17	.....	15	.....	15	.....	15	.....	.....	15
1922	15	15	12	12	12	12	15	15	15	15	15	15
Galveston:												
1920	20	21	21	20	20	.....	20	20	20	20	20	20
1921	20	20	18	18	16.5	16.5	12.5	15.5	17	12	15.5	18
1922	15.5	.....	15	15	15	15	15	15	15	16.5	13.5	16.5
Butte:												
1920	15	15	15	.....	15	15	15	15	.....	15	15	15
1921	15	15	15	.....	13	.....	12.5	12.5	12.5	13	13	13
1922	12.5	13	12.5	12	12.5	11.5	11.5	12	12	12	13	12.5

MILK—Continued.

TABLE 407.—*Milk: Monthly retail price, in cents per quart, delivered to family trade in cities, 1920–1922*—Continued.

[Standard or grade B milk.]

City and year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Denver:												
1920	12.5	12.5	13	13	13	13	13	13	13	13	13	13
1921	13	13	13	12	11	11	11	11	10	10	10	10.5
1922	10	10	9.5	10	10	9.5	10	10	9.5	10	.....	.....
Salt Lake City:												
1920	12.5	12.5	12.5	12.5	12.5	12.5	13	12.5	12.5	12.5	12.5	12.5
1921	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
1922	10	8.5	9	9	8.5	8.5	8.5	8.5	.....	9	8.5	9
Seattle:												
1920	14	14.5	13.5	12	.....	13	14	14	14	14	.....	13
1921	13	11	13	13	12	.....	.....	12	.....	12	12	11
1922	13	13	13	12	12	12	12	13	13	12.5	13	13
Portland, Oreg.:												
1920	15	15	15	13	13.5	13	13	14	14	14	14.5	14.5
1921	14	14	14	.....	13	12	12	12.5	12.5	12.5	12	12
1922	12	11	11	.....	11	11	11	12	12	12	12	12
Los Angeles:												
1920	16	16	16	16	16	16	18	18	18	18	18	18
1921	18	16	16	16	.....	16	15	14	14	14	14	14
1922	14.5	14	14	14	14	14	14	14	14	14	15	15
San Francisco:												
1920	16	16	15.5	15	16	16	15.5	17	17	17	17	17
1921	15.5	15.5	15	15	15	14.5	13.5	14	14	13.5	13.5	13.5
1922	13.5	12.5	12.5	12.5	.....	12.5	12.5	12.5	12.5	12.5	12.5	13

BUTTER.

TABLE 408.—*Butter: Farm price, per pound, 1st of month, 1909–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1909	.....	25.1	24.5	24.2	24.0	22.5	21.9	22.4	23.3	25.0	26.2	27.4
1910	28.7	27.9	26.3	25.8	25.5	24.1	23.3	23.8	25.2	26.2	27.1	27.8
1911	27.8	24.1	22.7	22.6	21.4	20.3	20.4	21.7	23.1	23.8	25.2	27.4
1912	28.1	29.0	27.2	26.1	26.0	24.8	23.4	23.7	24.2	25.6	26.9	28.8
1913	28.4	27.6	27.5	27.6	27.0	25.5	24.7	24.9	25.9	27.5	28.2	29.2
1914	29.2	27.4	26.0	24.9	23.8	22.8	22.9	23.7	25.3	26.0	26.3	28.4
1915	28.7	27.9	26.8	25.8	25.7	24.8	24.2	24.2	24.5	25.3	26.4	27.6
1916	28.3	27.6	27.1	27.6	27.9	26.5	25.7	26.1	27.4	29.0	31.1	34.4
1917	34.0	33.5	34.1	33.5	36.1	35.0	33.5	34.0	36.1	38.9	40.9	41.9
1918	43.1	43.7	43.4	40.7	39.9	38.6	38.2	39.7	41.4	47.2	49.7	52.7
1919	54.9	49.6	43.8	47.6	50.3	49.1	47.2	48.2	49.7	51.5	56.0	60.0
1920	61.3	57.8	55.9	56.1	57.6	53.5	51.6	52.0	52.3	54.1	54.3	54.7
1921	49.0	45.0	42.1	40.4	38.6	29.4	29.0	34.1	36.6	38.2	40.9	41.1
1922	40.3	34.4	34.7	34.5	34.7	33.5	32.7	33.2	33.5	36.2	38.5	42.0
Av. 1913–1922	39.7	37.4	36.1	35.9	36.2	33.9	33.0	34.0	35.3	37.4	39.2	41.2

BUTTER—Continued.

TABLE 409.—*Butter: Monthly average wholesale price, per pound, of 92-score butter at five markets, 1918–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents*	*Cents.*	*Cents.*
New York:													
1918	52	50	44	42	42	44	45	46	56	59	63	69	51
1919	62	52	62	64	58	52	53	55	59	68	71	72	61
1920	65	66	67	71	61	57	57	55	59	60	63	55	61
1921	52	47	48	46	32	33	40	43	43	47	45	44	43
1922	37	37	38	38	38	37	36	35	41	46	51	54	41
Chicago:													
1918	.....	.....	41	42	42	42	43	45	55	56	62	67	50
1919	60	49	60	62	57	51	51	53	57	64	69	68	58
1920	63	63	66	64	57	55	55	54	57	57	60	51	58
1921	48	47	47	44	29	32	39	40	42	45	44	43	42
1922	34	37	38	37	34	36	34	34	39	44	50	53	39
Philadelphia:													
1918	.....	.....	.....	.....	46	44	45	46	56	59	63	69	54
1919	62	52	62	65	59	53	54	56	59	68	70	73	61
1920	65	67	68	71	62	58	58	56	60	60	63	55	62
1921	53	48	49	47	33	33	40	43	43	47	46	45	44
1922	37	37	38	38	37	37	37	36	42	47	52	55	41
Boston:													
1918	.....	.....	.....	.....	46	44	45	46	55	59	62	67	53
1919	63	51	62	65	59	53	53	56	58	64	69	71	61
1920	65	66	68	69	61	58	58	57	59	59	60	54	61
1921	52	48	48	46	32	34	41	43	43	46	45	44	44
1922	37	37	39	38	37	37	37	36	40	46	50	54	41
San Francisco:													
1918	.....	.....	.....	.....	.....	.....	.....	.....	.....	59	58	62	60
1919	56	49	56	56	56	54	54	55	60	63	64	65	57
1920	62	62	59	56	53	54	57	59	64	58	53	48	57
1921	42	46	38	34	31	34	39	42	44	46	46	41	40
1922	36	40	33	32	35	38	39	39	46	49	45	47	40

TABLE 410.—*Butter: Monthly average wholesale price per pound of 92-score creamery at New York, 1910 to 1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1910	33	30	33	31	28	28	28	29	30	30	31	30	30
1911	26	26	24	21	22	23	25	26	27	30	34	37	27
1912	39	32	31	33	30	27	27	27	30	31	34	37	32
1913	35	36	37	35	29	28	27	28	32	31	34	36	32
1914	33	29	28	25	26	27	28	30	31	32	35	34	30
Average	33	31	31	29	27	27	27	28	30	31	34	35	30
1915	34	32	30	31	29	28	27	26	27	29	31	35	30
1916	33	34	37	36	31	30	29	31	34	35	39	40	34
1917	40	44	42	44	40	39	39	41	44	45	46	50	43
1918	52	50	44	42	42	44	45	46	56	58	63	69	51
1919	62	52	62	64	58	52	53	55	59	68	71	72	61
Average	44	42	41	43	40	39	39	40	44	47	50	53	44
1920	65	66	67	71	61	57	57	55	59	60	63	55	61
1921	52	47	48	46	32	33	40	43	43	47	45	44	43
1922	37	37	38	38	38	37	36	35	41	46	51	54	41

BUTTER—Continued.

TABLE 411.—*Butter: International trade, calendar years 1909–1921.*

[Butter includes all butter made from milk, melted and renovated butter, but does not include margarine coco butter, or ghee. See "General note," Table 161.]

Country.	Average, 1909–1913.		1919		1920		1921	
	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	113	6,934	10	44,881	.....	40,686	.....	52,187
Australia	46	77,859	37	39,006	34	92,421	.....	.....
Canada	3,388	3,973	1,464	16,509	1,105	13,361	4,018	9,133
Denmark	6,241	195,530	441	80,622	6	164,959	860	202,942
Finland	2,370	26,337	11	879	5	2,508	14	14,253
France	13,713	40,769	12,789	995	18,584	4,812	40,235	3,033
Italy	972	7,870	1,880	51	3,104	96	1,004	145
Netherlands	4,987	75,133	615	30,242	131	45,576	4,401	44,528
New Zealand	47	38,761	4	38,732	(1)	34,945	.....	100,630
Norway	976	3,137	8,201	2	8,098	5	7,558	29
Russia	2,202	150,294	.....	.....	.....	.....	.....	.....
Sweden	330	45,870	13,817	76	16,917	53	14,175	342
United States	1,647	4,125	9,519	34,556	37,454	17,488	18,558	8,015
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary	6,281	4,267	.....	.....	[2] 781	.....	[2] 452	.....
Belgium	14,024	3,125	11,176	11	18,461	127	22,665	1,338
Brazil	4,551	[3] 4	42	563	167	10	3	51
British South Africa	4,025	38	387	567	658	629	73	2,983
Dutch East Indies	4,152	.....	5,976	.....	6,793	23	6,824	.....
Egypt	2,350	[3] 166	785	246	570	204	628	149
Germany	111,441	498	.....	.....	17,227	429	.....	.....
Switzerland	11,106	44	13,250	(1)	18,140	3	15,994	10
United Kingdom	455,489	1,179	174,568	262	187,799	363	372,895	1,105
Other countries	23,563	3,380	10,596	1,811	19,356	1,748	8,883	1,007
Total	674,014	689,293	265,568	290,011	355,390	420,446	519,240	441,880

[1] Less than 500.
[2] Austria only.
[3] Two-year average.

TABLE 412.—*Butter: Monthly receipts at five markets, 1918 to 1922.*

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
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	210,300
1919	16,439	16,119	16,232	17,125	22,904	28,419	23,372	22,893	19,650	16,219	15,285	12,041	226,698
1920	11,794	11,201	12,972	7,845	13,383	20,205	21,534	18,203	14,914	12,079	10,436	10,042	164,608
1921	12,101	11,027	12,969	14,265	21,339	27,233	21,635	23,664	21,187	17,072	15,564	14,892	212,948
1922	16,191	16,475	19,256	16,238	24,723	34,583	30,715	23,085	18,209	16,885	16,016	14,801	247,177
Average	14,050	13,784	15,436	13,960	19,980	27,668	24,626	21,619	17,912	16,126	14,085	13,100	212,346
Chicago:													
1918	18,142	22,169	24,051	21,039	20,780	36,173	34,554	27,037	21,134	21,916	16,122	14,544	277,661
1919	12,324	10,177	11,458	12,891	23,168	33,373	24,627	18,556	13,156	10,758	7,722	7,569	185,779
1920	10,065	9,447	11,398	10,344	17,118	25,344	27,633	20,200	15,455	11,417	9,528	8,797	176,746
1921	10,054	9,908	12,195	14,513	21,785	28,571	21,551	21,290	14,864	14,664	11,185	13,011	193,591
1922	13,628	12,047	14,184	14,378	23,568	31,640	27,166	21,582	15,664	13,394	11,652	14,196	213,099
Average	12,843	12,750	14,657	14,633	21,284	31,020	27,106	21,733	16,055	14,430	11,242	11,623	209,375
Philadelphia:													
1918	.....	.....	2,620	2,484	3,591	4,941	4,721	4,069	3,419	3,445	2,693	2,898	[1] 34,881
1919	3,824	3,250	3,748	4,101	5,064	6,660	5,026	4,356	4,141	3,847	4,181	2,993	51,191
1920	3,264	3,520	3,398	2,964	3,980	6,237	5,850	4,773	4,698	3,771	3,010	3,165	48,630
1921	3,250	2,817	3,860	4,084	6,139	7,803	6,486	5,713	5,107	4,780	4,184	4,543	58,766
1922	5,487	4,640	4,877	4,449	6,505	8,791	6,872	5,944	4,571	4,328	4,075	4,202	64,741
Average	[2] 3,956	[2] 3,557	3,701	3,616	5,056	6,886	5,791	4,971	4,387	4,034	3,629	3,560	.....

[1] 10-months' total, March to December, inclusive. [2] 4-year average.

BUTTER—Continued.

TABLE 412.—*Butter: Monthly receipts at five markets, 1918 to 1922*—Continued.

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Boston:	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
1918	2,345	2,759	4,323	4,071	6,159	11,874	12,237	7,569	5,377	6,218	5,079	3,429	71,440
1919	4,014	3,821	3,140	4,378	9,554	14,107	13,699	7,609	5,241	3,412	2,210	2,038	73,223
1920	3,216	3,176	5,368	3,709	6,323	12,060	14,406	8,749	6,762	4,372	2,378	2,474	72,993
1921	3,722	3,752	4,147	3,881	8,045	12,536	9,433	9,357	6,994	6,296	3,282	3,093	74,538
1922	4,787	4,295	4,794	4,381	10,907	16,959	11,562	8,659	6,009	4,578	4,484	4,075	85,490
Average	3,617	3,561	4,354	4,084	8,198	13,507	12,267	8,389	6,077	4,975	3,486	3,022	75,537
San Francisco:													
1918	2,278	1,851	2,564	3,129	2,771	2,170	1,762	1,531	1,178	1,215	1,258	1,201	22,908
1919	1,266	1,479	2,014	2,792	2,979	2,434	2,202	1,832	1,094	1,337	1,333	1,269	22,031
1920	1,488	1,665	2,178	3,140	2,767	2,197	1,744	1,789	1,722	1,739	1,565	1,572	23,566
1921	1,652	1,431	1,982	2,345	2,255	2,306	2,359	2,710	2,064	2,538	2,206	1,718	25,566
1922	1,742	1,582	2,152	2,619	2,731	2,742	2,178	2,257	2,034	2,228	1,862	1,789	25,916
Average	1,685	1,602	2,178	2,805	2,701	2,370	2,049	2,022	1,618	1,812	1,645	1,510	23,997
Total 5 markets:													
1918	.....	.....	49,308	45,048	50,851	83,058	79,149	60,456	46,708	51,169	38,277	35,797	[1]539,821
1919	37,867	34,846	36,592	41,287	63,669	84,993	68,926	55,246	43,282	35,573	30,731	25,910	558,922
1920	29,827	29,009	35,314	28,002	43,571	66,043	71,167	53,714	43,551	33,378	26,917	26,050	486,543
1921	30,779	28,936	35,154	39,088	59,563	78,449	61,464	62,734	50,216	45,350	36,421	37,257	565,410
1922	41,835	39,040	45,264	42,065	68,435	94,715	78,492	61,527	46,488	41,414	38,089	39,063	636,425
Average	[2]35,077	[2]32,958	40,326	39,098	57,218	81,452	71,840	58,735	46,049	41,377	34,087	32,815	.....

[1] 10 months' total, March to December, inclusive. [2] 4-year average.

TABLE 413.—*Butter: Monthly and yearly receipts, by States, 1922.*

[000 omitted.]

BOSTON.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbb.*	*Lbs.*	*Lbs.*	*Lbs*	*Lbs.*	*Lbs.*
Illinois	491	626	906	740	2,416	4,221	2,480	1,900	696	1,346	1,420	1,505	18,747
Chicago	1,509	1,656	1,156	849	2,223	2,327	1,299	1,048	867	291	508	793	14,526
Indiana	98	30	16	10	557	795	412	116	151	88	180	101	2,554
Iowa	206	142	137	156	613	858	651	313	471	248	106	81	3,982
Kansas	.....	.....	.....	2	56	112	71	130	22	.....	8	3	404
Kentucky	4	.....	.....	.....	22	20	65	21	.....	.....	.....	.....	132
Maine	20	27	18	11	7	15	5	1	1	25	45	22	197
Maryland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	5
Massachusetts	79	15	168	108	27	135	15	46	35	32	133	77	870
Michigan	106	144	35	44	234	559	555	320	192	145	97	102	2,533
Minnesota	399	206	349	544	1,184	2,134	2,008	1,698	1,196	868	439	188	11,213
Missouri	4	2	7	4	216	196	164	87	57	45	91	11	884
Montana	.....	.....	.....	.....	.....	.....	23	.....	.....	.....	.....	.....	23
Nebraska	262	92	31	73	275	303	444	215	251	127	11	68	2,152
New Hampshire	50	37	42	26	42	39	38	38	41	57	29	28	467
New York	165	136	95	56	91	535	491	222	125	13	165	188	2,282
New York City	385	329	790	358	102	991	145	131	62	60	89	142	3,494
North Dakota	31	1	.....	25	25	54	78	24	60	2	2	(1)	302
Ohio	173	87	104	43	502	674	390	641	564	440	350	73	4,041
Oklahoma	4	.....	.....	5	87	102	29	35	13	22	(1)	22	319
Pennsylvania	22	25	22	26	10	.....	23	(1)	.....	.....	1	.....	129
Philadelphia	43	19	.....	.....	.....	.....	14	41	57	.....	.....	.....	174
South Dakota	113	105	107	203	428	356	317	241	158	60	42	3	2,133
Tennessee	4	.....	.....	1	13	.....	.....	.....	.....	.....	.....	22	40
Vermont	393	549	702	715	812	921	627	434	314	295	285	292	6,339
Wisconsin	46	62	31	89	235	448	416	364	270	98	89	67	2,215

[1] Less than 500 pounds.

BUTTER—Continued.

TABLE 413.—*Butter: Monthly and yearly receipts, by States, 1922*—Continued.

[000 omitted.]

SAN FRANCISCO.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
California	1,545	1,480	2,040	2,596	2,648	2,432	1,991	1,892	1,712	1,651	1,685	1,680	23,352
Colorado	.....	.....	.....	.....	.....	30	30	30	.....	30	.....	.....	120
Idaho	98	(1)	33	.....	2	1	23	70	101	74	.....	.....	402
Illinois	.....	.....	.....	.....	.....	.....	.....	58	.....	36	24	.....	118
Iowa	.....	.....	.....	.....	.....	.....	.....	.....	27	.....	24	.....	51
Minnesota	.....	.....	.....	.....	.....	.....	.....	30	22	22	.....	.....	74
Missouri	.....	.....	.....	.....	.....	.....	(1)	4	.....	.....	.....	.....	4
Montana	.....	.....	.....	.....	.....	.....	32	75	48	.....	.....	.....	155
Nebraska	.....	.....	.....	.....	24	22	.....	.....	.....	.....	.....	.....	46
Nevada	45	29	60	15	17	58	67	32	19	15	23	8	388
North Dakota	.....	.....	.....	.....	.....	.....	.....	.....	24	97	24	.....	145
Oregon	19	24	18	8	32	172	26	23	34	115	73	41	585
Utah	25	43	.....	.....	3	1	2	.....	.....	36	.....	26	136
Washington	10	6	1	.....	5	25	2	43	46	152	8	34	332
Wyoming	.....	.....	.....	.....	.....	1	5	(1)	1	(1)	1	.....	8

CHICAGO.

Alabama	(1)	.....	(1)	(1)	2	6	2	2	2	.....	.....	.....	14
Arkansas	.....	.....	(1)	(1)	4	5	(1)	5	.....	.....	(1)	(1)	14
California	192	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	192
Colorado	145	52	69	69	79	311	336	80	48	61	23	44	1,317
Georgia	.....	.....	.....	.....	.....	.....	(1)	.....	.....	.....	.....	.....	(1)
Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34	34
Illinois	395	255	303	334	1,174	1,208	806	798	519	617	472	584	7,465
Indiana	67	42	24	46	184	174	104	125	63	102	37	65	1,027
Iowa	2,681	2,397	2,812	2,862	4,407	5,356	3,556	3,494	3,269	2,789	3,282	3,830	40,735
Kansas	534	389	235	237	1,029	1,094	841	644	123	95	112	602	5,935
Kentucky	11	2	1	6	46	35	4	71	71	7	3	34	291
Maryland	.....	2	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	3
Michigan	108	102	114	108	184	521	236	82	26	28	39	61	1,659
Minnesota	2,502	2,558	3,098	2,696	3,831	5,036	5,713	3,285	2,565	1,994	1,871	2,334	37,483
Mississippi	2	(1)	45	24	51	97	14	4	33	1	21	7	299
Missouri	627	467	393	343	1,008	1,185	836	1,399	788	639	507	767	8,959
Montana	4	4	.....	36	6	96	91	30	25	3	1	3	299
Nebraska	1,159	1,114	835	1,452	1,718	2,489	2,737	1,616	1,117	768	731	1,222	16,958
New Mexico	.....	.....	.....	.....	.....	.....	.....	7	.....	.....	.....	.....	7
New York	.....	.....	(1)	4	23	(1)	.....	(1)	.....	.....	21	.....	48
North Dakota	159	43	130	192	360	374	565	502	279	260	115	70	3,049
Ohio	.....	23	70	140	27	162	35	55	58	112	142	50	874
Oklahoma	89	44	2	.....	285	328	511	337	1	.....	3	133	1,733
Pennsylvania	.....	4	5	(1)	5	(1)	3	.....	1	.....	1	(1)	19
South Dakota	580	475	759	548	848	1,341	1,599	1,136	597	695	498	563	9,639
Tennessee	3	2	1	2	3	5	6	2	1	1	2	6	34
Texas	7	.....	(1)	.....	28	(1)	.....	.....	.....	(1)	(1)	(1)	35
Utah	.....	.....	24	24	24	.....	.....	.....	.....	.....	.....	48	120
Wisconsin	4,329	4,067	5,263	5,258	8,241	11,815	9,168	7,907	6,072	5,194	3,768	3,691	74,773
Canada	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	47	47
New Zealand	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	29
Miscellaneous	5	5	2	4	.....	2	3	1	6	28	2	2	60

PHILADELPHIA.

Alabama	.....	.....	.....	.....	(1)	.....	.....	.....	.....	.....	(1)	.....	.....
California	231	.....	.....	38	.....	.....	.....	.....	.....	.....	.....	88	357
Delaware	30	25	22	28	36	17	8	1	18	37	11	31	258
District of Columbia	4	3	.....	.....	1	.....	.....	(1)	.....	.....	.....	1	9
Georgia	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Illinois	1,057	854	590	386	1,079	1,718	725	703	797	441	1,011	612	9,973
Indiana	277	272	232	252	608	661	561	328	345	354	217	340	4,447
Iowa	169	159	139	167	118	183	174	115	66	30	57	14	1,331
Kansas	.....	1	.....	9	6	(1)	50	4	10	.....	.....	6	86
Kentucky	4	4	5	7	31	36	35	35	.....	.....	1	1	159

[1] Less than 500 pounds.

BUTTER—Continued.

TABLE 413.—*Butter: Monthly and yearly receipts, by States, 1922*—Continued.

[000 omitted.]

PHILADELPHIA—Continued.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
Maryland	18	.....	1	2	166	43	69	2	(1)	(1)	117	35	453
Massachusetts	.....	.....	.....	.....	.....	.....	.....	.....	.....	28	37	.....	65
Michigan	103	109	83	106	165	249	172	188	106	102	85	137	1,605
Minnesota	2,083	2,021	2,432	1,912	2,083	2,579	2,684	2,376	1,654	1,565	1,407	1,798	24,594
Mississippi	.....	.....	.....	.....	43	137	60	44	34	.....	.....	.....	318
Missouri	58	17	51	28	50	55	37	53	27	33	34	68	511
Nebraska	134	89	86	131	280	177	86	157	90	121	98	228	1,677
New Hampshire	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
New Jersey	36	2	1	(1)	2	(1)	.....	(1)	.....	(1)	2	14	57
New York	167	62	188	154	91	501	261	234	135	240	103	139	2,275
North Carolina	.....	.....	.....	.....	.....	(1)	.....	1	.....	.....	.....	.....	1
North Dakota	42	1	25	28	48	87	21	1	.....	.....	.....	.....	253
Ohio	156	141	180	200	533	856	664	463	378	362	213	163	4,309
Oklahoma	.....	.....	.....	.....	.....	21	.....	3	.....	.....	2	1	27
Pennsylvania	344	356	350	300	380	365	240	267	193	438	290	174	3,697
South Carolina	.....	33	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	34
South Dakota	(1)	.....	5	.....	.....	.....	.....	1	.....	.....	.....	.....	6
Tennessee	71	43	5	31	224	297	280	309	230	178	50	36	1,754
Virginia	57	52	73	53	142	144	157	110	95	86	80	96	1,145
West Virginia	7	6	6	4	20	10	8	6	5	5	15	1	93
Wisconsin	437	390	405	424	362	655	580	379	359	244	254	221	4,710
Wyoming	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2

NEW YORK CITY.

Alabama	17	6	5	4	11	7	6	11	6	6	14	31	124
Arizona	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
California	112	.....	.....	74	.....	(1)	.....	.....	.....	.....	.....	178	364
Delaware	2	(1)	3	2	4	5	3	4	(1)	2	(1)	(1)	25
Dist. of Columbia	22	.....	(1)	.....	18	3	.....	.....	11	.....	(1)	(1)	54
Georgia	6	4	2	5	4	28	10	5	4	3	6	18	95
Illinois	2,830	2,502	3,283	2,377	3,911	5,072	3,743	2,195	2,177	1,621	2,137	1,690	33,538
Indiana	496	214	326	226	764	1,049	656	511	317	423	537	472	5,991
Iowa	2,795	2,914	3,186	2,736	4,270	5,940	5,403	4,438	3,586	3,159	2,770	2,292	43,489
Kansas	19	33	.....	12	22	117	102	74	.....	(1)	7	43	429
Kentucky	25	19	57	77	47	136	120	41	34	75	53	17	701
Maryland	2	4	3	1	8	23	76	32	134	49	41	7	380
Massachusetts	27	97	16	16	5	31	61	1	27	24	111	2	418
Michigan	584	516	447	218	795	1,045	801	582	622	444	734	425	7,213
Minnesota	4,632	5,812	6,820	5,884	7,117	10,648	11,117	8,014	6,111	5,598	4,600	4,236	80,589
Mississippi	2	2	1	1	6	27	2	2	1	1	3	6	54
Missouri	90	177	194	97	595	529	443	382	192	257	350	367	3,673
Nebraska	1,736	1,877	2,035	1,531	2,417	2,758	2,719	2,473	1,534	1,780	1,454	1,760	24,074
New Jersey	10	18	12	5	9	6	5	5	2	2	2	4	80
New York	661	673	1,221	786	1,033	1,627	988	819	696	548	278	268	9,598
North Carolina	11	11	9	4	23	20	20	30	23	24	9	11	195
North Dakota	18	17	18	6	4	97	33	40	10	3	.....	.....	246
Ohio	723	540	526	448	1,361	1,833	1,207	790	594	1,029	817	763	10,631
Pennsylvania	123	179	212	131	347	504	246	194	233	98	60	22	2,349
South Carolina	(1)	(1)	1	(1)	2	2	1	(1)	(1)	(1)	1	2	9
South Dakota	45	59	38	13	29	42	36	21	2	46	8	14	353
Tennessee	90	54	28	34	151	179	135	206	127	57	54	70	1,185
Vermont	10	5	3	1	1	(1)	1	(1)	1	.....	2	3	27
Virginia	22	34	5	14	58	135	62	63	90	83	54	32	652
West Virginia	(1)	.....	.....	(1)	3	4	2	1	1	1	1	3	16
Washington	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	28	29
Wisconsin	664	671	671	663	1,085	1,742	1,865	1,501	1,188	1,017	881	855	12,803
Canada	387	33	35	.....	.....	29	.....	.....	.....	58	566	720	1,828

[1] Less than 500 pounds.

BUTTER—Continued.

TABLE 414.—*Cold storage holdings of creamery butter in United States, 1916 to 1922.*

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1916	48,977	31,139	15,033	3,346	1,082	7,017	53,863	102,537	105,836	100,522	85,260	67,292
1917	46,134	30,474	16,952	6,805	3,607	9,953	49,982	88,992	108,179	109,154	100,115	79,928
1918	50,726	26,618	18,808	14,629	9,536	12,698	49,140	88,305	99,334	87,883	80,874	65,111
1919	43,910	36,777	24,191	11,909	9,659	29,435	90,158	123,546	131,388	121,816	100,474	73,654
1920	53,737	38,359	22,568	12,555	7,554	12,872	52,526	101,455	115,558	113,385	101,778	79,750
Average	48,697	32,673	19,510	9,849	6,288	14,395	59,134	100,967	112,059	106,552	93,700	73,147
1921	58,682	41,486	27,103	14,732	7,712	21,682	61,991	82,838	92,292	90,116	77,983	65,129
1922	48,412	35,047	22,582	9,113	3,830	13,202	67,410	103,151	112,039	96,680	73,857	47,773

OLEOMARGARINE.

TABLE 415.—*Oleomargarine: Yearly production, United States, 1918 to 1922.*[1]

[Pounds, net, 000 omitted.]

Year.	Uncolored.			Colored.			Total.
	Animal and vegetable oil.	Exclusively vegetable oil.	Exclusively animal oil.	Animal and vegetable oil.	Exclusively vegetable oil.	Exclusively animal oil.	
1918	255,197	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	161,636	190,280	3,843	8,951	5,359	94	370,163
1921	103,962	99,265	624	5,960	2,026	30	211,867
1922	104,284	74,128	302	4,977	1,383	1	185,075
1922.							
January	8,812	7,159	.....	464	138	.....	16,574
February	8,374	5,793	.....	392	92	.....	14,650
March	8,977	6,294	56	471	116	1	15,916
April	7,649	6,054	.....	400	100	.....	14,202
May	8,210	5,102	19	389	104	.....	13,825
June	7,409	4,471	34	315	84	.....	12,312
July	7,534	4,413	13	331	80	.....	12,370
August	7,712	4,803	27	331	88	.....	12,962
September	8,322	5,361	33	388	94	.....	14,198
October	10,002	7,283	48	418	136	.....	17,887
November	10,401	8,279	34	507	146	.....	19,367
December	10,832	9,116	38	571	205	.....	20,812

[1] Bureau of Agricultural Economics.

TABLE 416.—*Production of oleomargarine.*[1]

[Pounds, net, 000 omitted.]

COLORED.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total year ended June 30.
1908	.....	.....	.....	.....	.....	.....	[2] 393	334	360	468	463	587	.....
1909	526	497	586	543	507	447	381	434	487	519	521	634	5,710
1910	525	518	619	595	542	403	414	433	469	474	610	587	6,177
1911	524	501	606	464	389	362	359	454	393	477	539	594	5,831
1912	663	629	614	588	538	387	449	394	439	530	501	616	6,236
1913	602	618	638	701	586	446	477	494	532	635	606	615	6,520
1914	610	503	608	477	433	395	422	509	488	480	472	583	6,384
1915	807	1,082	1,131	598	526	497	472	436	443	548	557	597	7,595
1916	561	569	684	677	652	554	447	569	643	719	741	759	6,749
1917	703	628	741	738	731	592	496	512	573	677	542	521	8,012
1918	508	470	615	582	587	511	408	433	538	608	551	747	6,595
1919	1,111	1,642	2,242	2,716	1,930	921	1,705	1,807	681	1,087	1,719	1,626	13,849
1920	1,540	960	1,250	1,139	1,114	996	934	1,019	1,484	1,378	1,368	1,046	15,624
1921	936	816	949	823	518	328	424	500	577	692	693	656	11,600
1922	556	481	595	498	513	418	.....	.....	.....	.....	.....	.....	.....

[1] Data from Bureau of Internal Revenue. [2] Published monthly reports began in July, 1908.

OLEOMARGARINE—Continued.

TABLE 416.—*Production of oleomargarine*—Continued.

[Pounds, net, 000 omitted.]

UNCOLORED.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total year ended June 30.
1908	.....	.....	.....	.....	.....	.....	[2] 4,394	4,669	5,812	7,907	8,266	8,462	.....
1909	8,470	8,452	9,697	7,976	6,707	5,759	5,499	6,386	9,869	12,497	13,313	15,314	86,573
1910	15,516	12,639	13,456	12,748	10,175	8,334	6,902	9,307	12,702	12,628	13,823	13,002	135,685
1911	10,885	8,936	9,676	6,866	5,424	5,182	4,788	6,701	7,816	9,245	11,228	12,652	115,332
1912	15,639	13,738	11,654	10,988	10,629	7,287	6,785	8,526	9,397	13,807	12,623	14,802	122,365
1913	13,199	13,213	13,139	13,892	11,036	8,288	7,947	8,754	12,790	14,786	13,777	14,277	138,707
1914	14,485	12,889	12,317	9,724	8,305	7,587	7,847	9,502	12,036	13,120	13,310	14,063	137,637
1915	12,516	12,371	12,910	10,785	10,319	9,436	8,711	9,183	10,492	12,394	11,782	13,380	138,215
1916	11,993	13,035	15,243	13,974	13,746	11,830	8,949	11,272	15,516	19,246	21,899	23,287	145,761
1917	18,272	19,593	22,129	22,740	24,314	17,943	16,490	19,519	26,181	33,374	29,009	30,227	225,158
1918	32,496	35,855	31,512	22,912	23,410	18,949	19,887	17,959	28,428	43,543	32,434	36,662	319,934
1919	40,166	19,741	27,431	31,448	29,135	18,533	22,701	25,168	26,424	34,357	35,502	39,005	345,368
1920	35,313	31,701	36,337	30,667	34,760	23,726	23,625	25,516	29,900	29,918	29,089	24,705	375,659
1921	22,630	20,773	22,532	18,685	13,538	8,572	10,581	16,612	16,920	20,588	17,986	17,754	269,481
1922	15,610	14,139	15,375	13,432	13,356	11,994	.....	.....	.....	.....	.....	.....	.....

[2] Published monthly reports began in July, 1908.

TABLE 417.—*Oleomargarine: Materials used in manufacture, 1916–1922, in pounds.*[1]

[000 omitted.]

Material.	1916	1917	1918	1919	1920	1921	1922
Oleo oil	68,989	96,652	96,378	97,464	89,842	49,676	40,980
Coconut oil	563	19,763	61,773	69,640	80,784	103,112	57,394
Cottonseed oil	49,960	63,652	36,454	37,846	39,450	18,533	15,420
Milk	21,331	24,410	61,128	68,000	76,000	79,716	53,939
Peanut oil	5,335	10,498	21,593	38,764	48,346	16,332	11,625
Salt	4,088	6,115	18,279	21,432	24,864	25,365	16,262
Oleo stearine	2,036	2,494	3,427	2,456	2,132	4,858	4,574
Neutral lard	33,446	42,401	45,702	45,764	38,456	29,268	27,057
Oleo stock	397	3,458	7,526	6,342	5,904	2,065	2,143
Butter	2,152	3,303	4,548	5,680	6,845	1,499	1,107
Vegetable oil	.....	.....	.....	.....	.....	6,559	.....
Corn oil	147	859	60	40	35	926	.....
Soya-bean oil	.....	.....	.....	.....	.....	461	.....
Edible tallow	.....	.....	.....	.....	.....	233	.....
Mustard-seed oil	.....	.....	.....	.....	.....	110	.....
Mutton oil	.....	149	14	11	14	.....	.....
Coloring	.....	.....	.....	.....	.....	26	11
Miscellaneous	.....	.....	.....	.....	.....	3,217	3,417
Total	188,444	273,754	356,882	393,439	412,572	341,956	233,929

[1] 1916–1920 Institute Margarine Manufacturers. 1921–22, Internal Revenue.

BUTTER.

TABLE 418.—*Butter and cheese: Monthly production, United States, 1917–1922.*

[000 omitted.]

CREAMERY BUTTER.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
1917	43,097	38,459	47,371	53,809	75,108	98,898	94,151	83,936	76,744	56,176	42,705	48,157	759,511
1918	44,357	42,389	49,086	57,332	85,564	104,385	97,440	85,148	72,397	63,886	45,741	45,560	793,285
1919	52,189	44,343	54,822	67,487	103,941	119,357	104,156	84,458	68,815	58,723	45,041	46,662	849,994
1920	49,044	46,355	56,303	60,622	86,845	114,695	110,844	90,669	77,106	65,129	53,570	52,395	863,577
1921	58,906	56,556	67,677	82,763	119,077	130,633	111,898	111,638	89,932	84,374	70,024	71,460	1,054,938
Average	49,699	45,620	55,052	64,403	94,107	113,594	103,698	91,170	76,999	65,658	51,416	52,847	864,261
1922	71,745	65,764	77,521	83,881	128,554	145,766	129,431	108,727	87,756	.....	.....	.....	.....

AMERICAN CHEESE.

1917	8,519	9,415	11,918	17,577	28,932	38,796	35,296	32,248	37,613	22,303	14,262	8,070	264,949
1918	8,143	7,860	11,992	17,931	31,285	40,184	34,332	29,996	25,424	18,862	12,172	9,097	247,278
1919	10,956	11,855	19,009	21,642	34,849	44,509	35,465	30,940	26,257	23,114	13,107	10,044	281,837
1920	10,457	11,509	14,954	18,856	29,832	41,376	34,313	26,787	22,935	20,054	13,308	10,303	254,684
1921	11,889	12,857	17,678	23,521	34,556	36,444	26,977	27,652	23,612	21,496	13,426	11,618	261,726
Average	9,993	10,699	15,110	19,905	31,891	40,280	33,277	29,525	27,168	21,166	13,255	9,826	262,095
1922	11,870	12,871	17,158	18,887	27,610	32,156	30,120	26,484	22,990	.....	.....	.....	.....

CHEESE.

TABLE 419.—*Cheese: Monthly and yearly average price per pound. New York, 1910 to 1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average.
1910	$0.17	$0.17	$0.17	$0.17	$0.14	$0.14	$0.15	$0.15	$0.15	$0.15	$0.15	$0.16	$0.16
1911	.15	.15	.14	.14	.11	.11	.12	.12	.14	.14	.15	.16	.14
1912	.16	.17	.18	.19	.15	.14	.15	.16	.16	.18	.17	.17	.16
1913	.17	.17	.16	.15	.13	.14	.14	.15	.16	.16	.16	.16	.15
1914	.17	.16	.18	.16	.14	.15	.15	.16	.16	.15	.15	.15	.16
Average	.16	.16	.17	.16	.13	.14	.14	.15	.15	.16	.16	.16	.15
1915	.15	.16	.16	.16	.17	.15	.15	.13	.14	.15	.16	.17	.15
1916	.17	.18	.18	.18	.18	.15	.15	.17	.19	.21	.23	.24	.19
1917	.24	.25	.26	.26	.26	.23	.24	.23	.25	.25	.23	.24	.24
1918	.24	.26	.24	.23	.24	.23	.25	.26	.28	.33	.32	.35	.27
1919	.35	.30	.32	.31	.32	.32	.33	.31	.31	.31	.32	.32	.32
Average	.23	.23	.23	.23	.23	.22	.22	.22	.23	.25	.25	.26	.23
1920	.32	.30	.29	.30	.30	.28	.27	.27	.28	.28	.28	.28	.29
1921	.24	.21	.25	.22	.17	.16	.19	.21	.21	.22	.21	.21	.21
1922	.21	.20	.20	.18	.17	.19	.21	.21	.21	.....	.....	.....	.20

CHEESE—Continued.

TABLE 420.—*Cheese: Monthly receipts at four markets, 1918 to 1922.*

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
New York:	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
1918	.....	.....	.....	2,844	3,899	5,950	6,687	4,956	3,670	5,123	3,833	4,156	41,118
1919	3,479	3,173	4,393	5,114	7,008	7,075	6,972	5,428	7,121	3,367	4,621	4,294	62,045
1920	3,337	2,431	3,803	1,398	4,693	6,152	5,703	5,278	3,483	3,208	3,755	3,762	47,003
1921	3,274	3,337	2,883	4,068	6,003	5,857	6,655	4,772	4,308	4,415	3,657	2,753	51,982
1922	2,738	2,775	4,063	4,467	5,047	6,376	5,379	4,642	3,942	3,866	3,607	3,207	50,109
Chicago:													
1918	.....	.....	.....	5,549	4,958	7,614	8,536	6,675	6,016	5,535	4,634	5,019	54,536
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
1920	5,328	5,100	7,069	5,067	7,744	11,194	9,183	6,599	5,707	6,255	6,795	5,556	81,597
1921	6,042	5,423	7,147	6,840	9,290	9,832	7,111	6,930	6,734	8,091	6,147	6,261	85,848
1922	5,940	6,139	8,093	7,875	10,262	11,384	10,121	10,669	9,419	10,452	8,893	8,477	107,724
Philadelphia:													
1918	.....	.....	.....	629	1,228	1,148	2,315	1,389	939	1,261	706	877	10,492
1919	539	881	1,529	1,654	1,965	2,227	2,152	1,704	1,740	2,887	2,930	1,185	21,393
1920	873	1,040	1,489	626	1,743	2,104	1,657	2,189	1,362	1,130	1,431	1,221	16,865
1921	1,116	1,064	1,280	1,396	2,223	2,602	2,490	2,311	2,086	1,920	1,369	1,094	20,951
1922	1,144	1,120	1,506	1,523	1,750	1,827	1,846	1,887	1,815	2,101	1,738	1,067	19,324
Boston:													
1918	.....	.....	.....	453	1,462	2,559	2,305	1,721	972	779	574	365	11,190
1919	351	517	1,100	1,088	2,000	2,374	2,897	2,091	1,422	1,859	1,231	791	17,721
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	1,461	1,410	1,104	910	587	13,521
Total 4 markets:													
1918	.....	.....	.....	9,475	11,547	17,271	19,843	14,741	11,597	12,698	9,747	10,417	117,336
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	10,158	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

TABLE 421.—*Cheese: Monthly and yearly receipts by States, 1922.*

[000 omitted.]

BOSTON.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
Illinois	20	65	50	91	46	126	112	116	40	180	39	74	959
Chicago	49	38	55	70	122	95	122	104	154	128	175	59	1,171
Indiana	.....	.....	.....	.....	.....	.....	.....	.....	(1)	.....	28	27	55
Iowa	.....	.....	.....	.....	.....	.....	2	2	.....	8	(1)	2	14
Maine	(1)	1	(1)	2	(1)	2	.....	2	(1)	(1)	(1)	3	10
Massachusetts	1	1	1	(1)	(1)	(1)	2	1	1	23	1	.....	31
Michigan	.....	23	1	.....	6	54	93	40	(1)	43	65	11	296
Minnesota	.....	.....	.....	.....	1	.....	.....	.....	5	.....	.....	1	7
New Hampshire	7	10	5	5	1	3	1	7	7	10	10	13	79
New York	171	214	297	405	385	1,022	889	684	722	377	209	175	5,550
New York City	123	143	147	47	59	142	142	96	61	122	111	74	1,267
Ohio	.....	(1)	.....	22	.....	6	.....	1	1	3	(1)	.....	33
Pennsylvania	10	11	10	13	6	10	10	9	11	9	13	5	117
Philadelphia	5	3	4	.....	.....	.....	.....	2	(1)	7	7	5	33
Vermont	3	26	29	39	102	58	60	55	56	12	21	11	472
Wisconsin	17	48	59	309	384	702	486	291	299	170	227	123	3,115
Canada	.....	.....	3	.....	23	.....	42	49	48	44	(1)	.....	209

[1] Less than 500 pounds.

CHEESE—Continued.

TABLE 421.—*Cheese: Monthly and yearly receipts, by States, 1922*—Continued.

[000 omitted.]

NEW YORK CITY.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
Colorado	.....	.....	.....	.....	.....	(1)	1	.....	.....	39	.....	.....	40
District of Columbia	1	3	(1)	(1)	.....	(1)	.....	(1)	.....	.....	1	2	7
Illinois	505	490	481	577	653	686	470	808	410	567	659	691	6,997
Indiana	(1)	1	51	16	.....	22	.....	(1)	25	22	46	(1)	183
Iowa	1	.....	.....	8	.....	.....	.....	(2)	54	29	.....	1	93
Kansas	.....	.....	.....	.....	.....	1	.....	(1)	.....	.....	.....	25	26
Maryland	(1)	4	(1)	1	1	(1)	1	.....	5	2	(1)	(1)	14
Massachusetts	12	5	65	22	4	3	16	1	2	14	31	14	189
Michigan	58	38	82	30	5	63	90	28	30	38	1	43	506
Minnesota	1	(1)	42	2	26	133	125	162	.....	1	1	1	494
Missouri	.....	1	26	4	.....	74	32	120	.....	58	.....	(1)	315
Nebraska	.....	.....	.....	.....	(1)	.....	(1)	(1)	23	.....	.....	.....	23
New Jersey	.....	.....	(1)	2	1	18	1	1	(1)	3	(1)	20	46
New York	1,556	1,368	2,041	1,919	2,489	2,530	2,142	1,493	1,756	1,866	1,513	1,098	21,771
Ohio	64	76	14	29	76	86	132	41	22	47	45	(1)	632
Pennsylvania	140	83	241	168	86	88	97	58	62	47	63	48	1,181
Tennessee	(1)	.....	.....	.....	.....	.....	.....	74	.....	.....	.....	.....	74
Vermont	13	.....	24	(1)	22	26	.....	.....	.....	.....	11	1	97
Virginia	(1)	.....	1	(1)	(1)	1	(1)	(1)	(1)	.....	(1)	3	5
Washington	(1)	1	(1)	1	(1)	50	2	.....	.....	(1)	.....	.....	54
Wisconsin	364	700	916	1,546	1,465	2,304	2,112	1,780	1,496	1,111	1,233	1,073	16,100
Canada	3	2	71	141	219	261	158	75	57	22	(1)	181	1,190

PHILADELPHIA.

Connecticut	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	(1)	.....	.....
Delaware	.....	.....	.....	7	(1)	(1)	.....	.....	.....	.....	2	3	12
District of Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	15
Illinois	112	85	253	188	225	322	278	277	258	377	356	225	2,956
Indiana	2	5	3	1	(1)	25	.....	31	28	.....	.....	.....	95
Iowa	.....	(1)	(1)	(1)	2	.....	.....	3	7	8	4	1	25
Kentucky	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Maryland	.....	.....	.....	1	(1)	.....	.....	.....	.....	.....	.....	3	4
Massachusetts	.....	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	.....	8
Michigan	.....	.....	(1)	.....	.....	.....	.....	82	11	22	(1)	(1)	115
Minnesota	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Missouri	.....	1	.....	.....	(1)	.....	.....	.....	.....	.....	.....	.....	1
New Jersey	4	(1)	(1)	1	2	.....	1	(1)	.....	.....	1	5	14
New York	363	310	442	349	238	281	315	344	656	642	406	315	4,661
Ohio	32	2	11	(1)	22	.....	.....	28	(1)	(1)	128	.....	223
Pennsylvania	106	141	76	45	55	13	25	15	13	9	2	17	517
Virginia	.....	.....	(1)	(1)	(1)	.....	(1)	(1)	.....	.....	.....	(1)	.....
West Virginia	.....	.....	.....	.....	(1)	.....	.....	.....	.....	.....	.....	30	30
Wisconsin	525	576	721	922	1,198	1,186	1,227	1,107	842	1,043	839	452	10,638
Canada	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	8

[1] Less than 500 pounds. [2] 500 pounds.

CHEESE—Continued.

TABLE 421.—*Cheese: Monthly and yearly receipts by States, 1922*—Continued.

[000 omitted.]

CHICAGO.

States.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
California	.....	.....	.....	.....	.....	27	.....	.....	.....	.....	30	.....	57
Colorado	5	4	2	7	5	(1)	4	5	6	47	8	11	104
Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19	19
Illinois	196	214	286	209	284	532	373	508	378	440	347	244	4,011
Indiana	1	7	1	1	1	2	4	(1)	1	(1)	1	3	22
Iowa	35	33	23	32	64	96	103	162	47	60	19	136	810
Kentucky	(1)	(1)	.....	.....	10	.....	(1)	.....	1	(1)	.....	2	13
Massachusetts	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	.....	.....	13
Michigan	71	75	224	180	203	203	110	79	83	51	92	44	1,415
Minnesota	239	101	309	206	149	105	160	180	99	145	132	135	1,960
Missouri	127	6	8	.....	2	10	1	(1)	12	2	1	53	222
Montana	.....	2	.....	.....	24	(1)	.....	.....	.....	.....	.....	.....	26
Nebraska	(1)	.....	.....	5	(1)	1	(1)	(1)	.....	.....	(1)	(1)	6
New Jersey	.....	.....	45	.....	.....	.....	.....	.....	.....	.....	.....	.....	45
New York	43	209	159	86	609	262	308	105	135	140	199	136	2,391
Ohio	7	27	26	3	35	2	1	16	2	81	51	50	301
Oklahoma	1	(1)	(1)	.....	.....	(1)	4	1	(1)	.....	(1)	.....	6
Pennsylvania	1	8	9	14	42	17	53	28	23	23	68	22	308
South Dakota	.....	9	.....	3	(1)	2	.....	.....	.....	.....	.....	3	17
Texas	5	4	.....	.....	(1)	(1)	.....	(1)	.....	.....	.....	(1)	9
Utah	3	.....	.....	.....	.....	.....	3	2	.....	.....	.....	.....	8
Wisconsin	5,209	5,439	6,952	7,116	8,829	10,097	8,993	9,582	8,601	9,423	7,876	7,548	95,656
Canada	.....	.....	42	(1)	.....	25	.....	.....	26	23	66	68	250

SAN FRANCISCO.

California	219	262	234	247	349	381	305	338	380	205	235	261	3,416
Colorado	10	20	18	44	60	42	39	23	25	16	17	8	322
Idaho	28	48	2	23	26	.....	7	33	5	21	3	26	222
Illinois	63	64	109	115	40	40	1	5	1	124	133	160	855
Massachusetts	.....	.....	.....	.....	.....	.....	.....	.....	(1)	.....	.....	.....	.....
Michigan	.....	.....	.....	(1)	1	(1)	(1)	.....	.....	.....	.....	.....	1
Missouri	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	.....	.....	25
Montana	.....	.....	.....	.....	.....	.....	.....	.....	.....	24	.....	32	56
Nevada	.....	2	2	2	4	.....	2	.....	6	.....	.....	.....	18
New Mexico	.....	.....	(1)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York	1	(1)	1	2	1	3	163	4	71	28	40	.....	314
Ohio	.....	.....	.....	.....	.....	.....	.....	28	.....	.....	.....	.....	28
Oregon	170	102	38	169	284	367	262	341	237	280	55	143	2,448
Pennsylvania	.....	.....	.....	.....	.....	(1)	.....	.....	.....	.....	.....	.....	.....
Texas	(1)	(1)	(1)	(1)	.....	.....	.....	.....	.....	.....	.....	.....	.....
Utah	.....	9	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	10
Washington	(1)	(1)	.....	12	9	5	7	35	2	1	31	6	108
Wisconsin	12	127	69	74	123	124	115	341	148	76	37	97	1,353
Wyoming	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2

[1] Less than 500 pounds.

CHEESE—Continued.

TABLE 422.—*Cold storage holdings of cheese in United States, 1916 to 1922.*

AMERICAN CHEESE.

[000 omitted.]

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.*
1916	28,558	18,908	13,373	8,443	6,546	7,301	16,357	31,569	46,776	49,579	45,713	37,080
1917	31,855	22,113	15,560	9,842	7,928	11,626	34,159	67,595	91,545	90,671	78,087	75,166
1918	66,784	56,298	37,743	27,965	17,736	20,395	30,054	48,804	55,742	42,065	33,402	25,625
1919	19,823	15,486	9,837	6,750	6,027	12,478	37,501	62,645	76,661	81,359	72,889	62,508
1920	53,168	43,631	34,039	23,431	16,963	13,502	29,654	51,512	60,372	55,007	48,566	39,921
Average	40,038	31,287	22,110	15,286	11,040	13,060	29,545	52,425	66,219	63,736	55,731	48,060
1921	34,115	25,000	17,477	14,294	13,466	17,814	34,948	41,284	46,635	45,163	42,969	34,055
1922	27,691	21,430	15,006	10,745	10,868	15,481	33,130	46,580	53,625	49,473	40,852	37,291

ALL CHEESE OTHER THAN AMERICAN.

1917									3,916	3,750	3,336	3,347
1918	2,836	2,197	2,093	2,613	2,202	2,692	5,171	7,988	13,229	12,734	10,963	11,848
1919	10,402	10,263	8,771	8,352	8,810	10,813	13,905	15,749	15,928	15,234	15,091	13,906
1920	11,526	10,785	9,617	8,713	8,642	9,839	14,849	18,522	19,886	19,975	20,526	18,879
1921	17,053	15,207	12,979	10,613	10,474	10,639	12,668	15,034	16,268	17,203	16,536	14,948
1922	13,904	11,571	10,471	8,594	8,112	8,588	10,412	11,183	13,250	13,450	12,963	11,329

TABLE 423.—*Cheese: International trade, calendar years 1909–1921.*

[Cheese includes all cheese made from milk; "cottage cheese," of course, is included. See "General note," Table 161.]

Country.	Average, 1909–1913.		1919		1920		1921	
	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.*
Bulgaria	[1] 63	5,584						
Canada	1,054	167,260	253	107,633	480	142,768	908	137,180
Italy	13,308	60,560	11,151	1,810	5,893	2,790	1,780	16,664
Netherlands	522	127,379	42	27,372	489	99,738	802	115,279
New Zealand	3	55,561	31	176,099	18	136,870		153,304
Russia	3,911	7,011						
Switzerland	7,150	70,075	996	1,369	4,368	3,202	1,894	10,596
PRINCIPAL IMPORTING COUNTRIES.								
Algeria	6,592	138	2,671	58	5,126	150	5,777	
Argentina	10,447	[2] 6	209	19,562		22,249		12,513
Australia	360	799	29	7,516	72	9,530		
Austria-Hungary	12,298	966			[3] 7,698		[3] 7,342	
Belgium	31,771	354	16,548	179	28,091	7,307	34,331	1,752
Brazil	4,178	[2] 1	210	6	1,224	4	148	8
British South Africa	5,169	4	45	1,580	1,235	343	45	441
Cuba	4,520	7	2,923	([4])	5,554	([4])		
Denmark	1,414	527	385	5,725	132	21,281	542	27,648
Egypt	8,182	[5] 48	186	59	1,657	48	3,452	165
France	49,056	26,880	15,238	6,159	25,289	15,130	40,032	17,014
Germany	48,687	1,967			50,344	173		
Spain	5,032	53	557	705	3,748	354	4,504	689
United Kingdom	257,407	950	236,362	111	305,832	454	312,783	479
United States	46,346	5,142	11,332	14,160	15,994	16,292	26,866	11,772
Other countries	17,947	6,852	12,529	385	16,481	6,433	8,065	5,758
Total	535,417	538,124	311,697	370,488	479,725	485,206	449,271	511,262

[1] Two-year average.
[2] Four-year average.
[3] Austria only.
[4] Less than 500
[5] One year only.

EGGS.

TABLE 424.—*Eggs: Farm price, cents per dozen, 1st of month, 1909–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1909	.....	25.8	20.1	16.8	17.8	18.4	18.5	19.2	20.2	22.1	24.8	28.4
1910	30.5	28.9	22.9	18.6	18.6	18.3	18.2	17.6	19.4	22.4	25.3	29.0
1911	30.4	22.1	16.5	14.9	14.7	14.5	14.2	15.5	17.4	20.0	23.5	28.7
1912	29.5	29.1	24.5	17.8	17.1	16.7	16.7	17.4	19.1	22.0	25.9	29.7
1913	26.8	22.8	19.4	16.4	16.1	16.9	17.0	17.2	19.5	23.4	27.4	33.0
1914	30.7	28.4	24.2	17.6	16.8	17.3	17.6	18.2	21.0	23.5	25.3	29.7
1915	31.6	29.2	21.3	16.6	17.1	16.6	16.8	17.0	18.7	22.3	26.3	30.6
1916	30.6	26.8	21.2	17.9	18.1	19.0	19.7	20.7	23.3	28.1	32.2	38.1
1917	37.7	35.8	33.8	25.9	30.0	31.1	28.3	29.8	33.2	37.4	39.4	43.3
1918	46.3	49.4	40.4	31.2	31.0	29.8	30.7	34.4	36.4	41.6	47.2	55.0
1919	57.2	48.3	33.1	34.3	36.8	38.6	36.8	39.3	41.0	44.7	54.0	61.9
1920	64.8	56.9	46.6	38.8	37.4	37.0	36.7	40.0	44.2	50.1	56.9	65.0
1921	61.1	49.6	29.2	20.4	20.2	19.4	22.0	26.6	30.4	34.2	44.2	51.1
1922	44.9	32.0	25.4	19.9	21.0	21.2	20.4	20.5	22.7	30.5	37.6	46.1
Av., 1913–1922	43.2	37.9	29.5	23.9	24.4	24.7	24.6	26.4	29.0	33.6	39.0	45.4

TABLE 425.—*Eggs: Monthly and yearly average price per dozen at certain cities, 1910–1922.*

WESTERN FIRSTS, AT BOSTON.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly 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
Average	.30	.27	.21	.20	.20	.19	.19	.21	.24	.27	.33	.34	.25
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	.53
Average	.48	.40	.31	.31	.32	.31	.33	.34	.38	.44	.51	.57	.39
1920	.71	.60	.48	.45	.45	.43	.45	.50	.55	.62	.76	.80	.57
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

FRESH FIRSTS, AT NEW YORK.

1910	$0.38	$0.27	$0.23	$0.22	$0.21	$0.20	$0.18	$0.21	$0.24	$0.26	$0.31	$0.34	$0.25
1911	.28	.19	.17	.17	.17	.15	.17	.18	.21	.24	.32	.35	.22
1912	.34	.36	.22	.20	.19	.19	.20	.21	.24	.26	.31	.29	.25
1913	.24	.22	.19	.19	.20	.19	.19	.23	.27	.29	.39	.36	.25
1914	.33	.29	.26	.20	.20	.21	.21	.24	.26	.27	.35	.38	.27
Average	.31	.27	.21	.20	.19	.19	.19	.21	.24	.26	.34	.34	.25
1915	.38	.26	.20	.21	.20	.20	.20	.22	.26	.30	.35	.34	.26
1916	.31	.26	.22	.22	.22	.23	.25	.29	.33	.34	.41	.46	.30
1917	.46	.45	.31	.34	.35	.33	.34	.38	.41	.41	.49	.57	.40
1918	.65	.58	.38	.35	.35	.36	.41	.43	.47	.53	.65	.67	.49
1919	.62	.44	.44	.43	.46	.44	.46	.48	.51	.62	.69	.79	.53
Average	.48	.40	.31	.31	.32	.31	.33	.36	.40	.44	.52	.57	.40
1920	.71	.59	.48	.44	.44	.43	.47	.51	.57	.64	.77	.78	.57
1921	.67	.42	.31	.27	.25	.27	.33	.35	.39	.49	.58	.54	.41
1922	.41	.38	.25	.26	.27	.25	.24	.26	.39	.43	.53	.53	.35

EGGS—Continued.

TABLE 425.—*Eggs: Monthly and yearly average price per dozen at certain cities, 1910–1922*—Continued.

WESTERN EXTRA FIRSTS AT PHILADELPHIA.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average.
1910	$0.36	$0.29	$0.23	$0.22	$0.22	$0.21	$0.22	$0.24	$0.26	$0.29	$0.33	$0.37	$0.27
1911	.28	.21	.18	.18	.18	.17	.18	.20	.23	.27	.34	.33	.23
1912	.34	.36	.23	.21	.20	.21	.22	.23	.26	.30	.34	.31	.27
1913	.26	.23	.19	.19	.21	.21	.22	.27	.30	.33	.39	.37	.26
1914	.34	.28	.27	.20	.21	.22	.22	.26	.28	.30	.35	.40	.28
Average	.32	.27	.22	.20	.20	.20	.21	.24	.27	.30	.35	.36	.26
1915	.39	.27	.20	.21	.20	.20	.20	.23	.27	.32	.39	.36	.27
1916	.31	.26	.23	.22	.23	.24	.26	.29	.33	.36	.41	.45	.30
1917	.47	.45	.31	.35	.36	.35	.36	.39	.42	.42	.48	.56	.41
1918	.62	.61	.37	.37	.36	.39	.43	.46	.50	.56	.67	.69	.50
1919	.63	.44	.41	.44	.47	.46	.51	.52	.54	.65	.73	.80	.55
Average	.48	.41	.30	.32	.32	.33	.35	.38	.41	.46	.54	.57	.41
1920	.73	.62	.48	.44	.45	.47	.50	.54	.60	.67	.81	.80	.59
1921	.66	.43	.32	.28	.25	.28	.35	.39	.41	.53	.64	.57	.43
1922	.42	.40	.26	.27	.27	.27	.26	.27	.39	.48	.59	.55	.37

FRESH FIRSTS AT CHICAGO.

1910	$0.34	$0.26	$0.21	$0.20	$0.19	$0.18	$0.16	$0.18	$0.22	$0.24	$0.28	$0.30	$0.23
1911	.26	.18	.16	.15	.15	.13	.14	.16	.18	.21	.28	.29	.19
1912	.33	.32	.21	.19	.18	.17	.18	.19	.22	.24	.26	.25	.23
1913	.24	.21	.18	.18	.18	.18	.17	.21	.24	.26	.33	.33	.23
1914	.32	.27	.22	.18	.19	.18	.19	.21	.22	.23	.28	.32	.23
Average	.30	.25	.20	.18	.18	.17	.17	.19	.22	.24	.29	.30	.22
1915	.34	.25	.18	.19	.18	.17	.17	.19	.23	.26	.29	.29	.23
1916	.29	.24	.19	.20	.21	.21	.22	.24	.28	.31	.36	.39	.26
1917	.41	.42	.28	.32	.34	.31	.32	.34	.37	.37	.43	.48	.37
1918	.58	.51	.35	.33	.32	.32	.37	.38	.43	.50	.61	.62	.44
1919	.58	.38	.39	.40	.43	.40	.42	.42	.46	.57	.63	.73	.48
Average	.44	.36	.28	.29	.30	.28	.30	.31	.35	.40	.46	.50	.36
1920	.65	.52	.45	.41	.41	.39	.42	.47	.53	.57	.68	.71	.52
1921	.60	.35	.27	.24	.22	.24	.28	.30	.33	.44	.52	.51	.36
1922	.37	.32	.23	.23	24	.22	.21	.22	.29	.35	.48	.48	.30

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	.40	.27	.20	.22	.23	.24	.28	.33	.40	.47	.48	.46	.33
Average	.33	.25	.20	.21	.22	.24	.27	.32	.39	.47	.52	.41	.32
1915	.31	.23	.21	.22	.23	.23	.25	.31	.36	.46	.51	.41	.31
1916	.33	.26	.20	.22	.23	.25	.27	.33	.39	.47	.50	.40	.32
1917	.38	.32	.26	.31	.34	.31	.35	.43	.46	.53	.57	.52	.40
1918	.63	.46	.39	.40	.40	.43	.48	.55	.62	.75	.82	.80	.56
1919	.61	.41	.42	.48	.52	.52	.54	.59	.69	.78	.87	.78	.60
Average	.45	.34	.30	.33	.34	.35	.38	.44	.50	.60	.65	.58	.44
1920	.64	.49	.44	.44	.46	.47	.57	.60	.72	.83	.87	.78	.61
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

EGGS—Continued.

TABLE 426.—*Eggs: Monthly and yearly receipts, in cases, by States, 1922.*

[000 omitted.]

BOSTON.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Illinois	14	27	62	153	125	88	57	39	24	27	20	20	656
Chicago, Ill	15	8	6	3	1	2	1	2	1	2	2	10	53
Indiana	12	18	42	99	58	28	14	8	8	14	11	8	320
Iowa	5	9	15	18	21	16	15	11	13	12	4	3	142
Kansas	14	17	16	11	3	3	2	1	3	10	1	2	83
Kentucky	.....	(1)	4	10	6	(1)	.....	(1)	.....	.....	(1)	(1)	20
Maine	7	8	11	12	12	8	9	7	6	6	6	7	99
Massachusetts	2	3	1	1	1	2	1	4	1	1	5	2	24
Michigan	.....	(1)	2	7	10	4	3	4	4	3	3	2	42
Minnesota	.....	(1)	1	16	30	28	14	8	8	3	(1)	(1)	108
Missouri	11	14	16	22	9	7	4	2	4	6	3	2	100
Nebraska	3	4	4	3	1	1	2	(1)	(1)	1	(1)	.....	19
New Hampshire	3	3	3	3	4	4	4	3	2	4	3	3	39
New York	4	1	2	2	2	3	2	2	1	2	3	3	27
New York City, N. Y	.....	2	(1)	(1)	.....	3	1	1	(1)	3	1	2	13
Ohio	2	6	9	27	20	13	6	5	5	8	4	3	108
Oklahoma	.....	1	3	2	(1)	1	.....	(1)	.....	.....	.....	(1)	7
South Dakota	.....	.....	1	2	.....	2	2	1	1	(1)	.....	.....	9
Tennessee	.....	(1)	3	1	3	.....	.....	(1)	.....	.....	(1)	(1)	7
Vermont	2	3	3	3	5	5	4	2	2	3	3	2	37
Wisconsin	.....	(1)	(1)	1	1	4	2	2	1	(1)	(1)	(1)	11
Canada	.....	.....	(1)	.....	.....	.....	(1)	2	1	(1)	(1)	(1)	3

NEW YORK CITY.

Alabama	1	2	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	9
Arkansas	1	2	4	.....	1	.....	.....	.....	.....	.....	.....	1	8
California	23	51	65	14	20	24	25	17	22	26	41	26	354
Canada	4	8	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	13
Delaware	2	3	6	8	8	6	5	4	3	2	2	2	51
Illinois	64	72	191	263	212	156	123	77	78	62	41	40	1,379
Indiana	23	36	101	146	123	108	65	43	33	23	13	12	726
Iowa	20	23	56	163	162	123	112	92	70	61	23	16	921
Kansas	15	21	36	33	21	21	23	13	10	13	11	5	222
Kentucky	15	20	33	37	11	7	5	.....	2	4	2	7	143
Maryland	4	5	11	12	11	8	9	6	5	5	3	5	84
Massachusetts	1	1	1	.....	.....	.....	.....	.....	1	2	2	.....	8
Michigan	1	3	7	14	25	9	10	7	11	9	2	2	100
Minnesota	4	5	7	37	46	40	28	17	16	10	3	4	217
Missouri	22	41	80	78	56	30	20	15	21	36	17	22	438
Nebraska	3	6	9	3	6	2	.....	1	3	2	2	1	38
New Jersey	3	3	13	20	22	19	12	10	7	7	7	11	134
New York	28	27	51	77	77	64	42	39	33	21	12	20	491
Ohio	19	21	68	98	92	72	45	34	24	19	10	12	514
Oklahoma	3	2	6	3	.....	1	.....	.....	.....	.....	.....	.....	15
Oregon	3	2	4	.....	1	.....	2	1	1	.....	1	.....	15
Pennsylvania	14	14	27	34	37	50	27	22	17	9	5	9	265
South Dakota	.....	1	.....	5	8	7	1	4	2	1	.....	1	30
Tennessee	34	33	77	41	18	7	6	3	3	5	8	16	251
Texas	2	3	25	35	.....	.....	.....	.....	.....	.....	.....	.....	65
Virginia	5	2	13	14	10	5	4	3	2	2	2	3	65
Washington	19	14	12	8	10	12	13	8	.....	13	12	22	143
West Virginia	.....	1	1	1	1	1	1	1	.....	.....	.....	.....	7
Wisconsin	.....	.....	3	11	7	6	9	6	4	3	3	2	54
Parcel post	.....	.....	.....	4	4	3	4	3	3	1	2	2	26

[1] Less than 500 cases.

EGGS—Continued.

TABLE 426.—*Eggs: Monthly and yearly receipts, in cases, by States, 1922*—Continued.

[000 omitted.]

PHILADELPHIA.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Alabama	.....	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Arkansas	1	1	2	2	.....	.....	.....	.....	.....	.....	.....	.....	6
Delaware	3	3	8	9	7	3	3	4	1	2	1	2	46
Illinois	19	19	26	47	44	19	22	17	22	14	15	10	274
Indiana	2	2	7	35	37	20	16	13	7	4	3	3	149
Iowa	4	2	6	19	17	4	5	4	6	2	2	(1)	71
Kansas	9	9	8	6	3	1	2	2	3	2	1	2	48
Kentucky	1	3	3	5	.....	2	(1)	1	.....	(1)	(1)	(1)	15
Maryland	4	4	14	14	12	5	3	3	2	2	2	3	68
Michigan	1	(1)	5	30	35	23	15	15	14	6	1	(1)	145
Minnesota	2	1	1	9	9	6	5	7	12	7	3	1	63
Mississippi	.....	.....	11	.....	.....	.....	.....	.....	(1)	.....	.....	.....	11
Missouri	17	15	16	24	17	7	9	11	9	7	3	17	152
Nebraska	2	3	1	1	3	(1)	.....	1	1	(1)	1	2	15
New Jersey	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	1	(1)	2
New York	3	(1)	(1)	1	1	1	1	1	2	3	3	1	17
North Carolina	(1)	(1)	(1)	(1)	(1)	(1)	.....	(1)	(1)	(1)	(1)	(1)	.....
Ohio	3	6	16	39	26	18	13	11	6	4	4	3	149
Oklahoma	(1)	1	1	1	.....	(1)	.....	.....	.....	.....	.....	.....	3
Pennsylvania	9	11	16	18	27	11	9	12	8	9	8	9	147
South Dakota	(1)	(1)	(1)	1	1	2	3	3	1	2	1	(1)	14
Tennessee	10	13	16	16	5	(1)	(1)	(1)	(1)	1	(1)	(1)	61
Texas	1	1	8	1	(1)	.....	.....	.....	.....	.....	.....	(1)	11
Virginia	8	10	22	28	20	9	10	10	8	6	7	6	144
West Virginia	2	2	3	3	3	2	2	2	2	2	2	2	27
Wisconsin	1	1	(1)	(1)	5	3	3	4	4	3	2	3	29

CHICAGO.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Arkansas	1	2	6	3	1	(1)	1	(1)	(1)	(1)	(1)	(1)	14
Colorado	1	(1)	2	.....	1	2	.....	.....	.....	.....	.....	(1)	6
Illinois	12	23	43	71	62	40	18	13	7	5	6	10	310
Indiana	1	2	1	1	1	1	1	(1)	(1)	1	(1)	(1)	9
Iowa	29	53	91	149	143	135	81	67	33	25	20	18	844
Kansas	41	49	76	115	100	82	27	15	6	13	5	3	532
Kentucky	2	3	4	1	4	(1)	1	(1)	(1)	1	1	1	18
Michigan	1	1	2	1	3	3	2	2	1	1	(1)	1	18
Minnesota	12	13	21	66	115	77	48	50	34	14	9	3	462
Mississippi	1	(1)	2	5	(1)	3	(1)	1	(1)	(1)	(1)	(1)	12
Missouri	41	61	135	244	197	153	72	38	36	35	18	15	1,045
Nebraska	27	27	43	52	56	61	40	23	13	7	2	1	352
North Dakota	(1)	(1)	(1)	3	6	4	4	3	2	1	(1)	(1)	23
Ohio	(1)	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	1
Oklahoma	18	26	30	22	6	1	(1)	(1)	(1)	.....	.....	(1)	103
South Dakota	7	9	21	75	91	59	49	40	27	18	5	4	405
Tennessee	3	5	6	5	1	(1)	(1)	(1)	1	1	3	1	26
Texas	3	4	9	3	(1)	(1)	.....	.....	.....	1	(1)	2	22
Washington	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	3
Wisconsin	9	16	33	72	105	73	45	48	31	17	13	12	474

SAN FRANCISCO.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
California	54	59	101	116	105	79	71	63	49	43	40	44	824
Idaho	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Oregon	(1)	.....	1	1	(1)	2	1	(1)	(1)	1	(1)	1	7
Washington	(1)	.....	(1)	1	1	.....	1	(1)	1	1	1	(1)	6

[1] Less than 500 cases.

EGGS—Continued.

TABLE 427.—*Eggs: Monthly and yearly receipts, in cases, at certain cities, 1917–1922.*

[000 omitted.]

BOSTON.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1917	56	75	171	252	318	193	113	87	84	80	43	30	1,502
1918	31	59	192	309	305	171	133	119	91	96	46	52	1,604
1919	67	116	184	327	235	189	148	128	80	97	48	40	1,659
1920	72	113	149	253	384	204	119	110	95	66	49	34	1,648
1921	84	138	206	359	294	183	137	130	100	88	52	52	1,823
Average	62	100	180	300	307	188	130	115	90	85	48	42	1,647
1922	101	133	214	403	312	224	143	105	85	106	74	70	1,970

NEW YORK.

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
Average	197	314	680	851	754	638	481	422	363	305	201	186	5,392
1922	335	424	919	1,178	994	784	574	427	381	337	226	242	6,821

PHILADELPHIA.

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

CHICAGO.

1917	118	86	376	927	1,200	897	626	450	361	295	193	150	5,679
1918	108	29	415	1,027	926	733	564	460	338	240	124	86	5,050
1919	101	253	458	1,024	915	767	401	275	220	125	51	27	4,617
1920	109	251	458	840	800	620	380	260	217	132	47	40	4,154
1921	133	356	679	750	684	460	297	258	201	137	86	114	4,155
Average	114	195	477	914	905	695	454	341	267	186	100	83	4,731
1922	210	296	525	887	898	695	389	300	191	140	82	71	4,684

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
Average	51	68	94	98	90	77	60	52	39	36	30	35	730
1922	54	59	102	118	106	81	72	63	51	45	42	45	838

EGGS—Continued.

TABLE 428.—*Cold storage holdings of case eggs, 1916 to 1922 (cases).*

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1916	1,508	458	35	264	2,327	4,593	5,574	6,060	5,600	4,868	3,985	2,146
1917	920	149	7	190	2,105	4,922	6,617	6,895	6,436	5,837	4,638	2,948
1918	1,300	200	20	344	2,957	5,499	6,554	6,568	6,265	5,369	3,812	2,071
1919	740	130	26	320	3,278	6,098	7,659	7,850	7,685	6,858	5,087	3,341
1920	1,542	342	29	122	2,135	5,143	6,747	6,872	6,372	5,295	3,838	1,824
Average	1,202	256	23	248	2,560	5,251	6,630	6,849	6,472	5,645	4,272	2,466
1921	408	43	43	1,926	4,909	6,844	7,534	7,605	7,210	6,269	4,380	2,403
1922	889	179	13	950	4,648	8,056	9,811	10,161	9,608	7,924	5,726	3,257

POULTRY.

TABLE 429.—*Chickens: Farm price, cents per pound, 1st of month, 1909–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1909	.....	9.9	10.0	10.2	10.6	10.9	11.1	11.2	11.1	11.3	10.9	10.8
1910	10.9	11.1	11.6	11.9	12.4	12.4	12.3	12.2	11.9	11.6	11.3	10.6
1911	10.5	10.6	10.6	10.8	11.0	11.0	11.2	11.2	11.1	10.9	10.3	9.6
1912	9.8	10.3	10.5	10.8	11.1	11.1	11.0	11.3	11.3	11.5	11.2	10.8
1913	10.7	10.9	11.1	11.6	11.8	12.0	12.1	12.4	12.4	12.5	12.1	11.5
1914	11.5	11.7	12.1	12.3	12.5	12.5	12.7	12.8	12.7	12.5	11.9	11.3
1915	11.2	11.5	11.7	11.9	12.1	12.2	12.2	12.2	12.1	12.0	11.8	11.5
1916	11.4	11.9	12.2	12.6	13.2	13.5	13.8	13.8	13.9	14.3	14.3	14.2
1917	13.9	14.7	15.5	16.1	17.5	17.5	17.3	17.1	17.2	18.1	17.7	17.5
1918	17.9	18.8	19.9	19.8	19.8	20.0	21.2	22.6	22.8	23.1	22.4	21.8
1919	21.7	21.6	22.2	23.5	25.2	25.7	25.2	25.9	25.7	24.2	22.9	22.3
1920	22.6	24.1	25.4	26.8	27.4	27.2	27.0	27.4	26.7	26.4	23.4	22.1
1921	20.7	21.9	22.1	22.2	21.7	20.7	21.1	21.2	20.9	20.3	19.0	18.4
1922	18.5	18.8	19.4	19.4	19.9	20.3	20.4	19.3	18.5	18.7	18.5	17.5
Av., 1913–1922	16.0	16.6	17.2	17.6	18.1	18.2	18.3	18.5	18.3	18.2	17.4	16.8

TABLE 430.—*Turkeys: Farm price, cents per pound, 15th of month, 1913–1923.*

Year.	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21	1921–22	1922–23
Oct. 15	14.6	14.1	13.7	17.0	20.0	23.9	26.6	30.0	25.7	25.1
Nov. 15	15.2	14.1	14.8	18.6	21.0	25.7	28.3	31.8	28.2	29.5
Dec. 15	15.5	14.5	15.5	19.6	23.0	27.0	31.1	33.1	32.5	32.3
Jan. 15	15.5	14.5	15.6	19.5	22.9	27.3	32.0	33.0	30.7	29.7

POULTRY—Continued.

TABLE 431.—*Dressed poultry; Monthly receipts at four markets, in pounds, 1920 to 1922.*

[000 omitted, gross weight.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
New York:													
1920	11,217	7,557	3,928	1,367	5,480	5,292	6,129	4,428	6,273	8,053	17,651	23,718	101,093
1921	11,441	7,006	5,190	5,021	4,883	6,150	5,314	8,992	10,277	11,887	21,182	27,208	124,551
1922	10,783	6,909	6,371	6,399	7,896	8,822	6,785	7,768	9,115	12,594	22,232	32,538	138,212
Chicago:													
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	3,328	2,794	2,104	2,421	2,524	2,097	2,615	3,804	4,157	15,723	17,082	64,992
1922	5,345	3,042	3,394	2,744	2,744	3,597	3,590	4,250	4,290	4,178	13,167	23,320	73,661
Philadelphia:													
1920	1,553	1,881	1,906	918	1,466	1,286	1,019	1,215	1,044	1,588	2,348	5,382	21,606
1921	1,498	1,071	1,411	1,005	1,303	1,565	1,226	1,419	1,587	2,020	2,882	5,905	22,892
1922	1,947	1,790	1,077	664	1,182	1,304	1,237	1,217	1,237	1,356	2,653	5,655	21,319
Boston:													
1920	3,934	1,749	1,597	1,037	1,464	2,221	1,858	1,696	2,096	2,628	5,911	7,895	34,086
1921	3,377	2,229	1,465	1,707	1,795	2,086	1,499	2,437	2,482	3,581	7,472	9,791	39,921
1922	4,175	2,765	2,478	1,705	2,551	2,883	2,091	2,198	2,479	3,306	7,488	10,444	44,563
Total four markets:													
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
1922	22,250	14,506	13,320	11,512	14,373	16,606	13,703	15,433	17,121	21,434	45,540	71,957	277,755

TABLE 432.—*Poultry, dressed: Monthly and yearly receipts, in pounds, by States, 1922*

[000 omitted.]

AT BOSTON.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Canada	.....	.....	.....	.....	.....	.....	3	1	.....	(1)	6	12	22
Illinois	1,615	1,052	954	803	1,408	1,318	1,029	785	791	1,395	2,884	3,870	17,904
Chicago, Ill	124	284	413	208	216	79	3	58	55	40	60	174	1,714
Indiana	585	366	240	178	323	706	374	398	416	527	766	1,060	5,939
Iowa	777	321	128	57	42	127	147	217	345	298	580	1,383	4,422
Kansas	155	99	62	58	128	166	150	54	138	86	157	202	1,455
Kentucky	21	1	6	3	46	8	1	7	.....	4	624	284	1,005
Maine	36	24	24	24	11	99	11	20	21	80	200	97	647
Maryland	2	2	.....	.....	.....	.....	.....	25	1	3	2	4	39
Massachusetts	7	5	75	25	11	16	29	30	36	79	76	24	413
Michigan	58	56	19	43	37	45	30	66	97	125	165	274	1,015
Minnesota	67	81	31	16	21	24	58	42	74	92	136	434	1,076
Missouri	85	9	21	13	53	39	51	10	28	6	141	318	774
Nebraska	77	22	16	10	27	.....	12	16	124	77	59	31	471
New Hampshire	1	2	1	.....	(1)	7	(1)	2	12	7	15	6	53
New Jersey	40	78	67	3	.....	.....	.....	.....	.....	.....	.....	.....	188
New York	52	8	58	6	25	8	(1)	40	3	9	406	158	773
New York City, N. Y	108	112	135	92	37	47	5	18	12	67	16	32	681
North Dakota	.....	1	(1)	.....	.....	.....	.....	.....	.....	.....	3	9	13
Ohio	119	118	54	24	64	79	93	173	80	155	422	327	1,708
Oklahoma	104	75	130	81	71	86	66	80	80	98	137	245	1,253
Pennsylvania	3	3	.....	2	3	(1)	.....	1	.....	5	1	30	48
Tennessee	(1)	1	(1)	15	1	.....	.....	.....	.....	.....	46	2	65
Vermont	1	10	1	1	1	2	(1)	43	6	6	79	50	200
Wisconsin	46	.....	.....	24	7	18	25	109	102	139	124	86	680

[1] Less than 500 pounds.

POULTRY—Continued.

TABLE 432.—*Poultry, dressed: Monthly and yearly receipts, in pounds, by States, 1922*—Continued.

NEW YORK CITY.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Arkansas	(1)	.....	.....	.....	11	.....	.....	.....	.....	.....	22	96	129
California	30	79	3	58	79	82	81	1	68	34	24	110	649
Delaware	28	5	10	(1)	3	2	3	4	4	3	20	27	109
Georgia	(1)	(1)	.....	(1)	2	1	2	1	(1)	(1)	2	7	15
Illinois	2,894	2,161	2,729	3,020	3,469	2,591	2,139	2,590	2,633	3,493	4,913	8,279	40,911
Indiana	1,571	1,004	1,038	678	1,218	1,399	1,075	1,175	1,337	1,337	2,041	3,148	17,021
Iowa	1,674	464	310	298	392	555	671	704	1,074	2,154	2,855	4,703	15,854
Kansas	1,238	1,240	180	175	251	869	529	761	741	1,213	1,744	1,233	10,174
Kentucky	167	110	140	304	412	335	147	270	196	336	733	723	3,873
Maryland	93	41	18	9	45	92	98	73	90	124	266	277	1,226
Massachusetts	11	38	85	139	227	63	21	114	29	21	71	29	848
Michigan	122	77	95	9	31	93	95	69	120	262	500	428	1,901
Minnesota	318	101	43	52	122	401	132	167	146	310	815	1,805	4,412
Mississippi	.....	1	.....	.....	.....	.....	.....	1	1	(1)	1	2	6
Missouri	642	183	184	62	205	713	530	385	792	1,048	2,207	3,571	10,522
Nebraska	260	218	123	120	133	121	101	74	195	249	512	409	2,515
New Jersey	276	139	52	24	25	44	31	38	56	98	242	370	1,395
New York	198	297	558	402	355	240	125	227	263	349	413	145	3,572
North Carolina	1	1	(1)	(1)	(1)	6	3	13	4	3	7	14	52
North Dakota	(1)	.....	.....	.....	.....	.....	.....	(1)	.....	.....	51	114	165
Ohio	518	330	202	395	302	299	188	118	370	583	738	1,070	5,113
Oklahoma	29	93	132	90	2	69	68	135	222	50	709	655	2,254
Pennsylvania	38	27	129	69	60	185	97	102	136	107	122	148	1,220
South Carolina	.....	(1)	(1)	.....	2	(1)	1	(1)	(1)	1	2	1	7
South Dakota	130	30	(1)	(1)	.....	(1)	51	22	43	117	266	317	976
Tennessee	222	171	242	410	381	288	272	304	297	191	413	773	3,964
Texas	208	67	33	76	98	145	44	24	.....	.....	1,596	3,005	5,296
Virginia	63	30	8	2	25	147	183	249	214	222	347	414	1,904
West Virginia	1	.....	1	(1)	1	23	.....	5	(1)	.....	2	21	54
Wisconsin	46	1	56	2	7	8	26	118	56	286	523	374	1,503
Canada	.....	.....	.....	.....	(1)	11	8	.....	.....	.....	1	183	203

PHILADELPHIA.

Delaware	8	5	5	.....	2	3	2	4	3	41	32	157	262
Illinois	625	699	506	228	610	628	454	430	475	442	747	1,321	7,165
Indiana	89	86	30	81	157	172	118	200	227	143	291	313	1,907
Iowa	229	264	86	.....	80	31	73	.....	25	(1)	45	184	1,017
Kansas	26	57	19	19	38	1	25	62	62	52	145	154	660
Kentucky	.....	3	.....	.....	.....	42	.....	.....	.....	.....	8	28	81
Maryland	2	23	2	2	3	2	2	3	3	19	27	113	201
Michigan	3	19	3	(1)	.....	.....	.....	.....	.....	20	44	53	142
Minnesota	112	58	44	.....	.....	.....	.....	.....	20	75	120	845	1 274
Missouri	284	74	31	2	24	1	72	76	56	66	216	187	1,089
Nebraska	34	27	20	14	10	.....	.....	.....	.....	26	4	32	167
New Jersey	16	3	28	2	1	(1)	2	.....	.....	2	2	6	62
New York	31	42	3	27	17	24	77	.....	.....	75	5	123	424
North Carolina	.....	.....	2	4	5	(1)	1	2	.....	.....	6	4	24
North Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	4
Ohio	127	102	57	23	7	84	144	120	113	25	176	175	1,153
Oklahoma	.....	20	24	29	.....	35	.....	42	.....	.....	112	59	321
Pennsylvania	81	93	68	62	70	119	95	90	87	100	160	347	1,372
South Dakota	3	1	10	.....	.....	.....	.....	.....	.....	.....	.....	41	45
Tennessee	1	2	.....	21	3	.....	.....	.....	(1)	.....	4	24	55
Texas	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	88	104	213
Virginia	130	132	125	128	131	135	136	120	118	138	178	770	2,241
West Virginia	32	36	21	20	24	28	36	45	47	70	118	508	985
Wisconsin	91	44	3	1	.....	.....	.....	24	(1)	29	104	100	396
Wyoming	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2

[1] Less than 500 pounds.

POULTRY—Continued.

TABLE 432.—*Poultry, dressed: Monthly and yearly receipts, in pounds, by States, 1922*—Continued.

CHICAGO.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Alabama	3	3	6	4	7	5	4	2	1	(1)	3	1	39
Arkansas	10	4	5	22	31	29	35	19	5	18	14	64	256
California	.....	.....	.....	.....	.....	.....	.....	24	.....	.....	.....	.....	24
Colorado	1	1	.....	.....	11	11	.....	.....	.....	.....	6	33	63
Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	48	68
Illinois	1,151	758	1,000	853	826	1,294	1,081	1,326	1,637	1,583	3,195	4,016	18,720
Indiana	131	96	67	62	68	65	70	87	79	66	355	201	1,347
Iowa	1,890	826	906	624	792	913	931	1,067	934	977	2,650	6,491	19,001
Kansas	160	59	58	37	99	133	160	282	179	185	365	672	2,499
Kentucky	43	75	103	154	51	45	57	57	73	37	75	79	849
Michigan	47	33	18	16	10	36	9	15	17	16	67	48	332
Minnesota	446	259	328	242	173	153	157	187	214	222	1,94?	2,987	7,310
Mississippi	24	16	16	17	19	22	4	8	6	5	12	20	169
Missouri	357	264	139	104	198	276	188	249	255	264	408	1,250	3,952
Montana	.....	.....	.....	8	21	.....	9	2	.....	1	70	160	271
Nebraska	15	12	113	124	174	41	317	148	97	130	197	591	1,959
New York	1	1	6	17	14	82	15	36	27	27	8	13	247
North Dakota	186	99	49	11	1	4	1	1	5	6	800	2,129	3,292
Ohio	3	.....	(1)	(1)	(1)	1	3	(1)	(1)	(1)	1	31	39
Oklahoma	130	48	61	5	(1)	1	.....	85	74	.....	50	402	801
Pennsylvania	.....	.....	4	(1)	22	3	1	1	.....	1	1	.....	33
South Dakota	237	168	135	51	54	146	79	171	179	98	637	1,393	3,348
Tennessee	30	50	58	87	34	25	67	119	61	60	35	68	694
Texas	93	3	1	6	20	47	52	28	.....	(1)	219	240	709
West Virginia	5	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Wisconsin	379	266	259	298	118	263	349	330	446	482	2,030	2,335	7,555
Wyoming	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17	17
Canada	.....	(1)	.....	(1)	.....	.....	.....	.....	.....	.....	.....	28	28

SAN FRANCISCO.

California	240	268	79	32	18	49	82	114	65	36	1,022	1,392	3,397
Illinois	1	.....	39	.....	30	.....	.....	16	.....	16	.....	.....	102
Iowa	.....	.....	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	26
Kansas	149	79	32	55	30	.....	24	.....	24	25	24	54	496
Missouri	152	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	152
Nebraska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	52	52
Nevada	1	(1)	(1)	(1)	.....	.....	.....	.....	.....	.....	46	10	57
Oklahoma	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Oregon	7	5	4	(1)	26	(1)	1	23	4	30	158	22	280
Washington	43	19	39	.....	.....	.....	.....	.....	.....	.....	21	27	149

[1] Less than 500 pounds.

TABLE 433.—*Cold-storage holdings of frozen poultry, in pounds, 1917 to 1922.*

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1917	32,184	35,601	27,796	25,988	67,242	64,286	60,194	54,132	56,093	46,737	51,743	49,561
1918	64,557	68,238	56,950	44,115	26,523	18,929	17,652	18,756	23,034	29,798	44,433	71,238
1919	108,722	119,675	109,627	92,897	71,162	55,616	49,212	40,573	32,918	30,492	33,139	54,749
1920	87,512	92,253	78,421	61,436	40,525	30,535	24,790	22,364	21,331	22,953	31,070	49,046
1921	79,025	81,096	79,001	62,315	47,651	35,408	27,268	21,188	20,064	25,602	34,876	65,167
Average	74,400	79,373	70,359	57,350	50,621	40,955	35,823	31,403	30,688	31,116	39,052	57,952
1922	103,697	103,350	88,709	68,471	50,840	38,602	34,837	30,659	27,671	25,984	30,238	51,781

SHEEP.

TABLE 434.—*Sheep: Number and value on farms in the United States, January 1, 1870–1923.*

[See head note to Table 370.]

[000 omitted.]

Year.	Number.	Farm value Jan. 1.	Year.	Number.	Farm value Jan. 1.
1870, June 1	*28,478*	54,062	1915	49,956	224,687
1880, June 1	*35,192*	80,757	1916	48,625	251,594
1890, June 1	*35,935*	86,447	1917	47,616	339,529
1900, June 1	*61,504*	186,271	1918	48,603	574,575
1910, Apr. 15	*52,448*	216,030	1919	48,866	568,265
1911	53,633	209,535	1920	39,025	408,586
1912	52,362	181,170	1921	37,452	235,855
1913	51,482	202,779	1922	36,327	174,545
1914	49,719	200,045	1923	[1] 37,209	278,939

[1] Preliminary estimate.

TABLE 435.—*Sheep: Farm price per head, January 1, 1867–1923.*

Year.	Price. Jan. 1.	Year.	Price. Jan 1.	Year.	Price. Jan. 1.	Year.	Price Jan. 1.
1867	$2.50	1882	$2.37	1897	$1.82	1912	$3.46
1868	1.82	1883	2.53	1898	2.46	1913	3.94
1869	1.64	1884	2.37	1899	2.75	1914	4.02
1870	1.90	1885	2.14	1900	3.03	1915	4.50
1871	2.14	1886	1.91	1901	2.98	1916	5.17
1872	2.61	1887	2.01	1902	2.65	1917	7.13
1873	2.71	1888	2.05	1903	2.63	1918	11.82
1874	2.43	1889	2.13	1904	2.59	1919	11.63
1875	2.55	1890	2.41	1905	2.82	1920	10.47
1876	2.37	1891	2.50	1906	3.54	1921	6.30
1877	2.13	1892	2.58	1907	3.84	1922	4.80
1878	2.21	1893	2.66	1908	3.88	1123	7.50
1879	2.07	1894	1.98	1909	3.43		
1880	2.29	1895	1.58	1910	4.12		
1881	2.39	1896	1.70	1911	3.91		

SHEEP—Continued.

TABLE 436.—*Sheep: Number and value on farms January 1, 1921–1923.*

State.	Number (thousands) Jan. 1—			Average price per head Jan. 1—			Farm value (thousands of dollars) Jan. 1—		
	1921	1922	1923 [1]	1921	1922	1923	1921	1922	1923 [1]
Maine	100	95	90	$5.50	$4.80	$6.70	550	456	603
New Hampshire	24	20	18	7.30	5.60	7.80	175	112	140
Vermont	58	48	43	6.70	5.00	7.00	389	240	301
Massachusetts	17	17	16	9.50	6.60	6.90	162	112	110
Rhode Island	3	3	3	9.90	6.30	7.90	30	19	24
Connecticut	10	9	8	9.50	7.50	7.80	95	68	62
New York	550	512	532	7.50	5.80	8.50	4,125	2,970	4,522
New Jersey	10	10	10	10.50	7.40	7.50	105	74	75
Pennsylvania	478	468	477	7.60	5.80	7.10	3,633	2,714	3,387
Delaware	3	3	3	7.40	6.00	7.40	22	18	22
Maryland	93	89	93	8.00	6.20	7.50	744	552	698
Virginia	335	322	338	7.50	5.60	7.60	2,512	1,803	2,569
West Virginia	485	480	504	6.40	4.80	6.90	3,104	2,304	3,478
North Carolina	89	84	81	6.60	4.90	5.60	587	412	454
South Carolina	23	23	23	3.70	3.00	4.20	85	69	97
Georgia	69	70	66	4.20	2.70	3.00	290	189	198
Florida	63	64	63	3.50	3.10	3.50	220	198	220
Ohio	1,977	1,957	2,094	5.70	4.60	7.10	11,269	9,002	14,867
Indiana	606	606	648	6.70	5.20	8.00	4,060	3,151	5,184
Illinois	561	516	516	6.90	5.30	7.90	3,871	2,735	4,076
Michigan	1,161	1,115	1,171	6.80	5.20	8.00	7,895	5,798	9,368
Wisconsin	432	367	341	6.40	4.60	7.50	2,765	1,688	2,558
Minnesota	468	445	400	6.10	4.70	7.20	2,855	2,092	2,880
Iowa	1,005	775	829	6.90	5.40	8.40	6,934	4,185	6,964
Missouri	1,158	1,042	1,105	6.00	4.50	7.10	6,948	4,689	7,846
North Dakota	272	250	240	5.70	4.60	7.30	1,550	1,150	1,752
South Dakota	675	689	703	5.60	4.50	7.70	3,780	3,100	5,413
Nebraska	521	596	733	6.00	5.20	8.10	3,126	3,099	5,937
Kansas	321	285	314	5.90	4.80	7.30	1,894	1,368	2,292
Kentucky	651	631	675	6.40	5.00	7.00	4,166	3,155	4,725
Tennessee	349	340	340	5.80	4.00	5.50	2,024	1,360	1,870
Alabama	79	83	90	4.40	2.70	3.40	348	224	306
Mississippi	148	142	142	3.40	3.00	2.60	503	426	369
Louisiana	124	124	122	3.80	2.80	2.90	471	347	354
Texas	3,047	3,077	2,862	6.10	3.40	5.20	18,587	10,462	14,882
Oklahoma	91	91	87	6.20	4.30	5.80	564	391	505
Arkansas	96	90	81	4.20	2.90	3.10	403	261	251
Montana	1,973	2,270	2,315	5.80	4.70	8.70	11,443	10,669	20,140
Wyoming	2,350	2,420	2,396	6.30	5.50	9.00	14,805	13,310	21,564
Colorado	2,306	2,054	2,444	5.30	4.60	7.60	12,222	9,448	18,574
New Mexico	2,468	2,343	2,062	5.90	3.90	6.40	14,561	9,138	13,197
Arizona	1,200	1,100	1,155	7.00	4.90	6.30	8,400	5,390	7,276
Utah	2,200	2,250	2,340	6.50	4.90	8.90	14,300	11,025	20,826
Nevada	1,100	1,190	1,119	7.60	5.30	8.90	8,360	6,307	9,959
Idaho	2,623	2,492	2,642	6.30	6.00	8.30	16,525	14,952	21,929
Washington	555	500	520	6.90	5.40	8.00	3,830	2,700	4,160
Oregon	2,025	1,860	1,953	6.70	4.50	6.40	13,568	8,370	12,499
California	2,500	2,310	2,402	6.80	5.30	8.10	17,000	12,243	19,456
United States	37,452	36,327	37,209	6.30	4.80	7.50	235,855	174,545	278,939

[1] Preliminary estimate.

SHEEP—Continued.

TABLE 437.—*Sheep: Yearly losses per 1,000 from disease and exposure, 1890–1923.*

Year.	Losses from disease.	Losses from exposure.	Year.	Losses from disease.	Losses from exposure.	Year.	Losses from disease.	Losses from exposure.	Year.	Losses from disease.	Losses from exposure.
	Per 1,000.			Per 1,000.			Per 1,000.			Per 1,000.	
1890...	24.0	51.0	1899...	21.0	35.0	1908...	22.5	22.9	1916...	21.6	21.7
1891...	23.0	17.0	1900...	20.0	18.0	1909...	26.6	28.3	1917...	21.8	32.4
1892...	19.0	14.0	1901...	24.0	22.0	1910...	27.5	43.9	1918...	19.8	19.3
1893...	24.0	20.0	1902...	25.0	31.6				1919...	19.7	24.4
1894...	20.0	15.0	1903...	27.8	53.6	1911...	25.5	23.0			
						1912...	26.7	47.0	1920...	23.7	34.6
1895...	26.0	29.0	1904...	26.0	37.7	1913...	24.8	25.0	1921...	23.1	15.6
1896...	27.0	21.0	1905...	24.6	30.8	1914...	21.9	22.0	1922...	21.4	26.4
1897...	23.0	32.0	1906...	22.2	37.0	1915...	.....	.....	1923...	.....	.....
1898...	26.0	27.0	1907...	25.6	35.4						

TABLE 438.—*Sheep: Farm price per 100 pounds, 15th of month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910.....	$5.63	$5.09	$5.64	$6.10	$5.79	$5.44	$5.47	$4.68	$4.81	$4.68	$4.63	$4.54
1911.....	4.47	4.34	4.45	4.55	4.51	4.24	4.19	3.98	3.91	3.68	3.65	3.71
1912.....	3.89	4.01	4.12	4.57	4.74	4.52	4.21	4.26	4.11	4.19	4.05	4.21
1913.....	4.35	4.63	4.97	5.16	4.91	4.84	4.20	4.32	4.23	4.16	4.27	4.46
1914.....	4.67	4.67	4.77	4.96	4.87	4.70	4.75	4.87	4.80	4.81	4.68	4.95
1915.....	4.95	5.14	5.36	5.60	5.54	5.43	5.35	5.16	5.06	5.18	5.18	5.38
1916.....	5.52	5.90	6.35	6.61	6.66	6.54	6.33	6.22	6.25	6.20	6.41	6.77
1917.....	7.33	8.17	9.21	9.69	10.15	9.84	9.32	9.33	10.05	10.24	10.20	10.44
1918.....	10.55	10.75	11.41	11.98	12.32	11.56	11.04	10.99	10.79	10.35	10.11	9.46
1919.....	9.68	9.95	10.45	11.33	10.93	10.34	9.25	9.06	8.69	8.46	8.35	8.53
1920.....	9.34	9.97	10.25	10.66	10.34	9.13	8.21	7.54	7.24	6.62	6.20	5.54
1921.....	5.30	5.01	5.27	5.11	5.11	4.74	4.34	4.38	4.11	3.96	3.84	4.10
1922.....	4.57	5.71	6.51	6.43	6.65	6.09	6.11	5.98	5.70	5.93	6.02	6.27
Av. 1913–1922..	6.63	6.99	7.46	7.75	7.75	7.32	6.89	6.78	6.69	6.59	6.53	6.59

TABLE 439.—*Lambs: Farm price per 100 pounds, 15th of month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910.....	$5.82	$6.62	$7.37	$7.47	$7.26	$7.13	$6.71	$5.70	$5.85	$5.78	$5.54	$5.60
1911.....	5.71	5.44	5.49	5.77	5.74	5.51	5.42	5.25	5.02	4.68	4.68	4.93
1912.....	5.22	5.15	5.38	5.98	6.16	6.02	5.74	5.60	5.49	5.42	5.37	5.70
1913.....	6.03	6.34	6.56	6.59	6.66	6.36	6.05	5.50	5.51	5.51	5.64	5.85
1914.....	6.16	6.18	6.31	6.47	6.49	6.47	6.55	6.26	6.27	6.09	6.14	6.33
1915.....	6.47	6.67	6.06	7.35	7.32	7.26	7.21	6.70	6.71	6.70	6.76	7.02
1916.....	7.29	7.78	8.10	8.58	8.49	8.36	8.16	8.15	8.22	8.02	8.41	8.72
1917.....	9.59	10.51	11.46	12.03	12.51	12.64	11.19	12.08	13.06	14.09	13.79	13.81
1918.....	13.83	13.77	14.11	15.34	15.39	14.98	14.20	14.20	13.73	13.20	12.54	12.44
1919.....	12.71	13.17	14.03	14.61	14.34	13.89	13.09	12.91	12.25	11.47	11.45	11.85
1920.....	12.91	14.08	14.17	14.63	14.26	12.82	11.79	10.84	10.31	9.65	9.37	8.46
1921.....	8.44	7.76	7.90	7.55	7.78	7.59	7.37	6.99	6.27	5.98	6.12	6.60
1922.....	7.33	8.87	10.21	10.54	10.39	9.87	9.55	9.39	9.43	10.06	10.30	10.49
Av. 1913–1922..	9.08	9.52	9.89	10.37	10.36	10.02	9.52	9.30	9.18	9.07	9.05	9.16

SHEEP—Continued.

TABLE 440.—*Sheep: Imports, exports, and prices, 1895–1922.*

Year ending June 30—	Imports.			Exports.		
	Number.	Value.	Average import price.	Number.	Value.	Average export price.
1895–1899	351,602	$972,444	$2.77	296,882	$1,861,231	$6.21
1900–1904	303,990	1,082,047	3.56	252,138	1,525,800	6.05
1905–1909	195,983	886,150	4.52	143,011	839,219	5.74
1910	126,152	696,879	5.52	44,517	209,000	4.69
1911	53,455	377,625	7.06	121,491	636,272	5.24
1912	23,588	157,257	6.67	157,263	626,985	3.99
1913	15,428	90,021	5.83	187,132	605,725	3.24
1914	223,719	532,404	2.38	152,600	534,543	3.50
1915	153,317	533,967	3.48	47,213	182,278	3.86
1916	235,659	917,502	3.89	52,278	231,535	4.43
1917	160,422	856,645	5.34	58,811	367,935	6.26
1918	177,681	1,979,746	11.14	7,959	97,028	12.19
1919	163,283	1,914,473	11.72	16,117	187,347	11.62
1920	199,549	2,279,949	11.43	59,155	711,549	12.03
1921	161,292	1,541,793	9.56	80,723	532,510	6.60
1922	96,538	529,592	5.49	62,354	294,442	4.72

TABLE 441.—*Live sheep: Monthly and yearly exports and imports, United States, 1909–1922.*[1]

EXPORTS.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1909	6,145	2,320	3,508	3,451	2,323	4,084	5,584	4,603	8,372	6,818	3,221	4,184	54,613
1910	1,550	1,289	452	957	790	6,697	6,532	4,030	3,987	11,863	10,666	3,825	52,638
1911	7,458	8,504	15,452	15,738	20,537	12,899	12,984	10,542	21,312	15,281	14,524	21,838	177,069
1912	12,039	12,359	7,829	9,643	6,234	12,678	10,786	25,601	24,292	20,090	18,589	31,823	191,963
1913	7,645	9,437	5,906	9,774	10,152	13,037	16,537	6,475	15,795	27,843	19,050	28,760	170,411
1914	4,263	5,803	4,940	5,462	8,173	9,499	8,632	9,300	7,216	8,531	6,172	236	78,227
5-year average	6,591	7,478	6,916	8,315	9,177	10,962	11,094	11,190	14,520	16,522	13,800	17,297	133,862
1915	206	125	1,130	531	2,485	2,649	4,076	5,449	2,987	10,518	6,919	3,426	40,501
1916	541	4,981	1,500	519	6,969	4,393	3,152	4,833	3,281	14,400	6,913	3,577	55,059
1917	1,253	703	309	8,226	10,333	1,831	570	1,103	334	423	266	5,008	30,359
1918	6	48	6	11	96	88	6,196	108	39	889	75	400	7,962
1919	30	12	153	4,595	3,406	214	6,557	1,695	5,934	5,075	6,653	207	34,531
5-year average	407	1,174	620	2,776	4,658	1,835	4,110	2,638	2,515	6,261	4,165	2,523	33,682
1920	149	13,320	4,034	147	426	14,958	890	246	3,407	2,558	1,806	6,937	48,878
1921	4,059	8,486	4,005	14,749	10,098	23,482	15,744	16,605	8,737	6,244	3,031	2,156	117,396
1922	174	1,952	770	2,414	1,320	3,207	3,387	1,582	1,136	575	546	109	17,172

IMPORTS.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1909	515	650	2,133	1,080	1,163	1,456	765	8,683	33,002	32,896	29,604	15,072	127,019
1910	1,014	403	2,014	1,415	978	306	1,885	6,715	8,287	21,401	11,559	224	56,201
1911	89	90	6	860	1,976	363	86	2,650	2,241	5,779	8,042	881	23,063
1912	33	9	7	131	2,390	1,339	37	413	1,648	3,466	5,077	792	15,342
1913	95	13	782	2	2,769	334	457	1,173	960	26,035	46,995	36,073	115,688
1914	15,485	871	13,995	73,169	5,834	2,672	4,403	15,464	18,915	13,680	15,375	20,132	199,995
5-year average	3,343	277	3,361	15,116	2,789	1,003	1,374	5,283	6,410	14,072	17,410	11,620	82,058
1915	7,223	53,747	33	1,340	748	2,257	12,377	23,637	19,683	86,765	53,253	15,458	276,521
1916	2,530	193	3,884	5,785	5,632	6,462	4,731	8,625	48,650	23,755	13,835	1,640	125,722
1917	8,446	42,880	3,193	885	2,258	1,524	1,439	6,980	51,421	38,540	38,436	6,859	202,861
1918	1,423	7,085	13,200	1,899	3,512	6,887	672	4,691	20,274	32,105	36,453	22,002	150,203
1919	10,684	8,103	5,146	12,203	10,631	319	1,039	15,092	27,557	77,705	37,448	18,847	224,774
5-year average	6,061	22,402	5,091	4,422	4,556	3,490	4,052	11,805	33,517	51,774	35,885	12,961	196,016
1920	8,611	3,263	5,247	1,763	1,114	1,863	1,633	15,835	37,534	39,687	36,689	19,666	172,905
1921	5,232	261	1,241	1,234	416	1,864	856	10,075	31,938	18,610	11,437	1,575	84,739
1922	7,538	3,499	5,537	2,375	2,034	1,064	1,415	12,706	22,160	31,096	4,512	.....	.....

[1] Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.

SHEEP—Continued.

TABLE 442.—*Sheep and lambs: Monthly farm price per 100 pounds, by States, 15th of month, 1922.*[1]

SHEEP.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Maine	$5.10	$5.30	$6.20	$6.90	$6.50	$5.60	$5.70	$6.50	$6.60	$7.10	$6.40	$5.70	$6.13
New Hampshire	4.40	5.00	6.00	8.00	6.50	7.00	6.80	5.80	6.00	5.80	5.60	5.60	6.04
Vermont	3.70	3.90	4.50	5.30	5.00	4.70	4.50	4.40	4.10	5.00	4.80	4.60	4.54
Massachusetts	7.20	8.00	9.00	7.00	7.00	6.30	5.30	6.00	6.50	6.00	6.50	6.00	6.90
Rhode Island	4.20	5.20	7.00	7.80	7.00	.....	6.00	6.00	7.00	5.60	5.00	6.50	[2] 6.12
Connecticut	8.50	8.20	8.50	.....	6.00	.....	.....	.....	.....	.....	.....	.....	.....
New York	3.90	4.40	5.60	5.00	5.20	5.90	4.90	4.80	4.60	5.10	5.20	5.30	4.99
New Jersey	9.70	10.00	10.00	10.00	13.00	12.50	10.00	9.50	9.50	9.00	9.00	10.00	10.18
Pennsylvania	5.00	5.70	6.00	5.80	6.00	6.00	5.80	5.30	5.40	6.50	6.00	6.10	5.80
Delaware	.....	5.00	5.50	7.00	6.00	.....	5.00	5.00	6.00	6.00	6.00	6.00	[3] 5.75
Maryland	4.60	4.60	5.60	5.80	5.80	5.50	4.60	4.60	5.00	4.90	5.20	4.90	5.09
Virginia	4.10	4.50	4.60	4.50	5.40	5.00	4.70	4.40	4.70	4.70	4.80	4.50	4.66
West Virginia	4.40	4.50	4.90	5.50	5.70	4.30	4.90	4.70	4.60	4.70	4.70	4.70	4.80
North Carolina	5.40	5.20	5.70	5.70	5.90	5.70	5.80	5.60	6.50	6.00	6.10	6.30	5.82
South Carolina	6.70	6.00	6.00	6.00	6.50	6.50	6.90	7.00	7.00	6.70	7.00	7.00	6.61
Georgia	5.10	5.40	4.50	5.70	5.10	5.20	6.00	5.00	4.60	4.90	5.80	5.00	5.19
Florida	5.50	5.70	5.50	5.70	6.00	4.00	4.50	4.20	4.50	4.50	5.00	4.70	4.98
Ohio	4.00	5.20	5.90	6.00	5.70	5.10	4.90	5.00	5.10	5.50	5.50	5.70	5.30
Indiana	3.50	4.70	4.80	5.50	4.90	4.00	4.20	4.40	4.10	4.40	4.50	4.60	4.47
Illinois	4.30	4.90	5.70	6.50	5.50	4.80	5.00	4.80	4.80	5.00	5.20	5.20	5.14
Michigan	4.60	5.20	6.30	6.00	6.30	5.30	5.40	5.40	4.80	5.90	5.80	6.60	5.63
Wisconsin	3.90	4.80	5.60	6.10	5.90	4.90	4.80	4.40	4.70	5.00	4.50	4.40	4.92
Minnesota	4.00	5.80	5.80	6.00	5.60	5.10	5.20	4.80	4.30	4.90	4.90	5.00	5.12
Iowa	4.40	6.10	7.10	7.10	6.80	5.80	6.00	5.20	5.20	5.40	5.10	6.00	5.85
Missouri	4.40	5.50	5.90	6.60	5.90	5.60	5.10	4.90	5.00	5.30	5.60	5.50	5.44
North Dakota	4.30	4.50	5.00	6.00	6.10	6.00	6.00	5.80	5.50	5.50	5.10	5.20	5.42
South Dakota	4.30	7.00	7.00	7.60	6.80	6.10	5.80	4.50	6.50	6.00	6.30	6.40	6.19
Nebraska	5.40	7.00	8.70	9.00	9.10	7.20	5.50	5.70	7.50	7.30	7.70	7.10	7.27
Kansas	5.50	6.50	7.00	8.20	7.40	6.30	5.90	5.10	6.40	7.10	7.20	7.00	6.63
Kentucky	3.20	4.00	4.70	4.60	5.00	3.90	4.20	4.40	4.60	4.00	4.30	4.00	4.24
Tennessee	3.70	4.00	4.20	4.50	5.00	4.00	4.60	4.30	4.60	4.30	4.50	4.70	4.37
Alabama	5.20	5.80	5.10	5.40	7.40	5.70	5.60	5.50	6.30	5.70	5.80	6.70	5.85
Mississippi	4.70	4.20	3.80	4.70	4.20	4.00	3.90	4.00	4.20	4.90	5.00	4.70	4.36
Louisiana	4.70	3.30	3.10	4.60	5.20	3.50	4.30	4.80	4.00	3.70	4.60	3.30	4.09
Texas	4.20	5.40	5.70	5.80	5.70	6.10	6.10	5.60	5.10	5.40	5.40	5.40	5.49
Oklahoma	3.70	6.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arkansas	3.40	3.40	4.30	4.60	4.70	4.00	4.00	3.80	3.40	4.10	3.20	5.00	3.99
Montana	4.50	5.50	6.40	7.10	7.70	6.60	6.70	6.50	6.00	6.20	6.40	7.40	6.42
Wyoming	5.40	6.00	7.60	7.90	9.00	7.00	6.70	8.80	7.00	8.20	7.50	7.00	7.34
Colorado	6.70	7.50	7.40	7.40	7.20	6.20	7.20	6.70	6.40	6.20	6.20	7.00	6.84
New Mexico	4.00	5.50	6.70	7.80	6.50	7.00	6.80	6.50	6.00	6.30	7.00	7.00	6.42
Arizona	5.00	5.00	6.00	6.50	7.50	7.00	7.00	7.00	6.00	5.00	5.00	6.00	6.08
Utah	4.50	6.80	6.80	7.00	6.30	7.50	7.30	5.60	5.30	5.50	6.00	7.00	6.30
Nevada	4.00	6.00	6.50	7.00	7.00	5.00	8.00	7.00	5.00	5.00	5.00	5.20	5.89
Idaho	5.30	5.80	6.20	7.00	6.50	6.10	5.80	6.00	5.70	5.70	5.80	5.70	5.97
Washington	4.50	5.30	6.00	6.10	7.00	5.90	6.20	4.80	5.80	5.80	6.90	6.50	5.90
Oregon	5.00	6.50	9.20	7.20	7.50	6.50	6.00	6.00	6.50	7.00	7.20	8.00	6.88
California	4.50	5.50	7.20	7.60	6.90	6.30	6.40	7.00	7.00	7.00	7.10	7.20	6.64
United States	4.57	5.71	6.51	6.43	6.65	6.09	6.11	5.98	5.70	5.93	6.02	6.27	[4] 5.96

[1] Division of Crop and Live Stock Estimates, Bureau of Argicultural Economics.
[2] 11 months' average.
[3] 10 months' average.
[4] Weighted average.

SHEEP—Continued.

TABLE 442.—*Sheep and lambs: Monthly farm price per 100 pounds, by States, 15th of month, 1922* [1]—Continued.

LAMBS.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Maine	$9.10	$9.20	$11.50	$12.90	$12.00	$11.50	$10.60	$11.20	$10.70	$11.70	$10.70	$9.70	$10.90
New Hampshire	8.60	8.90	9.50	13.30	12.50	11.80	10.80	10.50	11.10	11.00	10.00	10.00	10.67
Vermont	7.70	8.60	9.00	9.50	9.20	9.40	9.40	8.90	9.20	9.60	10.30	10.10	9.24
Massachusetts	10.50	10.60	14.00	11.00	10.60	14.00	10.20	10.70	10.20	10.00	10.30	9.00	10.92
Rhode Island	8.00	8.70	10.50	11.60	12.00	14.00	12.50	12.00	12.50	11.60	11.70	11.50	11.38
Connecticut	11.00	11.00	11.00	.....	12.00	.....	.....	.....	10.00	.....	.....	.....	[2] 11.00
New York	9.00	9.70	11.00	11.80	11.30	11.00	10.90	9.90	10.50	11.20	11.10	11.90	10.78
New Jersey	14.00	16.00	20.00	16.00	17.00	16.00	16.00	14.00	14.00	13.00	13.00	14.00	15.25
Pennsylvania	8.70	10.00	10.60	10.90	11.50	11.50	10.20	9.70	10.20	10.80	10.50	10.80	10.45
Delaware	.....	10.00	11.00	15.00	14.00	13.00	11.00	11.00	13.00	13.00	14.00	14.00	[2] 12.64
Maryland	8.70	9.10	11.00	14.00	13.40	12.10	10.90	10.60	10.20	11.10	11.40	11.50	11.17
Virginia	7.90	8.70	9.80	11.20	11.40	10.90	10.20	9.60	9.80	9.90	9.90	10.00	9.94
West Virginia	7.00	8.50	9.70	10.00	10.10	9.50	9.10	8.30	8.80	9.50	9.50	9.60	9.13
North Carolina	6.80	7.10	7.50	7.90	8.20	8.90	8.60	7.60	8.20	8.30	8.20	8.40	7.98
South Carolina	8.00	7.50	7.50	7.50	8.10	8.40	8.50	8.60	8.70	8.60	8.50	9.00	8.24
Georgia	6.60	7.10	5.40	7.00	7.10	7.00	7.20	6.50	6.80	6.80	8.40	7.50	6.95
Florida	6.00	6.20	6.20	6.70	7.20	4.50	6.00	5.50	5.00	5.20	5.50	5.50	5.79
Ohio	8.80	9.90	11.00	10.70	10.80	10.00	9.80	9.40	9.70	10.20	10.60	11.30	10.18
Indiana	8.40	9.90	10.50	10.90	11.30	10.10	9.80	9.00	9.90	10.00	10.20	10.60	10.05
Illinois	8.20	9.70	10.80	10.90	10.80	10.00	10.00	9.20	9.70	9.70	10.00	10.70	9.98
Michigan	9.50	10.50	11.60	11.70	12.00	11.00	10.80	10.10	10.30	10.80	11.40	11.80	10.96
Wisconsin	8.10	9.80	11.10	11.80	10.90	10.40	10.10	9.40	9.80	10.00	10.50	10.80	10.22
Minnesota	7.70	9.50	10.40	11.00	10.50	10.10	9.60	9.40	9.50	10.10	10.50	11.20	9.96
Iowa	8.40	10.80	12.10	12.00	11.00	10.30	10.50	9.80	10.30	10.70	11.40	11.80	10.76
Missouri	8.00	9.80	10.80	11.30	10.50	10.20	9.40	8.50	8.40	10.00	9.60	10.10	9.72
North Dakota	6.60	7.30	8.20	9.50	9.60	9.00	9.60	8.50	8.50	8.50	9.00	9.30	8.63
South Dakota	7.80	10.20	11.50	11.60	10.50	9.70	10.00	9.90	9.90	10.00	10.30	11.60	10.25
Nebraska	8.70	10.60	13.20	12.40	12.50	9.60	10.40	9.70	11.10	11.00	11.00	11.00	10.93
Kansas	8.80	11.10	11.50	12.50	10.70	10.60	10.30	9.20	10.40	10.30	11.30	11.10	10.65
Kentucky	6.70	7.90	8.90	10.40	11.00	10.00	9.40	9.20	8.50	8.20	8.30	8.40	8.91
Tennessee	6.00	7.20	7.20	9.60	10.80	9.80	10.00	8.00	7.40	7.30	7.50	7.60	8.20
Alabama	7.80	6.00	7.10	7.80	8.60	9.90	8.40	7.70	6.90	8.10	8.60	8.00	7.91
Mississippi	5.50	5.60	6.70	7.60	6.10	.....	7.90	6.00	6.50	6.30	7.00	6.50	[3] 6.52
Louisiana	6.00	5.20	4.70	7.60	7.80	.....	6.30	5.80	5.10	5.00	5.50	4.00	[3] 5.72
Texas	5.00	6.40	6.70	6.10	7.40	7.50	7.00	7.50	6.10	7.60	7.00	7.00	6.78
Oklahoma	5.60	8.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arkansas	5.00	5.40	6.60	6.60	6.60	6.40	6.50	5.30	5.60	6.70	4.60	6.40	5.98
Montana	7.40	7.50	9.00	9.20	9.70	9.70	9.60	9.70	10.20	10.70	10.70	10.90	9.52
Wyoming	7.70	9.00	11.00	10.30	10.30	10.00	10.00	9.80	10.30	10.70	10.70	10.90	10.06
Colorado	8.00	10.40	12.40	12.40	12.00	10.70	11.10	10.50	10.30	10.80	11.00	11.00	10.88
New Mexico	5.50	8.00	9.00	10.10	9.00	10.40	9.20	9.20	9.60	10.20	11.00	11.00	9.35
Arizona	7.00	7.00	10.00	11.00	12.00	11.00	10.50	10.50	10.50	10.70	10.50	11.00	10.14
Utah	7.00	8.30	9.80	11.00	10.50	11.00	10.00	9.70	10.00	11.00	11.00	11.50	10.07
Nevada	6.00	10.70	11.00	12.00	10.50	10.50	11.00	11.00	10.50	11.00	11.50	11.60	10.61
Idaho	7.10	8.50	9.10	10.10	9.70	9.40	8.50	9.00	8.90	10.00	10.20	9.20	9.14
Washington	6.60	8.20	9.50	9.70	10.80	9.20	7.60	7.20	8.50	8.50	9.70	9.00	8.71
Oregon	7.00	8.00	10.50	10.00	10.00	9.00	7.70	8.50	8.00	9.00	10.00	10.00	8.98
California	7.00	8.50	10.30	11.50	11.00	9.30	9.40	10.00	10.00	10.50	11.00	11.50	10.00
United States	7.33	8.87	10.21	10.54	10.39	9.87	9.55	9.39	9.43	10.06	10.30	10.49	9.70

[1] Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.
[2] Five months' average.
[3] 11 months' average.

SHEEP—Continued.

TABLE 443.—*Sheep and lambs: Monthly and yearly average price per 100 pounds, Chicago, 1910–1922.*[1]

SHEEP, NATIVE AND WESTERN.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.[2]
1910	$5.55	$6.50	$7.60	$7.60	$6.55	$5.10	$4.20	$4.20	$4.25	$3.95	$3.70	$3.90	$5.26
1911	4.10	4.15	4.70	4.20	4.45	3.80	3.95	3.50	3.80	3.65	3.45	3.55	3.94
1912	4.30	4.15	5.30	5.90	6.15	4.50	4.25	4.05	4.15	4.00	4.05	4.45	4.60
1913	5.35	5.90	6.40	6.45	5.85	5.05	4.50	4.35	4.30	4.55	4.60	4.95	5.19
1914	5.50	5.70	5.95	6.25	5.65	5.10	5.40	5.55	5.30	5.30	5.65	5.40	5.56
5-year average	4.96	5.28	5.99	6.08	5.73	4.71	4.46	4.33	4.36	4.29	4.29	4.45	4.91
1915	5.80	6.45	7.45	7.70	7.35	5.50	6.05	6.25	5.75	6.00	5.85	6.20	6.36
1916	7.20	7.75	8.25	8.15	8.20	7.35	7.25	7.35	7.80	7.50	8.00	9.00	7.82
1917	10.00	11.25	11.70	12.10	13.00	10.00	9.10	9.75	11.15	11.65	11.25	11.50	11.04
1918	12.20	12.35	13.60	15.65	14.75	13.40	12.65	13.15	11.80	10.45	9.85	9.40	12.44
1919	10.35	11.35	14.05	14.50	12.25	9.30	9.70	9.75	8.30	8.15	8.30	9.60	10.47
5-year average	9.11	9.83	11.01	11.62	11.11	9.11	8.95	9.25	8.96	8.75	8.65	9.14	9.63
1920	11.80	13.35	13.40	14.25	12.25	8.50	8.90	7.70	6.85	6.45	5.75	4.70	9.49
1921	5.07	4.90	6.14	6.58	6.33	4.46	5.08	4.53	4.49	4.71	4.40	4.92	5.13
1922	7.26	8.28	9.17	9.33	7.35	5.59	6.12	5.63	6.05	6.25	7.48	7.28	7.15

LAMBS, FAT NATIVE AND WESTERN.[3]

1910	$8.30	$8.65	$9.40	$9.10	$8.40	$7.60	$7.10	$6.70	$6.80	$6.65	$6.25	$6.10	$7.59
1911	6.20	6.05	6.10	5.50	5.85	6.10	6.30	6.35	5.70	5.75	5.54	5.75	5.93
1912	6.50	6.15	7.30	7.95	8.30	6.90	7.25	7.10	7.00	6.75	7.15	7.75	7.18
1913	8.55	8.50	8.60	8.40	7.40	6.85	7.55	7.40	7.15	7.05	7.25	7.60	7.69
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
5-year average	7.49	7.39	7.81	7.71	7.61	7.08	7.33	7.14	6.89	6.76	6.99	7.10	7.28
1915	8.40	8.75	9.55	9.65	10.10	9.20	8.75	8.90	8.75	8.75	8.80	9.00	9.05
1916	10.30	10.90	11.10	10.45	10.75	9.55	10.55	10.75	10.60	10.15	11.40	12.70	10.77
1917	13.85	14.30	14.25	14.40	16.90	15.25	15.65	15.50	17.50	17.40	16.75	16.45	15.68
1918	17.20	16.60	17.55	19.20	18.00	16.85	18.50	17.50	17.25	15.35	15.10	14.60	16.98
1919	16.25	17.40	19.05	18.15	16.25	14.05	17.10	16.75	14.85	15.00	14.50	16.40	16.31
5-year average	13.20	13.59	14.30	14.37	14.40	12.98	14.11	13.88	13.79	13.33	13.31	13.83	13.76
1920	19.50	19.95	18.80	18.80	17.40	14.25	15.55	13.20	13.30	12.35	11.53	10.96	15.47
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

[1] Prior to 1921 figures compiled from Chicago Drovers Journal Year Book; subsequent figures from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.
[2] Simple average of monthly average prices.
[3] Prior to November, 1920, figures compiled from Chicago Drovers Journal Year Book; subsequent figures compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

SHEEP—Continued.

TABLE 444.—*Sheep: Monthly average price per 100 pounds, 1922.*[1]

CHICAGO.

Months.	Lambs.			Spring lambs, medium to choice.	Yearling wethers, medium to choice.	Wethers, medium to prime.	Ewes.		Breeding ewes, full mouth to yearling.	Feeder lambs, medium to choice.	Feeder ewes, medium and good.
	Medium to prime (84 lbs. down).	Medium to prime (85 lbs. up).	Culls and common.				Medium to choice.	Culls and common.			
January	$12.22	.....	$10.15	.....	$10.40	$7.49	$5.98	$3.42	.....	$10.86	.....
February	13.84	.....	11.11	.....	11.78	8.31	6.79	3.82	.....	12.17	.....
March	14.61	.....	11.71	.....	12.75	9.83	8.17	4.87	.....	12.62	.....
April	13.62	$13.19	10.88	.....	11.87	9.32	8.26	4.94	.....	.....	.....
May	12.45	12.20	9.31	$14.67	10.18	7.99	6.32	3.44	.....	.....	.....
June	11.90	10.87	8.46	13.65	9.58	6.57	4.96	2.31	$7.97	11.42	.....
July	12.88	.....	9.67	.....	10.10	7.49	6.01	3.12	8.61	12.20	.....
August	12.38	.....	9.96	.....	9.83	7.44	5.55	2.98	8.26	12.08	.....
September	13.33	.....	10.58	.....	10.25	7.44	5.20	2.74	7.99	12.85	.....
October	13.50	.....	10.53	.....	10.62	7.54	5.53	3.26	7.86	13.71	.....
November	13.79	.....	10.92	.....	11.21	8.19	6.34	3.96	7.88	13.18	.....
December	14.29	.....	11.16	.....	11.20	8.00	6.40	3.85	.....	13.70	.....
Average	13.23	.....	10.37	.....	10.81	7.97	6.29	3.56	8.10	12.48	.....

EAST ST. LOUIS.

January	$11.63	.....	$8.88	.....	$9.27	$6.19	$5.22	$2.64	.....	.....	.....
February	13.63	.....	10.64	.....	10.91	7.40	6.35	3.77	.....	.....	.....
March	14.68	.....	11.77	.....	12.11	8.46	7.63	4.67	.....	.....	.....
April	13.17	.....	10.72	$15.40	11.22	8.65	7.44	4.17	.....	.....	.....
May	11.95	.....	9.25	14.20	9.69	7.37	5.84	3.17	.....	.....	.....
June	11.24	.....	7.86	13.04	9.02	6.18	4.18	1.94	$6.40	.....	.....
July	12.07	.....	8.40	.....	9.51	6.42	4.47	2.15	6.46	.....	.....
August	11.43	.....	8.03	.....	9.03	6.77	4.30	2.04	6.70	.....	.....
September	11.98	.....	8.45	.....	9.06	6.88	4.36	2.06	6.30	.....	.....
October	12.44	.....	8.62	.....	9.62	7.06	4.60	2.34	6.31	.....	.....
November	13.09	.....	9.61	.....	10.32	7.67	5.48	3.04	6.90	.....	.....
December	14.04	.....	11.27	.....	11.07	7.82	5.63	3.00	.....	.....	.....
Average	12.61	.....	9.46	.....	10.07	7.24	5.46	2.92	6.51	.....	.....

KANSAS CITY.

January	$11.40	.....	$8.72	.....	$9.45	$6.26	$5.41	$3.13	.....	$9.85	.....
February	13.28	.....	10.22	.....	11.39	7.34	6.46	3.81	.....	11.26	.....
March	14.26	.....	11.06	.....	11.72	8.57	7.70	4.42	.....	12.12	.....
April	14.46	.....	11.17	.....	12.42	8.98	8.19	4.88	.....	12.22	.....
May	12.03	.....	9.08	$13.36	9.63	7.47	6.25	3.73	.....	.....	.....
June	11.18	.....	7.70	12.33	8.62	5.85	4.62	2.22	$6.91	.....	.....
July	11.92	.....	8.26	.....	9.11	7.11	6.12	3.20	7.16	.....	.....
August	11.76	.....	8.46	.....	9.05	7.24	5.90	3.35	7.20	.....	.....
September	12.73	.....	9.40	.....	9.41	7.05	5.46	2.86	7.08	12.23	.....
October	13.12	.....	10.01	.....	9.71	7.02	5.52	2.91	7.32	12.59	.....
November	13.42	.....	10.40	.....	10.37	7.34	6.15	3.24	.....	12.56	.....
December	14.02	.....	11.08	.....	10.88	7.43	6.26	3.25	.....	13.12	.....
Average	12.80	.....	9.63	.....	10.15	7.30	6.17	3.42	7.13	8.00	.....

[1] Compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

SHEEP—Continued.

TABLE 444.—*Sheep: Monthly average price per 100 pounds, 1922*—Continued.

OMAHA.

Months.	Lambs.			Spring lambs, medium to choice.	Yearling wethers, medium to choice.	Wethers, medium to prime.	Ewes.		Breeding ewes, full mouth to yearling.	Feeder lambs, medium to choice.	Feeder ewes, medium and good.
	Medium to prime (84 lbs. down).	Medium to prime (85 lbs. up).	Culls and common.				Medium to choice.	Culls and common.			
January	$11.54	$11.31	$9.62	.....	$9.41	$6.48	$5.48	$3.23	.....	$10.24	.....
February	13.50	13.28	11.12	.....	11.20	7.67	6.56	3.91	.....	12.17	.....
March	14.23	14.01	11.49	.....	11.62	8.96	7.78	4.71	.....	12.77	.....
April	14.43	14.18	11.71	$16.66	12.35	10.14	8.38	5.25	.....	12.60	.....
May	12.34	12.03	9.35	14.24	9.81	8.12	6.30	3.60	.....	11.68	.....
June	11.77	11.02	8.64	13.15	9.40	6.62	4.49	2.18	.....	10.50	.....
July	12.53	.....	9.60	.....	10.12	7.34	5.56	2.96	.....	10.72	.....
August	12.11	.....	9.63	.....	9.24	7.17	5.33	2.89	.....	10.91	.....
September	13.04	.....	10.55	.....	9.62	6.98	4.91	2.87	.....	12.34	.....
October	12.98	.....	10.13	.....	9.86	6.88	4.98	2.67	$8.04	12.92	$4.78
November	13.21	.....	10.56	.....	10.68	7.43	5.97	3.43	8.00	12.38	4.77
December	13.86	.....	11.12	.....	10.84	7.72	6.05	3.22	.....	13.28	.....
Average	12.96	12.64	10.29	.....	10.35	7.63	5.98	3.41	.....	11.88	.....

SOUTH ST. JOSEPH.[1]

June	$11.59	$10.84	$8.13	$12.62	$9.30	$6.32	$4.56	$2.36	.....	.....	.....
July	12.67	.....	9.09	.....	9.73	6.84	5.76	2.82	.....	.....	.....
August	11.96	.....	8.99	.....	8.82	6.91	5.45	2.73	.....	.....	.....
September	13.07	.....	9.80	.....	9.25	6.84	5.34	2.54	.....	.....	.....
October	13.45	.....	10.29	.....	9.58	6.81	5.30	2.60	.....	.....	.....
November	13.57	.....	10.60	.....	10.09	7.26	6.05	3.31	.....	.....	.....
December	13.96	.....	10.92	.....	10.70	7 64	6.62	3.75	.....	.....	.....
Average	12.90	.....	9.69	.....	9.64	6.95	5.58	2.87	.....	.....	.....

SOUTH ST. PAUL.

January	$11.10	.....	$8.39	.....	$9.47	$6.56	$5.30	$2.79	.....	.....	.....
February	12.54	.....	9.46	.....	10.54	7.40	6.36	3.37	.....	.....	.....
March	13.82	.....	10.57	.....	11.68	8.61	7.13	3.60	.....	.....	.....
April	12.80	.....	9.90	.....	11.18	8.65	7.59	4.04	.....	.....	.....
May	11.61	.....	8.26	.....	9.57	7.39	5.93	3.25	.....	.....	.....
June	11.02	.....	7.74	.....	8.73	5.76	4.24	2.84	.....	.....	.....
July	11.91	.....	8.68	.....	9.35	6.50	5.17	3.01	.....	.....	.....
August	11.51	.....	8.57	.....	9.08	6.37	5.02	2.77	.....	.....	.....
September	12.27	.....	9.05	.....	9.14	6.21	4.76	2.40	.....	.....	.....
October	12.65	$12.11	9.12	.....	9.72	6.66	5.05	2.61	$6.79	$11.38	$4.25
November	12.97	12.19	9.82	.....	10.43	7.51	5.82	3.22	.....	.....	.....
December	13.58	.....	10.60	.....	10.78	7.53	5.93	3.33	.....	.....	.....
Average	12.32	.....	9.18	.....	9.97	7.10	5.69	3.10	.....	.....	.....

[1] Did not report until June, 1922.

SHEEP—Continued.

TABLE 445.—*Sheep and lambs: Trend of average farm prices and average market prices, per 100 pounds, at Chicago, 1910–1922.*[1]

Year.	Average farm price.		Average market price at Chicago.		Price relatives, 1913=100.			
					Farm price.		Market price	
	Sheep.	Lambs.	Sheep.	Lambs.	Sheep.	Lambs.	Sheep.	Lambs.
1910	$5.08	$6.40	$5.26	$7.59	113.9	105.8	101.3	98.7
1911	4.07	5.30	3.94	5.93	91.3	87.6	75.9	77.1
1912	4.20	5.60	4.60	7.18	94.2	92.6	88.6	93.4
1913	4.46	6.05	5.19	7.69	100.0	100.0	100.0	100.0
1914	4.79	6.31	5.56	7.99	107.4	104.3	107.1	103.9
1915	5.23	6.85	6.36	9.05	117.3	113.2	122.5	117.7
1916	6.27	8.19	7.82	10.77	140.6	135.4	150.7	140.1
1917	9.54	12.23	11.04	15.68	213.9	202.1	212.7	203.9
1918	10.82	13.98	12.44	16.98	242.6	231.1	239.7	220.8
1919	9.35	12.98	10.47	16.31	209.6	214.5	201.7	212.1
1920	8.11	11.94	9.49	15.47	181.8	197.4	182.9	201.2
1921	4.55	7.20	5.13	9.86	102.0	119.0	98.8	128.2
1922	5.96	9.70	7.15	13.68	133.6	160.3	137.8	177.9

[1] Farm prices from Division of Crop and Live Stock Estimates; market prices from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

TABLE 446.—*Sheep, lamb, and mutton: Monthly statement of the live-stock and meat situation, 1922.*

(Numbers and quantities in thousands; i. e. 000 omitted.)

	January.	February.	March.	April.	May.	June.
Estimated number of sheep on farms in United States [1]	36,327	.....	.....	.....	.....	.....
Receipts of sheep at all public stockyards	1,835	1,399	1,465	1,227	1,692	1,700
Stocker and feeder shipments from public stockyards	183	169	143	97	145	191
Inspected slaughter, sheep and lambs [2]	954	776	837	739	872	1,028
Average live weight [3] ....pounds	84	85	85	83	78	72
Average dressed weight [3] ....do	39	40	40	40	38	35
Total dressed weight (carcass) [3] ....do	37,515	30,754	33,656	29,299	33,226	36,427
Storage, 1st of month:[3]						
Fresh lamb and mutton ....do	6,444	3,914	2,863	2,878	2,071	2,310
Imports:[4]						
Fresh lamb and mutton ....do	569	902	941	1,280	1,497	1,737
Exports: [4 5]						
Fresh lamb and mutton ....do	199	112	82	91	304	230
Prices per 100 pounds:						
Average cost in United States, all classes and grades, sheep and lamb	$10.72	$12.34	$13.38	$13.44	$12.98	$11.35
Lambs, 84 pounds down, medium to prime (Chicago)	$12.22	$13.84	$14.61	$13.62	$12.45	$11.90
Lamb carcasses, good grade (eastern markets)	$25.58	$26.37	$27.69	$29.02	$28.42	$24.19
Sheep, medium to choice grade (Chicago)	$6.74	$7.55	$9.00	$8.79	$7.16	$5.76
Mutton, good grade (eastern markets)	$14.63	$15.94	$19.08	$19.97	$19.93	$14.87

[1] Reports of Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.
[2] Reports of Bureau of Animal Industry.
[3] Reports of Division of Statistical and Historical Research, Bureau of Agricultural Economics.
[4] Reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
Other figures in table from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.
[5] Including reexports.

SHEEP—Continued.

TABLE 446.—*Sheep, lamb, and mutton: Monthly statement of the live-stock and meat situation, 1922*—Continued.

	July.	August.	September.	October.	November.	December.	Total, January-December.
Estimated number of sheep on farms in United States [1]	.....	.....	.....	.....	.....	.....	.....
Receipts of sheep at all public stockyards	1,677	1,951	2,303	3,311	2,288	1,516	22,364
Stocker and feeder shipments from public stockyards	204	350	534	1,138	757	256	4,167
Inspected slaughter, sheep and lambs [2]	964	1,024	1,014	981	882	858	10,929
Average live weight [3] ..... pounds	73	76	78	80	83	86	.....
Average dressed weight [3] ..... do	35	37	37	38	40	41	.....
Total dressed weight (carcass) [3] ..... do	34,033	37,430	37,917	37,777	35,156	35,102	418,292
Storage, 1st of month: [3]							
Fresh lamb and mutton ..... do	3,720	3,308	3,376	3,473	3,458	3,633	.....
Imports: [4 6]							
Fresh lamb and mutton ..... do	416	814	1,281	1,446	236	.....	.....
Exports: [4 5]							
Fresh lamb and mutton ..... do	204	169	102	326	81	57	1,957
Prices per 100 pounds:							
Average cost in United States, all classes and grades, sheep and lamb	$11.58	$12.37	$11.55	$12.14	$12.21	$12.64	.....
Lambs, 84 pounds down, medium to prime (Chicago)	$12.88	$12.38	$13.33	$13.50	$13.79	$14.29	.....
Lamb carcasses, good grade (eastern markets)	$25.29	$24.99	$25.98	$24.66	$24.59	$24.35	.....
Sheep, medium to choice (Chicago)	$6.75	$6.50	$6.32	$6.54	$7.26	$7.20	.....
Mutton, good grade (eastern markets)	$17.22	$15.43	$14.76	$14.58	$14.31	$14.40	.....

[1] Reports of Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.
[2] Reports of Bureau of Animal Industry.
[3] Reports of Division of Statistical and Historical Research, Bureau of Agricultural Economics. Other figures in table from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.
[4] Reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
[5] Including reexports.
[6] Import figures not available for December, 1922.

TABLE 447.—*Sheep: Yearly receipts and shipments at principal markets and all markets, 1900 to 1922.*[1]

[000 omitted.]

RECEIPTS.

Year.	Chicago.	Denver.	East St. Louis.	Fort Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total.	All other markets.	Total all markets.
1900	3,549	306	416	(2)	860	1,277	390	490	61	7,349	(2)	(2)
1901	4,044	226	520	(2)	980	1,315	526	332	67	8,010	(2)	(2)
1902	4,516	317	523	10	1,154	1,743	561	602	61	9,487	(2)	(2)
1903	4,583	465	528	125	1,152	1,864	599	876	42	10,234	(2)	(2)
1904	4,505	519	688	104	1,004	1,754	794	773	28	10,169	(2)	(2)
1905	4,737	738	645	125	1,319	1,971	981	818	57	11,391	(2)	(2)
1906	4,805	826	579	98	1,617	2,165	827	735	64	11,716	(2)	(2)
1907	4,218	828	565	113	1,582	2,039	764	568	65	10,742	(2)	(2)
1908	4,352	675	679	120	1,641	2,106	592	359	59	10,583	(2)	(2)
1909	4,441	632	776	188	1,645	2,167	621	496	78	11,044	(2)	(2)
1910	5,229	600	736	163	1,841	2,985	560	865	151	13,130	(2)	(2)
1911	5,736	617	990	187	2,175	2,978	718	712	212	14,325	(2)	(2)
1912	6,056	775	1,031	284	2,134	2,951	729	628	207	14,795	(2)	(2)
1913	5,903	623	950	328	2,095	3,222	812	785	271	14,989	(2)	(2)
1914	5,378	691	749	408	2,002	3,114	830	795	404	14,371	(2)	(2)
1915	3,510	765	648	363	1,815	3,268	878	704	337	12,288	6,147	18,435
1916	4,291	1,409	671	431	1,758	3,171	804	623	321	13,479	7,213	20,692
1917	3,595	2,060	531	406	1,499	3,017	679	430	267	12,484	7,732	20,216
1918	4,630	1,652	536	335	1,667	3,386	827	630	387	14,050	8,435	22,485
1919	5,244	2,087	724	453	1,945	3,789	1,007	912	686	16,847	10,409	27,256
1920	4,005	2,079	605	394	1,687	2,891	843	729	358	13,591	9,947	23,538
1921	4,734	1,468	636	357	1,780	2,753	931	633	288	13,580	10,588	24,168
1922	3,874	1,867	628	325	1,574	2,533	730	499	223	12,253	10,111	22,364

[1] Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Live stock, Meats and Wool Division, Bureau of Agricultural Economics.
[2] Figures prior to 1915 not obtainable.
[3] Not in operation.

SHEEP—Continued.

TABLE 447.—*Sheep: Yearly receipts and shipments at principal markets and all markets, 1900 to 1922*—Continued.

SHIPMENTS.[1]

Year.	Chicago.	Denver.	East St. Louis.	Fort Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total.	All other markets.	Total all markets.
1900	487	(2)	62	(3)	(2)	552	103	404	28	1,636	(2)	(2)
1901	763	(2)	75	(3)	(2)	563	102	208	20	1,731	(2)	(2)
1902	832	(2)	72	(3)	(2)	863	129	485	25	2,406	(2)	(2)
1903	1,000	(2)	77	(3)	(2)	892	144	682	23	2,818	(2)	(2)
1904	1,362	(2)	101	(3)	(2)	819	275	622	21	3,200	(2)	(2)
1905	1,356	(2)	90	(3)	(2)	1,016	292	612	38	3,404	(2)	(2)
1906	1,341	(2)	108	(3)	(2)	1,176	195	580	27	3,427	(2)	(2)
1907	1,149	(2)	91	(3)	(2)	1,023	181	489	32	2,965	(2)	(2)
1908	1,214	(2)	119	(3)	(2)	1,098	138	241	28	2,838	(2)	(2)
1909	940	(2)	114	(3)	(2)	959	127	348	34	2,522	(2)	(2)
1910	1,494	(2)	77	63	(2)	1,694	137	689	79	4,233	(2)	(2)
1911	1,283	(2)	108	57	(2)	1,565	152	542	63	3,770	(2)	(2)
1912	1,175	(2)	97	111	(2)	1,343	154	431	35	3,346	(2)	(2)
1913	1,450	(2)	70	101	(2)	1,586	175	596	70	4,048	(2)	(2)
1914	1,273	(2)	44	127	(2)	1,198	170	565	87	3,464	(2)	(2)
1915	258	653	72	163	611	1,369	264	536	123	4,049	2,701	6,750
1916	829	1,291	86	259	556	1,301	181	485	114	5,102	4,091	9,193
1917	836	1,958	69	248	583	1,638	207	319	97	5,955	5,055	11,010
1918	1,205	1,484	68	175	744	1,953	248	463	178	6,518	5,686	12,204
1919	1,309	1,822	125	276	783	2,150	301	676	408	7,850	6,735	14,585
1920	1,202	1,864	140	204	623	1,474	228	416	160	6,311	6,252	12,563
1921	1,352	1,288	245	207	485	1,124	200	298	98	5,297	6,036	11,333
1922	1,273	1,693	223	244	558	1,094	154	176	69	5,484	6,193	11,677

[1] Prior to 1915 figures compiled from yearbooks of stockyard companies, except East St. Louis (1900 to 1906 from 14th Annual Report of Bureau 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, Bureau Agricultural Economics.
[2] Figures prior to 1915 not obtainable.
[3] Figures not available prior to 1910.

TABLE 448.—*Sheep: Monthly and yearly receipts at Chicago, Kansas City, Omaha, and East St. Louis, combined, 1910 to 1922.*[1]

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1910	651	522	551	477	577	631	794	1,199	1,609	1,820	1,258	702	10,791
1911	882	686	740	686	763	796	807	1,085	1,566	2,003	1,115	810	11,879
1912	1,020	849	856	770	665	671	837	1,052	1,528	1,906	1,113	905	12,172
1913	892	750	710	770	737	732	831	963	1,869	1,848	1,089	979	12,170
1914	934	863	909	858	707	716	723	979	1,558	1,512	705	779	11,243
5-year average	864	734	753	712	690	709	798	1,056	1,626	1,818	1,056	835	11,651
1915	799	670	723	540	469	531	637	931	1,337	1,000	868	736	9,241
1916	742	697	632	586	632	659	634	991	1,301	1,403	854	761	9,892
1917	796	693	682	592	441	470	526	650	1,111	1,210	715	756	8,642
1918	716	525	620	518	538	554	726	989	1,770	1,569	952	741	10,218
1919	780	547	564	623	612	742	1,098	1,461	1,968	1,400	951	957	11,703
5-year average	767	626	644	572	538	591	724	1,004	1,497	1,316	868	790	9,939
1920	666	619	580	462	532	632	827	1,189	1,288	946	817	631	9,189
1921	813	700	819	754	729	725	645	1,100	1,173	1,095	686	664	9,903
1922	753	602	640	517	659	690	695	826	835	1,072	726	594	8,609

[1] Prior to 1915 compiled from year books of stockyard companies; subsequent figures compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

SHEEP—Continued.

TABLE 449.—*Sheep: Yearly receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1919–1922.*[1]

[000 omitted.]

Markets.	Receipts.				Local slaughter.				Stocker and feeder shipments.			
	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922
Albany, N. Y.	1	(2)	(2)	(2)	(2)	(2)	(2)	.....	.....	.....	.....	.....
Amarillo, Tex.	236	189	38	73	.....	.....	.....	.....	116	86	23	23
Atlanta, Ga.	2	1	2	2	1	1	1	1	(2)	.....	(2)	(2)
Augusta, Ga.	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Baltimore, Md.	371	367	466	306	103	121	186	144	2	1	(2)	1
Billings, Mont.	77	26	3	.....	(2)	.....	1	.....	17	9	.....	.....
Birmingham, Ala.	1	1	1	(2)	(2)	1	1	(2)	(2)	.....	.....	.....
Boston, Mass.	4	5	2	2	.....	.....	.....	.....	.....	.....	.....	.....
Buffalo, N. Y.	1,100	1,052	1,380	1,191	231	263	243	193	14	23	4	3
Chattanooga, Tenn.	3	2	3	4	2	2	3	4	1	(2)	.....	.....
Cheyenne, Wyo.	442	223	148	139	.....	.....	.....	.....	.....	.....	.....	.....
Chicago, Ill.	5,244	4,005	4,734	3,874	3,935	2,803	3,383	2,601	1,106	899	521	688
Cincinnati, Ohio	335	366	438	394	84	81	121	91	8	8	13	15
Cleveland, Ohio	467	420	370	360	176	168	234	189	4	(2)	4	7
Columbia, S. C.	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	.....	.....	.....	.....
Columbus, Ohio	1	1	1	2	(2)	(2)	1	1	.....	.....	.....	.....
Dallas, Tex.	(2)	1	1	1	(2)	1	1	1	.....	.....	.....	.....
Dayton, Ohio	11	9	7	8	4	6	5	5	.....	.....	.....	.....
Denver, Colo.	2,087	2,079	1,468	1,867	241	239	180	172	1,290	1,349	643	1,088
Detroit, Mich.	344	328	343	356	212	216	168	196	8	20	14	12
Dublin, Ga.	(2)	(2)	.....	(2)	.....	.....	.....	.....	(2)	.....	.....	.....
East St. Louis, Ill.	724	605	636	628	599	465	391	405	70	60	33	50
El Paso, Tex.	252	136	71	49	3	7	7	7	189	95	21	30
Emeryville, Calif.	156	157	170	165	156	157	170	165	.....	.....	.....	.....
Erie, Pa.	38	38	.....	.....	4	1	.....	.....	.....	.....	.....	.....
Evansville, Ind.	14	14	8	11	1	3	3	3	(2)	(2)	(2)	(2)
Ft. Worth, Tex.	453	394	357	325	164	206	157	80	163	71	80	136
Fostoria, Ohio	11	17	21	14	(2)	(2)	(2)	2	(2)	1	1	(2)
Indianapolis, Ind.	131	136	145	147	26	31	44	64	.....	6	10	9
Jacksonville, Fla.	2	1	(2)	(2)	1	(2)	(2)	(2)	1	1	.....	(2)
Jersey City, N. J.	1,532	1,554	1,994	1,854	1,532	1,554	1,994	1,854	.....	.....	.....	.....
Kansas City, Mo.	1,945	1,687	1,780	1,574	1,176	1,066	1,307	1,000	672	474	324	385
Knoxville, Tenn.	2	1	1	2	1	1	1	1	1	(2)	.....	2
Lafayette, Ind.	8	8	8	4	2	1	2	1	1	1	1	1
Lancaster, Pa.	74	122	12	27	1	2	2	1	.....	.....	.....	.....
Logansport, Ind.	(2)	1	1	1	.....	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Louisville, Ky.	273	277	286	318	24	29	26	27	31	20	25	34
Marion, Ohio	32	50	15	13	(2)	1	(2)	(2)	2	1	1	2
Memphis, Tenn.	1	2	(2)	1	(2)	.....	(2)	(2)	.....	.....	(2)	(2)
Milwaukee, Wis.	65	61	59	45	42	45	47	34	1	1	.....	.....
Montgomery, Ala.	7	4	2	2	1	1	(2)	(2)	(2)	1	(2)	(2)
Moultrie, Ga.	.....	.....	1	.....	.....	.....	(2)	.....	.....	.....	.....	.....
Nashville, Tenn.	147	129	138	152	15	18	23	27	19	6	4	4
Nebraska City, Nebr.	1	1	(2)	.....	.....	.....	.....	.....	1	(2)	.....	.....
New Brighton, Minn.	276	166	293	290	.....	.....	.....	.....	33	3	75	46
New Orleans, La.	6	6	4	4	4	3	3	2	1	1	1	1
New York, N. Y.	291	158	221	143	291	158	221	143	.....	.....	.....	.....
North Salt Lake, Utah	388	481	368	459	17	15	67	20	277	211	142	276
Ogden, Utah	516	603	576	704	24	17	14	8	171	133	196	281
Oklahoma, Okla.	19	15	18	18	8	5	12	12	6	3	2	3
Omaha, Nebr.	3,789	2,891	2,753	2,533	1,639	1,417	1,626	1,440	1,787	1,124	670	757
Pasco, Wash.	131	92	72	66	(2)	.....	.....	.....	131	67	.....	.....
Peoria, Ill.	4	3	7	3	1	2	3	1	1	1	4	1
Philadelphia, Pa.	298	349	454	352	286	343	446	345	.....	.....	.....	.....
Pittsburgh, Pa.	767	922	1,197	1,204	103	125	148	117	.....	.....	.....	.....

[1] Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.
[2] Less than 500.

SHEEP—Continued.

TABLE 449.—*Sheep: Yearly receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1919–1922*—Continued.

[000 omitted.]

Markets.	Receipts.				Local slaughter.				Stocker and feeder shipments.			
	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922
Portland, Oreg.	215	236	329	205	109	104	151	95	27	40	13	7
Pueblo, Colo.	837	734	541	645	.....	.....	.....	.....	1	1	(1)	3
Richmond, Va.	10	10	13	12	6	7	10	9	2	1	1	1
St. Joseph, Mo.	1,007	843	931	730	706	615	730	576	200	142	107	113
St. Paul, Minn.	912	729	633	499	251	300	316	319	201	113	78	66
San Antonio, Tex.	88	70	49	66	1	2	2	4	46	33	5	38
Seattle, Wash.	102	91	91	70	101	90	91	69	.....	.....	.....	.....
Sioux City, Iowa.	686	358	288	223	282	199	191	153	272	90	64	45
Sioux Falls, S. Dak.	37	5	2	2	(1)	2	1	(1)	28	1	(1)	(1)
Spokane, Wash.	117	127	73	63	13	16	26	11	35	75	12	22
Tacoma, Wash.	33	44	55	39	37	37	55	40	1	2	(1)	(1)
Toledo, Ohio.	54	69	23	20	4	2	3	3	(1)	3	(1)	(1)
Washington, D. C.	20	27	35	21	20	27	34	20	.....	.....	.....	.....
Wichita, Kans.	59	39	32	82	6	5	6	13	19	3	2	17
Total	27,256	23,538	24,168	22,364	12,646	10,981	12,858	10,669	6,956	5,180	3,095	4,167

[1] Less than 500.

TABLE 450.—*Sheep: Monthly and yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1922.*[1]

[000 omitted.]

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Buffalo, N. Y.:													
Receipts	144	106	101	103	72	41	45	74	103	129	140	133	1,191
Local slaughter	22	15	12	11	13	8	10	17	18	23	29	14	192
Stocker and feeder shipments	.....	.....	.....	(2)	(2)	.....	.....	1	1	1	(2)	.....	3
Chicago, Ill.:													
Receipts	362	290	300	239	303	303	297	339	322	469	355	295	3,874
Local slaughter	237	188	197	160	240	264	247	234	201	259	184	190	2,601
Stocker and feeder shipments	21	24	17	6	23	32	39	85	98	166	133	44	688
Cincinnati, Ohio:													
Receipts	9	5	8	9	43	100	83	79	28	16	9	5	394
Local slaughter	7	5	7	7	11	8	8	13	8	9	5	3	91
Stocker and feeder shipments	.....	.....	.....	.....	.....	3	4	5	2	1	(2)	.....	15
Cleveland, Ohio:													
Receipts	33	20	17	23	19	17	18	30	54	45	48	36	360
Local slaughter	15	12	12	13	14	13	16	17	23	17	19	17	188
Stocker and feeder shipments	.....	.....	.....	.....	.....	(2)	(2)	2	4	.....	1	(2)	7
Denver, Colo.:													
Receipts	128	121	155	84	62	17	54	42	175	522	380	127	1,867
Local slaughter	13	16	21	15	12	6	8	10	15	25	17	14	172
Stocker and feeder shipments	44	42	21	7	3	7	36	12	74	381	364	97	1,088
East St. Louis, Ill.:													
Receipts	44	21	22	21	50	117	97	82	48	54	39	33	628
Local slaughter	22	13	16	15	33	67	67	61	31	31	25	24	405
Stocker and feeder shipments	1	2	(2)	(2)	3	7	6	6	5	13	6	1	50
Fort Worth, Tex.:													
Receipts	38	43	45	14	21	18	21	24	31	38	24	8	325
Local slaughter	5	4	9	5	10	7	9	6	7	6	7	5	80
Stocker and feeder shipments	24	36	30	5	1	4	4	4	5	15	6	2	136

[1] Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.
[2] Less than 500.

SHEEP—Continued.

TABLE 450.—*Sheep: Monthly and yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1922*—Continued.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Indianapolis, Ind.:													
Receipts	10	5	6	4	6	15	21	28	20	15	11	6	146
Local slaughter	5	3	3	1	4	7	8	9	10	6	5	3	64
Stocker and feeder shipments	.....	(1)	(1)	.....	(1)	2	2	2	2	1	1	(1)	9
Jersey City, N. J.:													
Receipts	141	128	107	102	116	187	188	222	180	209	147	127	1,854
Local slaughter	141	128	107	102	116	187	188	222	180	209	147	127	1,854
Stocker and feeder shipments	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kansas City, Mo.:													
Receipts	144	116	141	125	151	129	88	103	165	193	124	95	1,574
Local slaughter	88	74	94	90	103	90	65	70	90	88	70	78	1,000
Stocker and feeder shipments	24	23	11	15	30	26	13	26	64	90	47	16	385
Oklahoma, Okla.:													
Receipts	.....	1	1	1	1	1	1	4	3	3	1	1	18
Local slaughter	(1)	1	1	1	.....	.....	1	1	1	4	1	1	12
Stocker and feeder shipments	(1)	.....	.....	.....	(1)	(1)	.....	1	1	(1)	.....	.....	3
Omaha, Nebr.:													
Receipts	203	175	177	132	155	141	212	302	300	356	208	172	2,533
Local slaughter	103	112	117	89	109	103	136	135	152	131	123	130	1,440
Stocker and feeder shipments	14	12	23	17	15	32	63	126	157	188	87	23	757
Pittsburgh, Pa.:													
Receipts	107	67	75	92	104	143	149	147	123	87	61	49	1,204
Local slaughter	9	8	7	9	11	10	11	12	12	11	9	8	117
Stocker and feeder shipments	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Joseph, Mo.:													
Receipts	79	60	75	63	58	50	46	50	62	74	52	61	730
Local slaughter	62	50	61	53	51	45	39	36	44	46	50	49	576
Stocker and feeder shipments	10	3	5	4	4	4	6	13	15	26	13	10	113
St. Paul, Minn.:													
Receipts	60	25	17	7	6	9	21	52	66	105	88	43	499
Local slaughter	32	19	11	6	6	8	17	40	43	48	50	39	319
Stocker and feeder shipments	2	2	1	(1)	1	.....	2	10	12	20	11	5	66
Sioux City, Iowa:													
Receipts	29	23	16	11	9	5	5	10	22	40	34	19	223
Local slaughter	22	18	14	7	6	4	4	9	17	15	22	15	153
Stocker and feeder shipments	1	1	1	1	1	(1)	1	1	5	18	11	4	45

[1] Less than 500.

TABLE 451.—*Mutton: Yearly exports and imports, by principal countries.*

[000 omitted.]

EXPORTS.

Country.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Exported by —											
Argentina	189,411	154,708	101,253	129,384	77,250	113,136	87,787	111,145	125,131	107,353	115,492
Australia [1]	129,569	115,372	204,932	193,264	38,344	66,813	19,175	59,687	246,971	54,894	.....
British South Africa	67	130	28	112	323	1	2	(2)	46	(2)	6
Canada	50	35	58	1,056	83	188	844	731	4,939	8,660	6,991
Denmark	348	422	263	209	810	365	.....	1	282	828	750
France	284	319	399	247	232	229	132	114	134	994	293
Netherlands	15,505	21,053	15,080	19,894	25,150	4,857	4,125	2	5,286	7,011	9,303
New Zealand	211,595	248,569	246,363	280,324	302,218	251,245	169,644	139,575	329,693	428,000	375,946
Russia	361	310	423	105	[3] 125	.....	.....	.....	.....	.....	.....
Sweden	109	78	113	152	54	2	5	1	4	233	.....
United States	2,574	5,076	4,789	3,847	4,231	5,258	2,862	1,631	3,009	3,575	7,515
Uruguay	6,476	3,309	.....	5,356	7,806	8,088	4,589	5,919	17,435	7,617	.....

[1] Year beginning July 1, subsequent to 1913. [2] Less than 500. [3] Tallow.

SHEEP—Continued.

TABLE 451.—*Mutton: Yearly exports and imports, by principal countries*—Continued.

[000 omitted.]

IMPORTS.

Country.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Imported by —											
British South Africa	2,746	1,402	1,593	162	24	10	20	1	175	1,975	[2] 3
Canada	3,409	5,333	5,410	4,194	2,906	2,786	2,008	5,311	4,746	7,406	4,829
Cuba	23	18	83	52	56	13	22	81	67	.....	.....
Denmark	4,055	3,072	4,357	2,913	858	.....	.....	(1)	835	185	2,095
France	622	1,194	975	6,346	20,409	29,309	35,172	29,944	62,134	37,426	22,921
Germany	488	716	1,933	.....	.....	.....	.....	.....	.....	4,971	.....
Netherlands	116	69	42	49	10	40	2,985	13	1,224	1,116	2,717
Sweden	1,331	1,384	938	522	116	26	3	37	137	1,695	.....
United Kingdom	611,868	574,698	604,132	577,339	527,517	406,814	292,922	237,862	478,174	717,332	768,306
United States	.....	.....	554	19,876	11,879	17,235	5,624	608	8,209	101,168	25,395

[1] Less than 500. [2] Intercolonial trade excluded.

TABLE 452.—*Lamb and mutton: Monthly and yearly exports, United States, 1910–1922.*[1]

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1910	128	124	296	103	232	171	137	139	155	154	162	196	1,997
1911	182	234	319	225	131	126	157	147	282	277	242	252	2,574
1912	328	628	380	267	324	312	586	348	503	431	405	564	5,076
1913	470	487	469	294	310	399	286	379	458	325	378	534	4,789
1914	366	409	298	491	409	352	324	375	421	166	144	92	3,847
5-year average	295	376	352	276	281	272	298	278	364	271	266	328	3,657
1915	330	697	328	260	457	283	378	234	385	305	299	275	4,231
1916	319	497	948	905	638	370	237	248	310	236	288	262	5,258
1917	394	298	195	277	234	217	69	329	141	233	84	391	2,862
1918	114	123	168	165	116	165	192	117	100	115	58	198	1,631
1919	236	283	161	198	195	322	239	302	229	309	220	315	3,009
5-year average	279	379	360	361	328	271	223	246	233	240	190	288	3,398
1920	286	318	538	217	862	122	242	175	145	136	109	425	3,575
1921	563	371	431	1,960	996	1,702	395	411	264	100	176	146	7,515
1922	195	112	81	89	303	230	203	169	100	52	76	55	1,665

[1] Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.

TABLE 453.—*Sheep: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.*

BY MARKETS—STRAIGHT SHIPMENTS.[1]

Market.	Crippled.					Dead.		
	Number 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	1,676	77	0.24	0.20	65	0.72	0.67	71
Chicago	16,770	87	.20	.....	.....	.51	.....	.....
East St. Louis	1,926	73	.11	.....	.....	.52	.....	.....
Kansas City	3,390	74	.06	.06	80	.35	.....	.....
Sioux City	1,856	95	.27	.37	128	.33	.38	110
BY MARKETS—MIXED SHIPMENTS.[2]								
Buffalo	22,826	78	0.30	.....	.....	0.73	.....	.....
Chicago	3,124	84	.22	.....	.....	1.09	.....	.....
East St. Louis	856	72	.12	0.13	80	.35	.....	.....
Pittsburgh	19,305	72	.09	.....	.....	.16	.....	.....
St. Paul	2,782	99	.07	.10	125	.21	0.21	91

[1] Straight shipments contain but one species of live stock.
[2] Mixed shipments contain more than one species of live stock.

SHEEP—Continued.

TABLE 453.—*Sheep: Percentage crippled and percentage dead in shipments by cooperative associations, 1921*—Continued.

Market.	Crippled.					Dead.		
	Number of animals upon which figures are based.	Average weight of animals.	Percentage of total number shipped.	Percent age of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
BY DISTANCE—STRAIGHT SHIPMENTS.[1]								
		Pounds.			*Pounds.*			*Pounds.*
Less than 100 miles	3,210	75	0.03	0.04	100	0.18	.....	.....
100-150 miles	7,702	83	.04	.04	77	.35	.....	.....
150-200 miles	6,255	87	.16	.18	97	.30	.....	.....
200-250 miles	4,551	85	.10	.07	52	.31	.....	.....
250-300 miles	860	70	.....	.....	.....	.46	.....	.....
300-350 miles	1,266	84	.08	.05	60	.23	.....	.....
350-400 miles	2,898	88	.41	.....	.....	.72	.....	.....
400-450 miles	2,190	81	.64	.61	79	.39	.....	.....
450-500 miles	648	82	.15	.24	130	.....	.....	.....
500-550 miles	.....	.....	.....	.....	.....	.....	.....	.....
550-600 miles	1,186	80	.....	.....	.....	2.36	.....	.....
BY DISTANCE—MIXED SHIPMENTS.[2]								
Less than 100 miles	11,174	69	0.01	.....	.....	0.39	.....	.....
100-150 miles	10,788	74	.06	.....	.....	.36	.....	.....
150-200 miles	1,890	86	.16	.....	.....	.16	.....	.....
200-250 miles	10,973	88	.07	.....	.....	.19	.....	.....
250-300 miles	1,297	75	.08	.....	.....	1.34	.....	.....
300-350 miles	5,223	80	.15	.....	.....	.25	.....	.....
350-400 miles	21,424	77	.27	.....	.....	.59	.....	.....
400-450 miles	2,457	89	.45	.....	.....	1.47	.....	.....
450-500 miles	375	81	1.07	.....	.....	1.87	.....	.....
BY MONTHS—STRAIGHT SHIPMENTS.[1]								
January	2,097	82	0.09	.....	.....	0.19	.....	.....
February	816	77	.12	.....	.....	1.59	.....	.....
March	1,834	73	.....	.....	.....	.27	.....	.....
April	1,137	70	.....	.....	.....	.35	.....	.....
May	1,161	76	.....	.....	.....	.17	.....	.....
June	2,548	75	.04	.....	.....	.16	.....	.....
July	2,446	74	.53	.....	.....	.16	.....	.....
August	4,218	87	.19	.....	.....	.57	.....	.....
September	4,200	83	.09	.....	.....	.38	.....	.....
October	4,123	86	.07	.....	.....	.34	.....	.....
November	4,287	87	.09	.....	.....	.56	.....	.....
December	1,899	88	.58	.....	.....	.85	.....	.....
BY MONTHS—MIXED SHIPMENTS.[2]								
January	5,309	83	0.21	.....	.....	0.87	.....	.....
February	2,575	82	.47	.....	.....	.97	.....	.....
March	3,966	75	.15	.....	.....	.45	.....	.....
April	5,352	66	.24	.....	.....	.37	.....	.....
May	3,742	74	.11	.....	.....	.08	.....	.....
June	3,351	71	.03	.....	.....	.27	.....	.....
July	2,741	69	.07	.....	.....	.15	.....	.....
August	6,408	74	.16	.....	.....	.20	.....	.....
September	7,289	75	.11	.....	.....	.51	.....	.....
October	10,548	67	.13	.....	.....	.60	.....	.....
November	9,291	79	.11	.....	.....	.43	.....	.....
December	5,029	79	.18	.....	.....	.60	.....	.....

[1] Straight shipments contain but one species of live stock.
[2] Mixed shipments contain more tnan one species of live tock.

SHEEP—Continued.

TABLE 454.—*Sheep: Percentage of shrinkage* [1] *in shipments by cooperative associations, 1921.*

BY DISTANCE.

Distance.	Straight shipments.[2]		Mixed shipments [3]	
	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped.	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped.
Less than 100 miles	2,479	8.90	10,881	7.56
100-150 miles	6,472	7.10	8,373	6.86
150-200 miles	5,139	7.02	1,676	5.92
200-250 miles	1,978	7.22	9,904	8.01
250-300 miles	860	8.65	1,297	9.17
300-350 miles	1,026	9.92	5,204	7.92
350-400 miles	2,237	10.40	18,538	8.56
400-450 miles	2,073	8.77	2,288	8.93
450-500 miles	648	6.87	359	10.02
500-550 miles	.....	.....	.....	.....
550-600 miles	1,186	8.22	.....	.....
BY MONTHS.				
January	1,922	5.20	4,865	6.18
February	567	5.88	2,250	6.55
March	1,736	6.95	3,538	7.42
April	1,013	8.55	5,081	7.84
May	1,060	9.20	3,401	7.74
June	1,723	10.13	2,941	8.88
July	1,873	8.32	2,510	9.30
August	3,285	8.90	5,863	10.68
September	3,098	8.11	6,468	10.01
October	2,983	7.79	9,168	8.02
November	3,349	7.93	8,386	7.08
December	1,489	7.60	4,049	5.56

[1] Shrinkage represents the difference between the shipping point weight and the terminal weight inlcuding 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 containing but one species of live stock.
[3] Mixed shipments containing more than one species of live stock.

WOOL.

TABLE 455.—*Wool: Yearly estimated production, in pounds, by countries and grand divisions.*[1]

[000,000 omitted.]

Country.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Australasia	820	833	750	827	767	645	742	742	825	852	718
South America	500	555	531	455	477	480	470	470	484	487	592
North America	338	322	315	309	308	307	304	318	336	328	298
United Kingdom	143	143	133	125	121	121	121	125	118	99	100
Russia in Europe	320	320	320	320	320	320	320	320	320	150	320
France	78	78	78	80	75	75	65	65	50	50	40
Germany	26	26	26	26	26	26	26	26	26	37	43
Italy	22	21	22	22	22	22	22	22	22	35	79
All other in Europe	225	225	225	227	239	240	240	240	236	380	317
Asia	273	273	273	273	273	273	273	273	327	327	327
Africa	175	175	208	208	208	208	208	208	150	220	169
Total	2,920	2,971	2,881	2,872	2,836	2,717	2,791	2,809	2,894	2,965	3,003

[1] Annual Wool Review of the National Association of Wool Manufacturers, 1921 figures, Annual Wool Review, 1921, Boston ,1922, page 211.

WOOL—Continued.

TABLE 456.—*Wool: Estimated production, 1920–1922.*

State.	Production (000 omitted).			Weight per fleece.			Number of fleeces (000 omitted).		
	1920	1921	1922 [1]	1920	1921	1922	1920	1921	1922 [1]
Maine	760	600	589	6.4	6.0	6.2	119	100	95
New Hampshire	182	161	128	6.5	6.7	6.4	28	24	20
Vermont	430	365	312	7.2	6.3	6.5	60	58	48
Massachusetts	95	102	102	6.5	6.0	6.0	15	17	17
Rhode Island	14	18	19	6.1	5.9	6.3	2	3	3
Connecticut	63	60	54	5.6	6.0	6.0	11	10	9
New York	3,291	2,941	2,882	6.9	6.7	6.8	477	439	424
New Jersey	60	55	55	7.0	6.0	5.8	9	9	9
Pennsylvania	3,582	3,403	3,437	6.5	6.4	6.7	551	532	513
Delaware	17	13	12	5.8	3.5	5.8	3	4	2
Maryland	562	440	449	6.0	6.0	6.4	94	73	70
Virginia	1,596	1,541	1,607	4.6	4.6	4.9	347	335	328
West Virginia	2,500	2,300	2,346	5.0	4.9	4.9	500	469	479
North Carolina	420	395	395	4.2	4.2	4.5	100	94	88
South Carolina	101	97	102	4.5	3.5	4.0	22	28	26
Georgia	165	160	157	3.2	2.8	2.9	52	57	54
Florida	157	150	157	3.2	3.1	3.2	49	48	49
Ohio	14,500	13,200	13,596	7.4	7.2	7.4	1,959	1,833	1,837
Indiana	3,654	3,458	3,527	7.0	7.0	7.0	522	494	504
Illinois	3,974	3,496	3,426	7.8	7.6	7.5	509	460	457
Michigan	8,385	7,714	7,868	7.6	7.2	7.3	1,103	1,071	1,078
Wisconsin	3,219	2,701	2,446	7.4	7.0	7.3	435	386	335
Minnesota	2,660	2,340	2,457	7.1	7.2	7.2	375	325	341
Iowa	5,966	5,369	5,208	7.7	7.5	7.9	775	716	659
Missouri	7,552	5,202	5,098	6.8	6.5	6.6	1,111	800	772
North Dakota	1,899	1,633	1,715	7.5	7.7	7.9	253	212	217
South Dakota	4,804	4,324	4,021	7.0	7.2	7.5	686	601	536
Nebraska	1,886	1,641	1,395	8.0	7.4	8.0	236	222	174
Kansas	2,087	1,878	1,690	7.5	7.0	7.5	278	268	225
Kentucky	3,000	2,600	2,678	5.0	4.7	5.0	600	553	536
Tennessee	1,462	1,320	1,294	4.8	4.5	4.5	305	293	288
Alabama	292	189	185	4.0	3.0	3.5	73	63	53
Mississippi	475	470	446	3.6	3.5	3.0	132	134	149
Louisana	600	508	525	3.9	3.7	3.7	154	137	142
Texas	18,200	18,000	19,300	7.0	7.7	7.2	2,600	2,338	2,681
Oklahoma	477	482	458	7.2	7.3	7.3	66	66	63
Arkansas	394	355	344	4.5	4.3	4.5	88	83	76
Montana	16,000	16,400	15,416	7.9	8.3	8.0	2,025	1,976	1,927
Wyoming	21,000	23,684	22,500	8.3	8.2	8.0	2,530	2,288	2,812
Colorado	6,888	6,839	6,976	6.7	7.0	6.5	1,028	977	1,073
New Mexico	10,600	10,100	9,600	6.3	6.4	6.0	1,683	1,578	1,600
Arizona	4,800	5,616	6,000	6.5	6.0	6.5	738	936	923
Utah	16,150	16,500	15,984	7.8	8.0	7.4	2,071	2,062	2,160
Nevada	7,500	7,000	6,580	7.3	7.3	6.5	1,027	959	1,012
Idaho	18,650	16,800	15,000	8.1	8.0	7.8	2,302	2,100	1,923
Washington	5,201	4,421	4,112	8.7	8.8	7.7	598	502	534
Oregon	14,435	14,435	12,992	8.4	8.6	7.5	1,718	1,678	1,732
California	14,300	14,070	13,455	7.6	7.5	6.9	1,882	1,876	1,950
United States	235,005	225,546	219,095	7.3	7.4	7.1	32,301	30,287	31,003

[1] Preliminary estimate.

WOOL—Continued.

TABLE 457.—*Wool (unwashed): Farm price, cents per pound, 15th of month, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	24.5	24.6	24.9	22.3	22.8	19.5	19.0	19.5	17.7	18.1	17.9	17.8
1911	17.3	17.3	16.8	15.7	14.7	15.5	15.4	16.0	15.6	15.5	15.6	15.5
1912	16.2	16.3	16.9	17.3	17.8	18.7	18.9	18.8	18.7	18.5	18.6	18.6
1913	18.6	18.7	18.4	17.7	16.3	15.6	15.9	15.8	15.8	15.5	15.6	16.1
1914	15.7	15.7	16.4	16.8	17.2	18.4	18.5	18.7	18.6	18.0	18.1	18.6
1915	18.6	20.2	22.8	22.7	22.0	23.7	24.2	23.8	23.3	22.7	22.7	23.3
1916	23.3	24.2	25.9	26.3	28.0	28.7	28.6	29.0	28.4	28.7	29.4	30.8
1917	31.8	32.7	36.7	38.8	43.7	49.8	54.3	54.8	54.2	55.5	55.9	58.2
1918	58.1	57.1	60.0	60.0	58.2	57.4	57.5	57.4	57.7	57.7	56.4	56.2
1919	55.2	51.1	51.3	47.9	48.0	50.5	51.8	52.2	51.3	50.6	51.0	51.6
1920	53.3	52.5	51.5	51.3	50.3	38.6	29.5	28.3	28.0	27.5	24.9	21.9
1921	19.6	19.8	18.9	17.9	16.0	15.4	15.5	15.4	15.5	15.8	15.6	16.9
1922	18.0	22.3	25.0	24.8	29.0	32.8	32.5	31.6	31.6	32.2	33.2	35.3
Av., 1913–1922	31.2	31.4	32.7	32.4	32.9	33.1	32.8	32.7	32.4	32.4	32.3	32.9

TABLE 458.—*Wool: Monthly and yearly average price per pound, Boston market, 1910 to 1922.*[1]

OHIO, PENNSYLVANIA, AND WEST VIRGINIA—FINE CLOTHING, UNWASHED.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average.
1910	$0.28	$0.28	$0.27	$0.25	$0.24	$0.22	$0.22	$0.21	$0.21	$0.23	$0.23	$0.23	$0.24
1911	.23	.22	.21	.20	.19	.19	.20	.20	.21	.21	.21	.22	.21
1912	.22	.22	.22	.22	.22	.22	.24	.24	.24	.24	.24	.24	.23
1913	.24	.24	.23	.22	.21	.21	.21	.21	.21	.21	.21	.21	.22
1914	.21	.21	.22	.22	.23	.24	.25	.25	.25	.24	.24	.24	.23
Average	.24	.23	.23	.22	.22	.22	.22	.22	.22	.23	.23	.23	.23
1915	.25	.29	.29	.26	.26	.26	.27	.27	.27	.27	.27	.27	.27
1916	.28	.28	.29	.31	.31	.31	.31	.31	.31	.33	.34	.37	.31
1917	.39	.42	.45	.44	.47	.55	.58	.63	.66	.63	.65	.65	.54
1918	.65	.65	.65	.67	.64	.62	.67	.64	.62	.67	.64	.62	.64
1919	.57	.56	.54	.53	.53	.58	.68	.70	.70	.67	.68	.70	.62
Average	.43	.44	.44	.44	.44	.46	.50	.51	.51	.51	.52	.52	.48
1920 [2]	.70	.75	.76	.70	.65	.60	.57	.54	.54	.42	.38	.38	.58
1921	.31	.31	.32	.32	.31	.30	.28	.28	.28	.28	.29	.31	.30
1922	.34	.38	.38	.38	.40	.46	.47	.47	.47	.49	.50	.50	.44

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
1911	61	.59	.54	.53	.52	.52	.55	.56	.59	.60	.61	.61	.57
1912	.61	.61	.61	.61	.61	.61	.63	.68	.68	.68	.67	.67	.64
1913	.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
Average	.63	.63	.60	.59	.58	.58	.59	.61	.61	.61	.61	.61	.60
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
1918	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
1919	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
Average	1.18	1.21	1.24	1.27	1.26	1.36	1.39	1.40	1.41	1.45	1.46	1.48	1.34
1920 [2]	2.00	2.05	2.05	2.00	2.00	1.75	1.60	1.45	1.30	1.20	.95	.90	1.60
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

[1] 1910–1920 data from National Association of Wool Manufacturers. 1921–1922 data from Boston Commercial Bulletin.
[2] Prices June to December, 1920, largely nominal.

WOOL—Continued.

TABLE 459.—*Wool: Quarterly average price per pound on farms, by leading districts, 1910–1922.*

Year and month.	Ohio, Pennsylvania, and West Virginia.	Michigan, Wisconsin, and New York.	Kentucky and Indiana.	Missouri, Iowa, and Illinois.	Texas.	California.	Montana, Wyoming, Utah, Idaho, Oregon, Nevada, and Arizona.	New Mexico.	Florida, Alabama, Mississippi, Louisiana, anp Georgia.
Average 1910–1914:									
January	$0.23	$0.21	$0.22	$0.20	$0.16	$0.14	$0.17	$0.15	$0.21
April	.22	.20	.21	.19	.16	.14	.16	.15	.19
July	.22	.21	.21	.19	.16	.15	.16	.14	.19
October	.22	.21	.20	.19	.15	.13	.16	.14	.18
Average 1915–1919:									
January	.44	.42	.42	.39	.31	.32	.38	.29	.31
April	.47	.45	.45	.42	.34	.36	.39	.35	.34
July	.51	.49	.48	.46	.37	.39	.41	.37	.38
October	.52	.50	.48	.45	.37	.36	.41	.37	.38
1920:									
January	.63	.58	.54	.52	46	.45	.50	.45	.48
April	.58	.50	48	.44	45	.44	.44	.44	.41
July	.33	.30	.34	.28	.30	.28	.28	.25	.25
October	.28	.26	.27	.22	.24	.23	.26	.22	.19
1921:									
January	.27	.23	.22	.18	.20	.13	.19	.15	.17
April	.22	.19	.17	.17	.15	.10	.16	.14	.16
July	.19	.18	.16	.15	.14	.12	.16	.12	.13
October	.20	.18	.17	.15	.14	.13	.16	.14	.14
1922:									
January	.25	.23	.19	.19	.17	.23	.24	.18	.14
April	.33	.29	.27	.25	.26	.31	.31	.26	.18
July	.38	.33	.31	.30	.33	.35	.31	.30	.24
October	.38	.35	.32	.32	.34	.31	.34	.32	.23

TABLE 460.—*Stocks of wool, tops, and noils held by dealers and manufacturers in United States, 1918–1922.*

[000 omitted.]

Date.	Held by dealers.					Held by manufacturers.				
	Grease.	Scoured.	Pulled.	Tops.	Noils.	Grease.	Scoured.	Pulled.	Tops.	Noils.
1918.										
Jan. 1	156,639	27,849	12,229	4,642	7,565	172,342	29,912	9,627	18,677	13,567
Apr. 1	91,209	22,887	14,444	3,555	6,054	131,606	23,672	13,401	16,117	11,387
July 1	202,241	11,721	10,478	2,074	3,848	136,267	19,601	9,433	14,251	13,064
Oct. 1	219,659	12,926	10,701	347	3,655	101,900	16,236	8,449	12,288	12,467
1919.										
Jan. 1	81,923	12,347	10,215	1,422	5,104	58,602	13,816	5,233	10,395	12,385
Apr. 1	28,690	7,952	5,984	898	2,823	72,637	13,654	6,663	10,962	10,381
July 1	198,298	22,155	10,108	1,801	2,577	147,678	16,117	11,740	11,388	9,820
Oct. 1	207,264	27,921	14,497	3,446	3,184	181,301	17,705	7,829	15,286	9,822
1920.										
Jan. 1	152,003	24,630	17,907	4,735	3,893	148,239	20,030	10,152	13,875	7,316
Apr. 1	123,247	26,279	17,710	3,646	4,305	135,645	28,100	9,339	14,328	8,670
July 1	144,837	27,963	15,207	4,487	6,041	112,434	23,078	6,762	15,439	9,002
Oct. 1	179,376	29,988	11,229	5,564	4,754	75,288	15,612	12,067	15,839	9,124
1921.										
Jan. 1	188,822	27,814	14,352	6,616	5,434	119,766	17,291	6,895	18,851	9,991
Apr. 1	194,891	22,807	15,505	7,623	3,690	159,599	18,442	17,095	19,325	9,316
July 1	176,584	19,703	12,127	4,883	4,139	164,713	18,042	10,787	20,247	8,101
Oct. 1	181,574	19,480	11,201	4,005	3,009	180,727	19,736	10,484	23,184	7,463
1922.[1]										
Jan. 1	101,384	13,468	10,222	2,866	2,453	171,597	21,097	9,312	17,536	7,136
Apr. 1	70,415	10,995	6,969	2,296	1,373	171,026	25,406	10,419	18,029	7,176
July 1	156,523	13,447	6,988	2,627	1,619	165,810	22,201	9,642	20,720	6,709
Oct. 1	176,377	16,521	7,384	3,327	2,695	191,351	20,336	8,686	19,227	5,904

[1] Figures for 1922 do not include estimates for firms not reporting.

WOOL—Continued.

TABLE 461.—*Wool: International trade, calendar years 1909–1921.*

"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. See "General note," Table 363.

Country.	Average, 1909–1913.		1919		1920		1921	
	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.*
Algeria	2,445	19,871	2,787	17,269	2,456	14,598	2,090	19,141
Argentina	214	328,204	54	339,208	.....	195,376	.....	316,484
Australia	324	676,679	43	680,769	324	511,653	.....	.....
British India	23,721	56,496	27,344	36,104	22,766	28,956	17,904	24,134
British South Africa	7	164,651	889	202,039	183	191,248	43	247,608
Chile	1,247	28,223	128	27,500	675	30,392	188	26,902
China	.....	42,684	.....	56,705	.....	20,147	.....	68,205
New Zealand	168	194,801	5	274,247	37	162,327	.....	149,860
Persia	[1] 2,753	10,023	431	1,558	303	3,647	.....	.....
Peru	[1] 3	9,333	24	11,329	35	7,450	.....	.....
Spain	2,446	28,505	6,739	19,095	4,488	14,846	2,113	5,257
Uruguay	.....	139,178	.....	141,330	.....	69,393	.....	.....
PRINCIPAL IMPORTING COUNTRIES.								
Austria-Hungary	63,942	9,622	.....	.....	[2] 3,963	[2] 889	[2] 15,362	[2] 2,432
Belgium	300,367	196,440	102,764	29,703	272,206	154,314	197,814	141,293
Canada	7,794	1,323	8,035	10,100	12,268	6,289	9,204	3,310
France	601,628	84,973	351,803	8,462	363,545	33,696	310,922	33,422
Germany	481,988	42,817	.....	.....	122,779	1,230	.....	.....
Japan	10,223	.....	52,232	.....	71,541	.....	30,531	.....
Netherlands	31,991	26,362	16,303	3,783	14,256	5,702	14,712	3,760
Russia	106,184	32,406	.....	.....	.....	.....	.....	.....
Sweden	7,267	149	15,371	58	8,756	96	9,813	.....
Switzerland	11,211	338	10,249	151	10,317	234	12,193	54
United Kingdom	550,931	42,027	985,510	18,708	720,457	22,536	466,668	36,569
United States	203,298	[3] 46	445,893	2,840	259,618	8,845	320,666	1,927
Other countries	48,668	55,754	82,974	19,300	86,902	12,589	53,234	15,973
Total	2,458,820	2,190,905	2,109,578	1,900,258	1,977,875	1,496,453	1,463,457	1,096,331

[1] Three-year average. [2] Austria only. [3] One year only.

SWINE.

TABLE 462.—*Swine: Number and value on farms in the United States, January 1, 1870–1923.*

[See headnote to Table 370.]

[000 omitted.]

Year.	Number.	Farm value, Jan. 1.	Year.	Number.	Farm value, Jan. 1.
1870, June 1	*25,135*	$140,532	1915	64,618	$637,479
1880, June 1	*17,682*	211,036	1916	67,766	569,573
1890, June 1	*57,410*	281,686	1917	67,503	792,898
1900, June 1	*62,868*	346,014	1918	70,978	1,387,261
1910, Apr. 15	*58,186*	533,309	1919	74,584	1,642,598
1911	65,620	615,170	1920	59,344	1,131,674
1912	65,410	523,328	1921	56,097	727,380
1913	61,178	603,109	1922	57,834	582,448
1914	58,933	612,951	1923 [1]	63,424	726,699

[1] Preliminary estimate.

TABLE 463.—*Swine: Farm price per head January 1, 1867–1923.*

Year.	Price, Jan. 1.	Year.	Price, Jan. 1.	Year.	Price, Jan. 1.	Year.	Price, Jan. 1.
1867	$4.03	1882	$5.97	1897	$4.10	1912	$8.00
1868	3.29	1883	6.75	1898	4.39	1913	9.86
1869	4.65	1884	5.57	1899	4.40	1914	10.40
1870	5.59	1885	5.02	1900	5.50	1915	9.87
1871	5.61	1886	4.26	1901	6.20	1916	8.40
1872	4.01	1887	4.48	1902	7.03	1917	11.75
1873	3.67	1888	4.98	1903	7.78	1918	19.54
1874	3.98	1889	5.79	1904	6.15	1919	22.02
1875	4.80	1890	4.91	1905	5.99	1920	19.07
1876	6.00	1891	4.15	1906	6.18	1921	12.97
1877	5.66	1892	4.60	1907	7.62	1922	10.07
1878	4.85	1893	6.41	1908	6.05	1923	11.46
1879	3.18	1894	5.98	1909	6.55		
1880	4.43	1895	4.97	1910	9.17		
1881	4.70	1896	4.35	1911	9.37		

SWINE—Continued.

TABLE 464.—*Swine: Number and value on farms January 1, 1921–1923, by States.*

States.	Number (thousands) Jan. 1—			Average price per head Jan. 1—			Farm value (thousands of dollars) Jan. 1—		
	1921	1922	1923 [1]	1921	1922	1923	1921	1922	1923 [1]
Maine	73	69	68	$21.00	$14.70	$18.30	1,533	1,014	1,244
New Hampshire	33	30	28	20.00	15.00	17.00	660	450	476
Vermont	63	53	59	14.80	12.40	14.00	932	657	826
Massachusetts	83	76	72	20.50	16.30	17.00	1,702	1,239	1,224
Rhode Island	12	12	12	21.00	17.50	18.10	252	210	217
Connecticut	55	47	45	20.00	17.00	17.70	1,100	799	796
New York	559	520	546	17.50	14.50	15.50	9,782	7,540	8,463
New Jersey	126	132	132	20.00	17.00	17.50	2,520	2,244	2,310
Pennsylvania	1,143	1,143	1,200	17.50	14.50	16.00	20,002	16,574	19,200
Delaware	37	41	43	16.00	10.00	11.00	592	410	473
Maryland	291	285	299	13.00	11.50	13.00	3,783	3,278	3,887
Virginia	847	754	792	11.50	9.60	10.50	9,740	7,238	8,316
West Virginia	293	293	316	14.00	10.80	12.30	4,102	3,164	3,887
North Carolina	1,246	1,258	1,271	15.70	12.00	13.30	19,562	15,096	16,904
South Carolina	853	938	947	13.50	9.20	11.00	11,516	8,630	10,417
Georgia	2,030	2,131	2,152	11.50	8.60	7.80	23,345	18,327	16,786
Florida	740	725	703	10.00	7.00	7.50	7,400	5,075	5,272
Ohio	2,806	2,862	3,091	13.30	10.90	12.10	37,320	31,196	37,401
Indiana	3,532	3,567	4,102	13.00	11.00	11.90	45,916	39,237	48,814
Illinois	4,129	4,046	4,693	13.70	10.50	12.50	56,567	42,483	58,662
Michigan	1,084	1,051	1,135	14.30	11.30	12.50	15,501	11,876	14,188
Wisconsin	1,676	1,659	1,725	14.50	10.50	13.10	24,302	17,420	22,598
Minnesota	2,262	2,330	2,610	15.30	11.20	13.20	34,609	26,096	34,452
Iowa	7,471	8,218	9,615	14.50	11.00	12.80	108,330	90,398	123,072
Missouri	3,656	3,915	4,306	11.00	8.50	9.80	40,216	33,278	42,199
North Dakota	431	435	478	14.00	11.00	13.50	6,034	4,785	6,453
South Dakota	1,759	1,935	2,283	13.50	10.00	13.50	23,746	19,350	30,820
Nebraska	3,505	3,680	4,232	13.50	10.00	12.00	47,318	36,800	50,784
Kansas	1,837	2,275	2,776	12.00	9.50	11.00	22,044	21,612	30,536
Kentucky	1,278	1,214	1,311	9.90	7.50	8.80	12,652	9,105	11,537
Tennessee	1,594	1,546	1,654	9.50	8.00	9.30	15,143	12,368	15,382
Alabama	1,347	1,307	1,281	10.00	8.60	9.30	13,470	11,240	11,913
Mississippi	1,195	1,183	1,207	9.50	8.00	8.00	11,352	9,464	9,656
Louisiana	749	756	756	11.70	8.60	7.80	8,763	6,502	5,897
Texas	2,426	2,475	2,326	11.80	8.50	8.80	28,627	21,038	20,469
Oklahoma	1,213	1,334	1,401	10.30	8.50	8.80	12,494	11,339	12,329
Arkansas	1,268	1,125	1,114	8.80	7.10	6.90	11,158	7,988	7,687
Montana	160	180	198	16.50	13.10	13.20	2,640	2,358	2,614
Wyoming	68	73	84	14.00	12.00	12.50	952	876	1,050
Colorado	414	455	523	12.30	9.60	10.50	5,092	4,368	5,492
New Mexico	90	94	89	15.00	9.00	10.00	1,350	846	890
Arizona	48	50	57	16.00	12.00	13.00	768	600	741
Utah	90	90	108	13.00	10.00	10.90	1,170	900	1,177
Nevada	25	25	25	11.00	10.00	14.00	275	250	350
Idaho	206	196	235	12.50	11.00	11.50	2,575	2,156	2,702
Washington	236	197	217	15.00	12.50	14.80	3,540	2,462	3,212
Oregon	240	220	231	12.80	10.70	11.20	3,072	2,354	2,587
California	818	834	876	14.50	11.70	11.80	11,861	9,758	10,337
United States	56,097	57,834	63,424	12.97	10.07	11.46	727,380	582,448	726,699

[1] Preliminary estimate.

TABLE 465.—*Swine: Yearly losses per 1,000, from disease, 1888–1923.*

Year.	Losses per 1,000.	Year.	Losses per 1,000.	Year.	Losses per 1,000.	Year.	Losses per 1,000.
1888	77.5	1897	144.0	1906	51.1	1915	.....
1889	61.7	1898	92.8	1907	48.9	1916	66.2
1890	76.1	1899	82.1	1908	52.4	1917	48.6
1891	83.7	1900	64.4	1909	51.0	1918	42.1
1892	54.4	1901	74.7	1910	45.1	1919	41.4
1893	63.1	1902	51.5	1911	44.8	1920	49.8
1894	48.6	1903	58.2	1912	89.2	1921	43.0
1895	92.3	1904	57.9	1913	110.1	1922	54.4
1896	127.0	1905	50.8	1914	118.9	1923	.....

SWINE—Continued.

TABLE 466.—*Hogs: Farm price per 100 pounds, 1910–1922.*

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	$7.76	$7.87	$8.93	$9.26	$8.59	$8.46	$8.15	$7.78	$8.27	$8.08	$7.61	$7.16
1911	7.44	7.04	6.74	6.17	5.72	5.66	5.92	6.54	6.53	6.09	5.86	5.72
1912	5.74	5.79	5.94	6.78	6.79	6.65	6.64	7.11	7.47	7.70	7.05	6.89
1913	6.77	7.17	7.62	7.94	7.45	7.61	7.81	7.79	7.68	7.60	7.33	7.16
1914	7.45	7.75	7.80	7.80	7.60	7.43	7.72	8.11	8.11	7.43	7.00	6.67
1915	6.57	6.34	6.33	6.48	6.77	6.80	6.84	6.61	6.79	7.18	6.35	6.02
1916	6.32	7.07	7.86	8.21	8.37	8.21	8.40	8.61	9.22	8.67	8.74	8.76
1917	9.16	10.33	12.32	13.61	13.72	13.50	13.35	14.24	15.69	16.15	15.31	15.73
1918	15.26	15.03	15.58	15.76	15.84	15.37	15.58	16.89	17.50	16.50	15.92	15.82
1919	15.69	15.53	16.13	17.39	18.00	17.80	19.22	19.30	15.81	13.88	13.36	12.66
1920	13.36	13.62	13.59	13.73	13.44	13.18	13.65	13.59	13.98	13.57	11.64	8.90
1921	8.72	8.58	9.13	7.96	7.62	7.22	8.09	8.73	7.51	7.31	6.66	6.52
1922	6.89	8.24	9.08	8.83	9.05	9.11	9.12	8.54	8.23	8.33	7.78	7.63
Av. 1913–1922	9.62	9.97	10.54	10.87	10.79	10.62	10.98	11.24	11.05	10.66	10.01	9.59

TABLE 467.—*Hogs: Monthly farm price per 100 pounds, 15th of month, by States, 1922.*[1]

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Maine	$7.60	$8.00	$9.20	$9.60	$9.20	$9.60	$9.30	$9.10	$8.90	$9.50	$9.20	$9.00	$9.02
New Hampshire	7.80	8.50	8.80	8.70	9.50	9.10	9.00	9.70	8.80	8.60	8.90	8.90	8.86
Vermont	7.20	8.10	9.00	8.40	9.00	9.40	9.50	9.20	8.50	8.70	8.70	8.30	8.67
Massachusetts	8.10	9.10	10.10	9.70	11.30	10.20	10.40	9.60	9.60	10.10	10.20	9.30	9.81
Rhode Island	9.50	9.60	10.00	9.90	10.70	10.40	10.00	10.50	9.80	10.80	10.60	11.00	10.23
Connecticut	9.00	9.00	9.50	10.00	10.50	9.10	10.40	10.00	10.00	11.20	10.00	10.20	9.91
New York	7.60	8.30	9.20	9.10	9.40	9.40	9.60	9.60	9.00	9.30	9.10	9.00	9.05
New Jersey	9.20	9.30	9.80	9.50	9.00	11.00	10.00	9.50	9.00	9.00	9.00	9.00	9.44
Pennsylvania	8.20	9.20	10.00	9.70	9.50	9.90	9.80	9.60	9.50	9.50	9.20	9.30	9.45
Delaware	8.20	9.50	10.00	10.00	10.00	10.00	9.60	10.00	10.00	10.80	10.50	10.10	9.89
Maryland	8.00	8.80	9.80	9.20	9.60	9.50	9.90	9.60	9.40	9.50	9.10	9.40	9.32
Virginia	7.90	8.40	9.40	9.10	9.20	9.30	9.60	9.50	9.20	9.40	8.90	8.50	9.03
West Virginia	7.60	8.40	9.10	8.70	9.10	8.90	8.80	8.90	8.90	8.50	8.80	8.60	8.69
North Carolina	9.60	9.20	9.40	9.80	8.70	9.40	9.90	9.90	9.80	10.10	10.40	10.30	9.71
South Carolina	8.00	8.00	8.20	8.30	8.30	8.40	9.00	9.00	9.00	8.70	8.80	8.50	8.52
Georgia	6.00	6.10	7.10	7.10	7.60	8.10	8.00	8.00	8.00	8.20	7.70	7.30	7.43
Florida	5.70	5.90	7.20	7.50	7.50	8.50	8.00	8.00	7.70	7.50	7.00	6.70	7.27
Ohio	7.50	9.10	10.30	9.80	10.00	9.90	10.10	9.10	9.00	8.90	7.90	7.80	9.12
Indiana	7.40	9.00	10.00	9.60	9.80	9.90	10.10	9.00	8.70	8.80	7.80	7.70	8.98
Illinois	7.00	8.70	9.70	9.30	9.40	9.40	9.60	8.80	8.80	8.60	7.70	7.60	8.72
Michigan	7.20	8.80	9.60	9.50	9.70	9.80	9.50	9.10	8.60	8.90	8.00	7.80	8.88
Wisconsin	6.60	8.20	9.20	8.90	9.20	9.30	9.10	8.50	8.00	8.20	7.40	7.30	8.32
Minnesota	6.50	8.60	9.30	9.10	9.40	9.30	8.90	8.10	7.70	8.00	7.40	7.40	8.31
Iowa	6.80	8.80	9.70	9.40	9.60	9.60	9.50	8.60	7.90	8.20	7.40	7.40	8.58
Missouri	6.80	8.50	9.40	8.90	9.30	9.30	9.30	8.90	8.20	8.90	7.50	7.50	8.54
North Dakota	5.90	7.20	8.00	7.50	8.00	8.00	8.20	7.60	7.00	7.30	7.00	6.90	7.38
South Dakota	6.40	8.10	9.20	8.90	9.10	9.20	8.90	7.70	7.30	7.70	7.10	7.10	8.06
Nebraska	6.30	8.40	8.90	9.00	9.10	9.20	8.80	7.70	7.50	7.50	7.10	7.00	8.04
Kansas	6.40	8.40	9.00	9.00	9.30	9.40	9.30	8.50	8.10	8.20	7.20	7.20	8.33
Kentucky	7.30	8.50	9.50	8.90	9.20	9.10	9.60	9.00	8.60	8.20	7.70	7.90	8.62
Tennessee	7.00	8.50	9.00	8.60	8.70	9.00	9.50	8.70	9.50	8.30	8.00	7.90	8.56
Alabama	6.20	6.80	7.20	7.40	8.30	8.10	8.30	8.10	7.80	7.80	9.50	7.90	7.78
Mississippi	6.50	6.60	7.60	7.30	7.80	7.30	7.30	7.50	7.50	7.80	7.70	7.80	7.39
Louisiana	6.80	6.70	7.10	6.80	7.00	6.50	6.70	6.50	7.30	7.10	7.60	7.20	6.94
Texas	5.80	6.80	7.30	7.40	7.50	7.50	7.60	7.40	7.00	7.20	7.40	7.20	7.18
Oklahoma	6.20	7.60	8.40	8.50	8.80	8.90	8.50	8.00	7.50	7.50	7.20	7.10	7.85
Arkansas	6.00	6.50	6.90	5.80	7.00	7.00	7.10	7.20	7.00	7.20	6.90	6.60	6.77
Montana	7.20	7.70	8.40	8.90	8.90	8.80	9.00	9.00	9.00	8.90	8.80	8.20	8.57
Wyoming	6.50	6.70	8.00	8.10	9.20	8.30	9.00	8.00	8.10	8.40	7.60	7.00	7.91
Colorado	6.00	7.50	9.00	8.90	8.80	9.00	8.90	8.70	8.50	8.20	7.50	7.00	8.17
New Mexico	6.20	6.70	8.10	8.10	8.10	8.20	8.80	8.50	7.30	7.60	7.50	7.00	7.68
Arizona	8.20	9.00	9.00	9.00	9.50	9.50	9.20	9.50	9.50	10.00	9.70	8.50	9.22
Utah	7.20	8.50	9.10	9.50	8.70	9.50	8.70	8.80	8.00	8.20	8.00	7.40	8.47
Nevada	7.20	9.50	9.60	10.00	10.00	11.00	9.50	11.00	9.00	10.00	9.80	9.20	9.65
Idaho	6.70	8.20	8.60	9.10	9.30	9.60	9.50	10.00	9.00	9.20	8.20	7.60	8.75
Washington	7.70	9.20	10.40	10.40	10.50	10.10	10.60	10.80	9.70	9.80	9.10	8.50	9.73
Oregon	8.00	10.50	11.00	10.70	10.20	10.50	10.50	11.00	9.00	9.50	8.70	8.20	9.82
California	8.20	9.00	10.40	10.20	10.30	10.20	10.50	11.00	10.30	10.00	10.00	9.40	9.96
United States	6.89	8.24	9.08	8.83	9.05	9.11	9.12	8.54	8.23	8.33	7.78	7.63	8.32

[1] Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.

SWINE—Continued.

TABLE 468.—*Hogs: Monthly and yearly average price per 100 pounds, Chicago, 1910 to 1922.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted average.
1910	$8.55	$9.05	$10.55	$9.90	$9.55	$9.45	$8.75	$8.35	$8.90	$8.50	$7.60	$7.65	$8.90
1911	7.95	7.40	6.85	6.25	6.00	6.25	6.70	7.30	6.90	6.45	6.30	6.40	6.70
1912	6.25	6.20	7.10	7.80	7.65	7.50	7.65	8.25	8.45	8.75	7.75	7.40	7.55
1913	7.45	8.15	8.90	9.05	8.55	8.65	9.05	8.35	8.30	8.20	7.75	7.70	8.35
1914	8.30	8.60	8.70	8.65	8.45	8.20	8.70	9.00	8.85	7.65	7.50	7.10	8.30
5-year average	7.70	7.88	8.42	8.33	8.04	8.01	8.17	8.25	8.28	7.91	7.38	7.25	7.96
1915	6.90	6.80	6.75	7.30	7.60	7.60	7.75	6.90	7.25	7.90	6.65	6.40	7.10
1916	7.20	8.20	9.65	9.75	9.85	9.70	9.80	10.30	10.70	9.80	9.60	9.95	9.60
1917	10.90	12.45	14.80	15.75	15.90	15.50	15.20	16.90	18.20	17.15	17.40	16.85	15.10
1918	16.30	16.65	17.10	17.45	17.45	16.60	17.75	19.00	19.65	17.70	17.70	17.55	17.45
1919	17.60	17.65	19.10	20.40	20.60	20.40	21.85	20.00	17.45	14.35	14.20	13.60	17.85
5-year average	11.78	12.35	13.48	14.13	14.28	13.96	14.47	14.62	14.65	13.38	13.11	12.87	13.42
1920	14.97	14.55	14.94	14.79	14.28	14.68	14.84	14.74	15.88	14.17	11.83	9.55	13.91
1921	9.41	9.42	10.00	8.50	8.35	8.19	9.69	9.26	7.61	7.72	7.01	6.92	8.51
1922	8.02	9.90	10.43	10.31	10.48	10.33	9.70	8.01	8.75	8.80	8.07	8.18	9.22

[1] Prior to 1920 figures compiled from Chicago Drovers Journal Year Book; subsequent figures from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau Agricultural Economics. (Computed from packer and shipper purchases.)

TABLE 469.—*Hogs: Monthly average and top price per 100 pounds, 1922.*[1]

CHICAGO.

Months.	Butcher, bacon, and shipper hogs.				Packing sows.		Pigs (130 lbs. down), medium to choice.	Stock pigs (130 lbs. down), common to choice.	Bulk of sales.	Top.
	Heavy weight (251 lbs. up), medium to choice.	Medium weight (201–250 lbs.), medium to choice.	Light weight (151–200 lbs.), common to choice.	Light lights (130–150 lbs.), common to choice.	Smooth (250 lbs. up).	Rough (200 lbs. up).				
January	$7.78	$8.01	$8.27	$8.41	$6.88	$6.46	$8.34	.....	$7.95	$9.60
February	9.63	9.84	10.03	9.96	8.73	8.40	9.38	.....	9.74	11.35
March	10.39	10.58	10.72	10.37	9.61	9.33	9.52	.....	10.48	11.50
April	10.31	10.50	10.59	10.34	9.56	9.26	9.78	.....	10.35	11.00
May	10.49	10.65	10.76	10.53	9.65	9.35	10.02	.....	10.50	11.00
June	10.51	10.67	10.78	10.56	9.55	9.09	9.96	.....	10.34	11.00
July	10.32	10.59	10.78	10.53	8.80	8.26	9.92	.....	9.77	11.15
August	8.88	9.50	9.84	9.66	7.54	6.98	9.03	.....	8.58	11.00
September	9.10	9.66	9.86	9.46	7.68	7.14	8.73	.....	8.70	10.75
October	9.17	9.52	9.38	9.20	8.15	7.59	8.97	.....	8.90	10.45
November	8.25	8.29	8.23	8.27	7.69	7.36	8.36	.....	8.15	8.75
December	8.23	8.27	8.30	8.30	7.73	7.45	8.10	.....	8.18	8.70
Average	9.42	9.67	9.80	9.63	8.46	8.06	9.18	.....	9.30	[2] 11.50

EAST ST. LOUIS.

January	$7.67	$8.14	$8.40	$8.40	$6.27	$5.68	$7.98	$7.55	$8.22	$9.75
February	9.53	9.83	10.00	9.92	7.91	7.40	9.19	8.40	9.86	11.35
March	10.45	10.64	10.64	10.24	8.94	8.61	9.47	8.74	10.59	11.55
April	10.24	10.42	10.42	10.16	8.85	8.44	9.53	8.98	10.41	10 90
May	10.51	10.65	10.61	10.45	9.12	8.75	9.95	9.60	10.64	10.95
June	10.52	10.68	10.69	10.56	9.09	8.83	10.22	10.03	10.69	11.01
July	10.35	10.64	10.80	10.68	8.49	8.26	10.38	9.95	10.68	11.25
August	9.14	9.59	9.82	9.73	7.24	6.96	9.29	8.81	9.70	11.00
September	9.68	9.84	9.83	9.67	7.54	7.13	9.22	8.64	9.86	10.50
October	9.30	9.43	9.32	9.16	8.09	7.66	8.89	8.40	9.42	10.26
November	8.07	8.20	8.21	8.26	7.19	6.88	8.37	7.97	8.29	8.65
December	8.19	8.31	8.34	8.31	7.32	7.07	7.96	7.80	8.35	8.85
Average	9.47	9.70	9.76	9.63	8.00	7.64	9.20	8.74	9.73	[2] 11.55

[1] Prices compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.
[2] Top price for year.

SWINE—Continued.

TABLE 469.—*Hogs: Monthly average and top price per 100 pounds, 1922*—Continued.

KANSAS CITY.

Months.	Butcher, bacon, and shipper hogs.				Packing sows.		Pigs (130 lbs. down), medium to choice.	Stock pigs (130 lbs. down), common to choice.	Bulk of sales.	Top.
	Heavy weight (251 lbs. up), medium to choice.	Medium weight (201-250 lbs.), medium to choice.	Light weight (151-200 lbs.), common to choice.	Light lights (130-150 lbs.), common to choice.	Smooth (250 lbs. up).	Rough (200 lbs. up).				
January	$7.51	$7.68	$7.71	$7.62	$6.24	$5.71	.....	$7.58	$7.58	$9.05
February	9.01	9.38	9.34	9.21	7.57	7.00	.....	8.65	9.28	11.10
March	9.94	10.21	10.17	10.03	8.82	8.38	.....	9.48	10.07	11.25
April	9.94	10.09	10.04	9.92	8.90	8.55	.....	9.82	10.01	10.60
May	10.30	10.42	10.38	10.31	9.19	8.88	.....	10.19	10.34	10.75
June	10.21	10.41	10.40	10.32	9.00	8.76	.....	10.39	10.30	10.75
July	9.87	10.29	10.26	10.20	8.26	8.02	.....	10.07	10.07	10.75
August	8.77	9.03	9.02	9.03	7.31	7.01	.....	9.16	8.94	10.40
September	8.88	8.99	8.97	8.85	7.57	7.24	.....	8.95	9.08	10.15
October	8.84	8.94	8.88	8.66	7.68	7.34	.....	8.43	8.91	10.00
November	7.87	7.95	7.90	7.86	7.14	6.90	.....	7.86	7.92	8.40
December	8.02	8.09	8.00	7.88	7.41	7.19	.....	7.28	8.03	8.40
Average	9.10	9.29	9.26	9.16	7.92	7.58	.....	8.99	9.21	[2] 10.75

OMAHA.

January	$7.41	$7.53	$7.55	$7.66	$6.31	$5.84	.....	$7.48	$7.47	$9.10
February	9.21	9.37	9.46	9.41	8.22	7.64	.....	9.26	9.26	10.75
March	9.94	10.04	10.13	10.00	9.11	8.61	.....	9.97	9.97	10.90
April	9.94	10.04	10.11	9.84	9.39	9.00	.....	9.72	9.96	10.55
May	10.15	10.24	10.31	.....	9.53	9.09	.....	9.88	10.15	10.60
June	10.00	10.16	10.28	.....	9.25	8.85	.....	9.81	9.88	10.60
July	9.66	10.13	10.26	.....	8.48	7.90	.....	9.48	9.25	10.65
August	8.53	8.94	9.22	.....	7.50	7.08	.....	8.56	8.23	10.40
September	8.69	9.00	9.28	.....	7.57	7.20	.....	7.96	8.34	10.25
October	8.64	8.94	9.01	.....	7.80	7.45	.....	8.19	8.34	10.25
November	7.83	7.91	7.77	.....	7.29	7.08	.....	7.37	7.62	8.25
December	7.94	7.97	7.84	.....	7.33	7.10	.....	7.18	7.86	8.25
Average	9.00	9.19	9.28	.....	8.15	7.74	.....	8.74	8.86	[2] 10.90

SOUTH ST. JOSEPH.[3]

June	$10.10	$10.36	$10.43	.....	$9.01	$8.78	.....	.....	$10.30	$10.75
July	9.82	10.30	10.37	.....	8.29	8.04	.....	.....	10.10	10.80
August	8.46	9.10	9.25	.....	7.35	7.05	.....	.....	8.76	10.20
September	8.58	8.98	9.09	.....	7.66	7.38	.....	.....	8.59	10.10
October	8.63	8.86	8.81	.....	7.71	7.42	.....	.....	8.40	10.05
November	7.87	7.95	7.87	.....	7.31	7.08	.....	.....	7.87	8.35
December	7.99	8.06	8.00	.....	7.50	7.28	.....	.....	8.01	8.35
Average	8.78	9.09	9.12	.....	7.83	7.58	.....	.....	8.86	[2] 10.80

SOUTH ST. PAUL.

January	$7.43	$7.62	$7.90	$7.95	$6.43	$5.98	$8.47	$8.35	$7.62	$8.25
February	9.29	9.46	9.65	9.70	8.12	7.60	9.91	9.91	9.43	10.60
March	9.94	10.12	10.23	10.30	8.87	8.41	10.29	10.29	10.12	11.15
April	10.01	10.12	10.21	10.24	9.12	8.77	10.56	10.54	10.07	10.60
May	9.93	10.08	10.22	10.27	9.20	8.82	.....	10.86	10.02	10.60
June	9.80	10.04	10.27	.....	8.82	8.40	.....	10.54	9.90	10.75
July	9.24	9.61	10.23	.....	7.96	7.31	.....	10.26	9.00	10.75
August	8.46	8.79	9.39	.....	7.12	6.62	.....	9.25	8.09	10.60
September	8.63	8.92	9.34	9.18	7.48	7.08	.....	8.92	8.34	10.05
October	8.52	8.70	8.85	8.82	7.82	7.50	8.60	8.72	8.30	9.70
November	7.68	7.75	7.79	7.79	7.31	7.04	8.00	8.00	7.71	8.10
December	7.86	7.93	7.99	8.00	7.43	7.22	8.10	8.09	7.92	8.35
Average	8.90	9.10	9.34	9.14	7.97	7.56	9.13	9.48	8.88	[2] 11.15

[2] Top price for year.

[3] Did not report until June 1922.

SWINE—Continued.

TABLE 470.—*Hogs: Trend of average farm prices and average market prices per 100 pounds, at Chicago, 1910–1922.*[1]

Year.	Average farm price.	Average market price at Chicago.	Price relatives. 1913=100.	
			Farm price.	Market price.
1910	$8.12	$8.90	109.1	106.6
1911	6.29	6.70	84.5	80.2
1912	6.64	7.55	89.2	90.4
1913	7.44	8.35	100.0	100.0
1914	7.51	8.30	100.9	99.4
1915	6.56	7.10	88.2	85.0
1916	8.11	9.60	109.0	115.0
1917	13.41	15.10	180.2	180.8
1918	15.82	17.45	212.6	209.0
1919	16.04	17.85	215.6	213.8
1920	12.85	13.91	172.7	166.6
1921	7.85	8.51	105.5	101.9
1922	8.32	9.22	111.8	110.4

[1] Farm prices from Division of Crop and Live Stock Estimates; market prices compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

TABLE 471.—*Hogs: Prices of live hogs in Chicago, and wholesale and retail prices of certain pork products.*[1]

[Prices are in cents per pound.]

Year and month.	Price of live hogs, Chicago. (Per 100 lbs.)	Hams.				Bacon.			
		Smoked, wholesale price.		Retail price.[2]		Short clear sides, wholesale price.		Retail price.	
		Chicago market.	Per cent of live hogs.	In 51 cities.	Per cent of live hogs.	Chicago market.	Per cent of live hogs.	In 51 cities.	Per cent of live hogs.
1913	$8.35	16.6	199	26.9	322	12.7	152	27.0	323
1914	8.30	16.7	201	27.3	329	13.2	159	27.5	331
1915	7.10	15.3	216	26.1	368	11.6	163	26.9	379
1916	9.60	18.5	193	29.4	306	14.9	155	28.7	299
1917	15.10	25.2	167	38.2	253	24.8	164	41.0	272
1918	17.45	31.8	182	47.9	274	27.9	160	52.9	303
1919	17.85	34.3	192	53.4	299	29.1	163	55.4	310
1920	13.91	33.4	240	55.5	399	20.7	149	52.3	376
1921	8.51	26.8	315	48.8	573	13.5	159	42.7	502
1922	9.22	26.5	287	48.8	529	14.1	153	39.8	432
1922.									
January	8.02	22.1	276	44.2	551	11.6	145	37.6	469
February	9.90	26.7	270	46.5	470	13.4	135	37.8	382
March	10.43	30.6	293	49.7	476	14.8	142	39.0	374
April	10.31	30.9	300	50.7	492	14.2	138	39.7	385
May	10.48	31.3	299	51.3	490	14.9	142	39.8	380
June	10.33	31.3	303	52.0	503	15.7	152	40.4	391
July	9.70	30.1	310	52.2	538	14.9	154	40.6	419
August	8.01	26.4	330	50.8	634	13.9	174	40.6	507
September	8.75	23.5	269	48.4	553	13.5	154	40.4	462
October	8.80	23.2	264	47.6	541	14.3	162	40.8	464
November	8.07	21.3	264	46.3	574	14.0	174	40.9	507
December	8.18	20.6	252	45.4	555	13.9	170	40.3	493

[1] Wholesale prices of ham, bacon, and pork loins in Chicago and of lard in New York. Retail prices in 51 cities throughout the United States. Price of live hogs, Bureau of Agricultural Economics; other prices from Bureau of Labor Statistics.

[2] Mostly on sliced ham.

SWINE—Continued.

TABLE 471.—*Hogs: Prices of live hogs in Chicago, and wholesale and retail prices of certain pork products*—Continued.

Year and month.	Fresh pork.				Lard.			
	Pork loins, wholesale price.		Pork chops, retail price.		Prime contract, wholesale price.		Retail price.	
	Chicago market.	Per cent of live hogs.	In 51 cities.	Per cent of live hogs.	New York market.	Per cent of live hogs.	In 51 cities.	Per cent of live hogs.
1913	14.9	178	21.0	252	11.0	132	15.8	189
1914	15.4	186	22.0	265	10.4	125	15.6	188
1915	14.3	201	20.3	286	9.4	132	14.8	208
1916	16.2	169	22.7	236	13.5	141	17.5	182
1917	24.4	162	31.9	211	21.7	144	27.6	183
1918	29.5	169	39.0	224	25.5	146	33.3	191
1919	31.5	176	42.3	237	29.0	162	36.9	207
1920	30.7	221	42.3	304	20.0	144	29.5	212
1921	22.5	264	34.9	410	11.1	130	18.0	212
1922	21.7	235	33.0	358	11.5	125	17.0	184
1922.								
January	16.0	200	28.8	359	10.0	125	15.4	192
February	16.9	171	29.3	296	11.8	119	15.9	161
March	22.6	218	31.3	300	11.6	111	17.3	166
April	23.6	229	33.0	320	11.2	109	16.9	164
May	23.8	227	34.4	328	11.9	114	17.0	162
June	20.0	194	33.9	328	12.1	117	17.2	166
July	23.8	245	34.4	355	11.7	121	17.2	177
August	25.6	320	35.1	438	11.3	141	17.2	215
September	28.4	325	36.4	416	11.3	129	17.2	197
October	25.8	293	36.6	416	11.7	133	17.5	199
November	18.5	229	33.0	409	12.1	150	17.6	218
December	15.2	186	29.5	361	11.4	139	17.5	214

SWINE—Continued.

TABLE 472.—*Hogs: Monthly statement of the live-stock and meat situation, 1922.*

[Numbers and quantities in thousands, i. e., 000 omitted.]

HOGS, PORK, AND PORK PRODUCTS.

	January.	February.	March.	April.	May.	June.
Estimated number hogs on farms in United States [1]	57,834	50,373	48,407	57,545	67,608	69,979
Receipts of hogs at all public stockyards	4,278	3,613	3,411	3,067	3,736	3,776
Stocker and feeder shipments from all public stockyards	27	62	75	56	70	57
Inspected slaughter of hogs [2]	3,985	3,480	3,350	2,946	3,716	4,046
Average live weight [3] ... pounds	224	222	222	225	226	231
Average dressed weight [3] ... do	174	171	170	173	173	178
Total dressed weight (carcass) [3] ... do	693,020	594,090	569,838	508,909	644,495	720,687
Pounds of lard per 100 pounds, live weight [3]	16.8	16.9	17.0	17.2	16.8	16.4
Storage first of month: [3]						
Fresh pork ... pounds	51,203	71,722	86,219	98,765	103,907	114,571
Cured pork ... do	363,893	413,176	461,231	492,458	490,335	521,084
Lard ... do	47,541	61,202	61,297	86,031	96,055	123,798
Imports: [4]						
Fresh pork ... do	149	111	57	29	87	27
Exports: [4, 5]						
Fresh pork ... do	1,064	879	911	948	684	2,096
Cured pork ... do	51,867	58,812	57,717	45,147	46,400	58,626
Canned pork ... do	208	265	151	301	364	175
Sausage ... do	595	607	542	720	1,189	1,031
Lard ... do	74,473	78,091	65,633	43,730	51,993	58,957
Prices per 100 pounds:						
Average cost in United States all classes and grades	$7.96	$9.59	$10.39	$10.36	$10.25	$10.33
Live hogs medium weight (Chicago)	$8.01	$9.84	$10.58	$10.50	$10.65	$10.67
Fresh pork loins, 10-14 pounds (eastern markets)	$15.53	$16.77	$19.25	$22.48	$21.84	$19.14
Shoulders, skinned (eastern markets)	$13.02	$14.08	$16.22	$15.42	$15.44	$14.66
Shoulders, picnics, 6-8 pounds (eastern markets)	$11.67	$13.50	$15.32	$14.60	$14.62	$14.78
Butts, Boston style (eastern markets)	$15.08	$16.42	$18.44	$18.57	$18.06	$17.50
Bacon, breakfast (eastern markets)	$23.22	$24.37	$26.63	$26.42	$27.13	$28.25
Hams, smoked, 10-12 pounds (eastern markets)	$22.55	$26.80	$31.12	$31.46	$30.87	$30.29
Lard, tierces (eastern markets)	$10.61	$11.97	$13.15	$12.23	$12.99	$13.17

[1] Reports of Division of Crop and Live Stock Estimates, Bureau Agricultural Economics.
[2] Reports of Bureau of Animal Industry.
[3] Reports of Division of Statistical and Historical Research, Bureau Agricultural Economics.
[4] Reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
Other figures in table from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau Agricultural Economics.
[5] Including reexports.

SWINE—Continued.

TABLE 472.—*Hogs: Monthly statement of the live-stock and meat situation, 1922*—Con.

HOGS, PORK, AND PORK PRODUCTS—Continued.

	July.	August.	September.	October.	November.	December.	Total January-December.
Estimated number hogs on farms in United States [1]	70,037	70,326	75,763	77,671	77,440	72,755	.....
Receipts of hogs at all public stockyards	2,980	3,037	3,062	3,682	4,421	5,004	44,067
Stocker and feeder shipments from all public stockyards	31	31	34	49	55	46	593
Inspected slaughter of hogs [2]	3,094	2,888	2,748	3,305	4,345	5,201	43,114
Average live weight [3] ..... pounds	239	242	234	219	215	220	.....
Average dressed weight [3] ..... do	183	182	178	166	163	170	.....
Total dressed weight (carcass) [3] ..... do	568,898	525,889	488,252	552,111	701.719	881,748	7,449,656
Pounds of lard per 100 pounds live weight [3]	16.0	15.4	16.6	15.3	15.0	15.8	.....
Storage first of month: [3]							
Fresh pork ..... pounds	128,962	117,903	84,815	46,796	30,688	33,774	.....
Cured pork ..... do	578,422	565,548	534,856	436,300	364,482	385,725	.....
Lard ..... do	154,254	143,084	119,755	75,338	36,750	32,506	.....
Imports: [4, 6]							
Fresh pork ..... do	18	29	76	54	82	.....	.....
Exports: [4, 5]							
Fresh pork ..... do	2,516	2,092	2,198	2,257	5,378	5,951	26,974
Cured pork ..... do	62,496	54,736	55,048	55,160	55,210	68,862	670,081
Canned pork ..... do	168	238	159	204	188	142	2,563
Sausage ..... do	1,029	955	676	736	687	937	9,704
Lard ..... do	68,246	70,600	62,718	68,095	63,799	81,112	787,447
Prices per 100 pounds:							
Average cost in United States all classes and grades	$10.00	$8.85	$8.85	$8.99	$8.54	$8.17	.....
Live hogs medium weight (Chicago)	$10.59	$9.50	$9.66	$9.52	$8.29	$8.27	.....
Fresh pork loins, 10–14 pounds (eastern markets)	$19.79	$21.51	$24.41	$24.39	$19.82	$15.80	.....
Shoulders, skinned (eastern markets)	$15.16	$15.18	$15.56	$15.58	$14.96	$13.42	.....
Shoulders, picnics, 6–8 pounds (eastern markets)	$15.34	$14.75	$12.75	$13.73	$13.50	$11.67	.....
Butts, Boston style (eastern markets)	$17.45	$17.90	$18.50	$19.02	$18.64	$15.81	.....
Bacon, breakfast (eastern markets)	$28.37	$27.80	$25.84	$28.13	$27.52	$27.46	.....
Hams, smoked, 10–12 pounds (eastern markets)	$29.87	$26.05	$23.02	$22.94	$21.37	$20.94	.....
Lard, tierces (eastern markets)	$13.05	$13.01	$12.73	$13.06	$12.69	$12.57	.....

[1] Reports of Division of Crop and Live Stock Estimates. Bureau Agricultural Economics.
[2] Reports of Bureau of Animal Industry.
[3] Reports of Division of Statistical and Historical Research, Bureau Agricultural Economics.
[4] Reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
Other figures in table from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.
[5] Including exports.
[6] Import figures not available for December, 1922.

SWINE—Continued.

TABLE 473.—*Hogs: Yearly receipts and shipments at principal markets and all markets, 1900 to 1922.*[1]

[000 omitted.]

RECEIPTS.

Year.	Chicago.	Denver.	East St. Louis.	Fort. Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total.	All other markets.	Total all markets.
1900	8,109	116	1,792	(2)	3,094	2,201	1,679	500	833	18,324	(3)	(3)
1901	8,290	109	1,924	(2)	3,716	2,414	2,105	617	960	20,135	(3)	(3)
1902	7,895	87	1,330	79	2,279	2,247	1,698	668	1,008	17,291	(3)	(3)
1903	7,326	147	1,568	151	1,969	2,231	1,701	760	1,008	16,861	(3)	(3)
1904	7,239	162	1,955	281	2,227	2,300	1,657	882	1,113	17,816	(3)	(3)
1905	7,726	191	2,026	463	2,508	2,294	1,900	855	1,299	19,262	(3)	(3)
1906	7,275	193	1,923	551	2,676	2,394	1,908	861	1,158	18,939	(3)	(3)
1907	7,201	241	2,065	488	2,924	2,254	1,923	867	1,289	19,252	(3)	(3)
1908	8,131	280	2,560	703	3,715	2,425	2,349	1,133	1,381	22,677	(3)	(3)
1909	6,619	242	2,473	868	3,093	2,135	1,694	725	1,077	18,926	(3)	(3)
1910	5,587	187	2,054	541	2,086	1,894	1,353	836	1,044	15,582	(3)	(3)
1911	7,103	220	3,108	556	3,168	2,367	1,922	911	1,349	20,704	(3)	(3)
1912	7,181	222	2,530	388	2,523	2,886	1,970	984	1,698	20,382	(3)	(3)
1913	7,571	247	2,584	404	2,568	2,543	1,869	1,257	1,533	20,576	(3)	(3)
1914	6,618	256	2,559	515	2,265	2,259	1,725	1,590	1,257	19,044	(3)	(3)
1915	7,652	344	2,592	464	2,531	2,643	1,698	2,155	1,761	21,840	14,373	36,213
1916	9,188	467	3,057	968	2,979	3,117	2,199	2,675	2,131	26,781	16,484	43,265
1917	7,169	352	2,706	1,062	2,277	2,797	1,920	1,928	2,149	22,360	15,682	38,042
1918	8,614	384	3,256	762	3,328	3,430	2,351	2,061	2,421	26,607	18,256	44,863
1919	8,672	368	3,651	588	3,141	3,179	2,126	2,190	2,322	26,237	18,232	44,469
1920	7,526	341	3,399	413	2,466	2,708	1,914	2,247	2,173	23,187	18,934	42,121
1921	8,148	334	3,330	382	2,205	2,665	1,785	2,209	1,739	22,797	18,304	41,101
1922	8,156	395	3,606	510	2,655	2,839	2,061	2,523	1,856	24,601	19,466	44,067

SHIPMENTS.[4]

1900	1,452	(3)	418	(5)	(3)	37	83	45	110	2,145	(3)	(3)
1901	1,301	(3)	370	(5)	(3)	49	117	55	123	2,015	(3)	(3)
1902	1,252	(3)	143	(5)	(3)	170	91	29	143	1,828	(3)	(3)
1903	1,238	(3)	249	(5)	(3)	51	122	50	539	2,249	(3)	(3)
1904	1,626	(3)	373	(5)	(3)	211	93	72	614	2,989	(3)	(3)
1905	2,028	(3)	487	(5)	(3)	172	68	33	279	3,067	(3)	(3)
1906	1,743	(3)	583	(5)	(3)	171	60	20	145	2,722	(3)	(3)
1907	1,712	(3)	753	(5)	(3)	119	117	73	240	3,014	(3)	(3)
1908	1,870	(3)	711	(5)	(3)	284	84	253	237	3,439	(3)	(3)
1909	1,664	(3)	891	(5)	(3)	278	47	137	180	3,197	(3)	(3)
1910	1,202	(3)	615	29	(3)	238	34	194	186	2,498	(3)	(3)
1911	1,527	(3)	880	31	(3)	217	41	244	320	3,260	(3)	(3)
1912	1,573	(3)	679	33	(3)	407	167	228	522	3,609	(3)	(3)
1913	1,673	(3)	918	48	(3)	381	70	320	453	3,863	(3)	(3)
1914	1,291	(3)	989	38	(3)	331	153	531	230	3,563	(3)	(3)
1915	1,133	11	991	61	417	631	174	795	571	4,784	3,836	8,620
1916	1,405	22	1,071	98	445	726	92	1,181	824	5,864	6,115	11,979
1917	1,219	27	1,026	264	295	796	87	868	891	5,473	7,098	12,571
1918	971	18	980	166	527	889	285	877	911	5,624	8,749	14,373
1919	1,101	33	1,420	102	523	648	209	868	913	5,817	8,549	14,366
1920	1,657	32	1,721	65	602	710	330	342	879	6,338	8,960	15,298
1921	2,170	22	2,044	98	486	695	267	511	690	6,983	7,726	14,709
1922	1,852	28	2,378	94	588	613	355	482	666	7,056	8,276	15,332

[1] Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

[2] Not in operation.

[3] Figures not available prior to 1915.

[4] Prior to 1915 figures 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, Bureau of Agricultural Economics.

[5] Figures not available prior to 1910.

SWINE—Continued.

TABLE 474.—*Hogs: Monthly and yearly receipts at Chicago, East St. Louis, Kansas City, and Omaha, combined, 1910–1922.*[1]

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1910	1,179	1,128	934	788	1,057	1,138	892	892	687	768	1,020	1,131	11,614
1911	1,270	1,302	1,516	1,304	1,521	1,487	1,200	976	970	1,231	1,533	1,451	15,761
1912	1,908	1,612	1,350	1,242	1,381	1,218	1,090	846	763	1,093	1,207	1,386	15,096
1913	1,640	1,315	1,170	1,154	1,257	1,328	1,129	1,095	1,081	1,153	1,288	1,655	15,265
1914	1,479	1,328	1,182	1,001	1,065	1,167	927	830	826	1,093	1,158	1,640	13,696
5-year average	1,495	1,337	1,230	1,098	1,256	1,268	1,048	928	865	1,068	1,241	1,453	14,286
1915	1,669	1,640	1,511	1,080	1,234	1,222	1,037	921	803	848	1,387	2,066	15,418
1916	2,313	1,950	1,516	1,154	1,366	1,283	1,090	1,221	954	1,407	1,996	2,091	18,341
1917	2,199	1,697	1,367	1,205	1,320	1,125	1,083	757	545	902	1,286	1,461	14,947
1918	1,657	1,888	1,963	1,697	1,464	1,246	1,356	1,047	932	1,376	1,794	2,207	18,627
1919	2,418	1,978	1,631	1,571	1,644	1,680	1,314	829	913	1,129	1,485	2,049	18,641
5-year average	2,051	1,831	1,598	1,341	1,406	1,311	1,176	955	829	1,132	1,590	1,975	17,195
1920	2,136	1,357	1,630	1,059	1,686	1,433	1,131	988	795	894	1,381	1,611	16,101
1921	1,916	1,708	1,346	1,275	1,340	1,494	1,122	1,092	946	1,092	1,459	1,558	16,348
1922	1,785	1,454	1,303	1,130	1,520	1,646	1,263	1,216	1,104	1,299	1,631	1,905	17,256

[1] Prior to 1915 figures compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

TABLE 475.—*Hogs: Yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1919–1922.*[1]

[000 omitted.]

Market.	Receipts.				Local slaughter.				Stocker and feeder shipments.			
	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922
Albany, N. Y	2	2	1	(2)	2	2	(2)	(2)				
Amarillo, Tex	2	7	8	106					(2)	1		
Atlanta, Ga	83	68	91	124	37	42	61	62	4	8	5	
Augusta, Ga	9	7	10	11	5	5	7	9	1	(2)	(2)	1
Baltimore, Md	963	1,154	1,238	1,343	661	874	1,013	1,020				
Billings, Mont	10	1	1		(2)	(2)	(2)		3	(2)		
Birmingham, Ala	24	24	27	2	24	24	27	2				
Boston, Mass	22	14	8	8								
Buffalo, N. Y	1,352	1,494	1,603	1,475	730	631	670	663	(2)	(2)	(2)	
Chattanooga, Tenn	14	11	17	13	13	11	17	13	1			
Cheyenne, Wyo	3	10	45	35								
Chicago, Ill	8,672	7,526	8,148	8,156	7,572	5,870	5,977	6,323	14	1	2	3
Cincinnati, Ohio	1,674	1,478	1,435	1,347	823	789	898	669	1	3	4	2
Cleveland, Ohio	1,084	1,012	960	1,092	729	610	688	750				
Columbia, S. C	6	7	4	9	6	7	4	9				
Columbus, Ohio	52	69	61	53	4	14	14	6	1	1	1	
Dallas, Tex	45	56	52	71	45	56	52	71				
Dayton, Ohio	108	129	131	139	61	76	83	99				
Denver, Colo	368	341	334	395	336	310	311	367	32	30	22	26
Detroit, Mich	389	444	359	445	336	360	269	279	8	5	5	(2)
Dublin, Ga	3	3	3	6		(2)		(2)	(2)	(2)	(2)	1
East St. Louis, Ill	3,651	3,399	3,330	3,606	2,231	1,678	1,289	1,229	98	47	44	63
El Paso, Tex	17	15	29	35	9	11	14	17	4	3	8	5
Emeryville, Calif	10	16	21	32	10	16	21	32				
Erie, Pa	42	61			16	15						
Evansville, Ind	255	243	219	235	31	80	73	65	10	4	4	9
Fort Worth, Tex	588	413	382	510	464	322	277	416	55	24	52	34
Fostoria, Ohio	79	99	107	105	10	10	11	7	3	1	2	4
Indianapolis, Ind	2,936	2,897	2,695	2,267	1,434	1,359	1,377	1,528	41	17	21	17
Jacksonville, Fla	78	100	99	81	66	72	47	26	1	2		(2)

[1] Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.
[2] Less than 500.

SWINE—Continued.

TABLE 475.—*Hogs: Yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1919–1922*—Continued.

Market.	Receipts.				Local slaughter.				Stocker and feeder shipments.			
	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922
Jersey City, N. J.	468	629	509	458	468	629	509	458	.....	.....	.....	.....
Kansas City, Mo.	3,141	2,466	2,205	2,655	2,600	1,838	1,713	2,052	244	200	94	162
Knoxville, Tenn.	37	42	14	57	3	2	9	18	1	(2)	1	2
Lafayette, Ind.	198	204	166	105	37	40	44	56	3	5	7	5
Lancaster, Pa.	63	185	44	76	13	11	17	20	.....	.....	.....	.....
Logansport, Ind.	16	23	26	19	1	2	1	2	(2)	(2)	1	(2)
Louisville, Ky.	750	428	382	497	173	156	180	231	28	11	8	19
Marion, Ohio	155	217	95	109	10	13	16	29	4	2	2	3
Memphis, Tenn.	11	30	8	10	2	1	4	6	(2)	4	1	2
Milwaukee, Wis.	585	554	489	466	534	509	482	459	(2)	.....	.....	.....
Montgomery, Ala.	171	109	97	95	3	5	2	3	22	15	9	12
Moultrie, Ga.	.....	.....	42	52	.....	.....	26	45	.....	.....	3	1
Nashville, Tenn.	727	615	436	517	67	82	113	125	28	18	2	1
Nebraska City, Nebr.	298	311	324	346	271	258	267	287	(2)	.....	(2)	3
New Brighton, Minn.	3	7	1	1	.....	.....	.....	.....	2	4	1	(2)
New Orleans, La.	63	63	50	41	43	45	40	34	3	3	1	1
New York, N. Y.	677	755	902	1,091	677	755	902	1,091	.....	.....	.....	.....
North Salt Lake, Utah	53	34	56	84	39	25	36	42	4	3	2	1
Ogden, Utah	104	78	177	198	67	47	47	47	13	11	2	5
Oklahoma, Okla.	470	341	371	504	360	288	331	449	43	21	13	9
Omaha, Nebr.	3,179	2,708	2,665	2,839	2,531	1,998	1,971	2,226	8	7	4	6
Orangeburg, S. C.	2	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....
Pasco, Wash.	7	2	2	1	(2)	(2)	.....	.....	.....	.....	.....	.....
Peoria, Ill.	390	354	424	386	153	135	164	105	(2)	3	8	5
Philadelphia, Pa.	345	481	485	473	329	457	457	439	.....	.....	.....	.....
Pittsburgh, Pa.	1,779	2,439	2,277	2,690	279	413	505	507	.....	.....	.....	.....
Portland, Oreg.	205	175	150	224	103	91	112	158	15	17	11	17
Pueblo, Colo.	24	14	5	11	.....	.....	1	(2)	.....	(2)	(2)	.....
Richmond, Va.	156	212	170	219	154	210	169	216	1	(2)	(2)	(2)
St. Joseph, Mo.	2,126	1,914	1,785	2,061	1,919	1,584	1,517	1,706	27	24	9	11
St. Paul, Minn.	2,190	2,247	2,209	2,523	1,317	1,905	1,668	2,039	103	161	104	109
San Antonio, Tex.	25	39	70	63	7	16	33	41	2	2	4	13
Seattle, Wash.	126	95	134	151	124	92	132	149	2	3	1	1
Sioux City, Ia.	2,322	2,173	1,739	1,856	1,411	1,296	1,047	1,194	33	28	19	9
Sioux Falls, S. Dak.	174	247	452	533	(2)	5	57	74	2	2	3	4
Spokane, Wash.	60	47	33	48	42	32	21	32	15	12	6	7
Tacoma, Wash.	30	35	59	65	31	34	58	65	(2)	.....	.....	.....
Toledo, Ohio	232	264	148	140	53	86	24	14	2	2	(2)	.....
Washington, D. C.	72	102	113	132	71	101	112	129	.....	.....	.....	.....
Wichita, Kans.	494	382	369	570	469	356	348	527	20	23	13	20
Total	44,469	42,121	41,101	44,067	30,018	26,761	26,335	28,737	902	728	499	593

[2] Less than 500.

TABLE 476.—*Hogs: Monthly and yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1922.*[1]

[000 omitted.]

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Buffalo, N. Y.:													
Receipts	132	113	108	113	112	101	89	103	106	155	170	173	1,475
Local slaughter	52	57	46	50	54	50	35	48	39	65	86	81	663
Chicago, Ill.:													
Receipts	930	707	612	490	654	751	620	559	498	605	807	923	8,156
Local slaughter	564	500	481	401	555	634	456	461	400	498	656	717	6,323
Stocker and feeder shipments	.....	(2)	(2)	1	1	1	(2)	(2)	(2)	(2)	(2)	.....	3

[1] Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.
[2] Less than 500.

SWINE—Continued.

TABLE 476.—*Hogs: Monthly and yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1922*—Continued.

[000 omitted.]

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Cincinnati, Ohio:													
Receipts	131	101	103	112	116	92	89	108	108	128	137	123	1,347
Local slaughter	78	62	65	58	57	50	42	48	39	49	64	57	669
Stocker and feeder shipments	.....	(2)	.....	(2)	1	1	(2)	(2)	.....	(2)	(2)	.....	2
Cleveland, Ohio:													
Receipts	65	70	100	91	103	90	64	80	102	94	114	119	1,092
Local slaughter	43	50	71	65	68	58	42	53	62	63	83	92	750
Denver, Colo.:													
Receipts	41	42	40	31	39	38	27	28	18	24	30	37	395
Local slaughter	39	40	37	32	36	37	26	24	18	21	24	33	367
Stocker and feeder shipments	2	2	1	1	2	1	2	3	1	2	5	4	26
East St. Louis, Ill.:													
Receipts	365	290	286	263	337	298	216	241	254	296	362	398	3,606
Local slaughter	90	73	90	79	118	101	68	82	138	110	128	152	1,229
Stocker and feeder shipments	4	9	11	8	14	8	3	1	1	1	1	2	63
Fort Worth, Tex.:													
Receipts	50	69	70	46	45	32	23	24	29	39	37	46	510
Local slaughter	43	57	53	38	37	29	20	20	24	27	26	41	416
Stocker and feeder shipments	1	10	7	5	2	2	(2)	(2)	1	2	1	1	34
Indianapolis, Ind.:													
Receipts	156	119	135	144	175	197	165	195	198	226	267	290	2,267
Local slaughter	121	85	94	92	127	141	112	121	113	148	183	191	1,528
Stocker and feeder shipments	1	1	1	1	2	4	1	2	1	1	1	1	17
Jersey City, N. J.:													
Receipts	45	47	35	36	32	25	25	30	35	53	45	50	458
Local slaughter	45	47	35	36	32	25	25	30	35	53	45	50	458
Kansas City, Mo.:													
Receipts	212	197	175	175	281	279	165	181	157	244	294	295	2,655
Local slaughter	159	138	129	131	222	237	117	139	118	184	230	248	2,052
Stocker and feeder shipments	7	12	17	15	21	16	6	9	14	17	17	11	162
Oklahoma, Okla.:													
Receipts	32	53	61	52	64	50	32	26	30	28	43	33	504
Local slaughter	27	46	56	46	59	49	27	24	26	24	35	30	449
Stocker and feeder shipments	.....	(2)	2	2	1	(2)	(2)	(2)	1	(2)	1	(2)	8
Omaha, Nebr.:													
Receipts	278	260	230	202	248	318	262	235	195	154	168	289	2,839
Local slaughter	141	181	162	152	210	264	202	200	158	134	145	277	2,226
Stocker and feeder shipments	.....	(2)	1	(2)	.....	(2)	(2)	(2)	.....	1	1	1	6
Pittsburgh, Pa.:													
Receipts	271	190	174	175	188	151	148	187	297	311	288	310	2,690
Local slaughter	49	36	38	34	43	35	32	33	35	51	61	60	507
St. Joseph, Mo.:													
Receipts	186	155	139	116	183	217	163	152	142	141	193	274	2,061
Local slaughter	148	124	109	97	159	177	128	122	118	118	171	235	1,706
Stocker and feeder shipments	(2)	(2)	1	1	1	1	2	1	1	1	1	(2)	11
St. Paul, Minn.:													
Receipts	264	203	194	143	208	211	160	115	114	242	322	347	2,523
Local slaughter	186	164	160	121	178	183	145	97	97	200	237	271	2,039
Stocker and feeder shipments	4	6	10	8	13	11	4	5	6	13	15	14	109
Sioux City, Iowa:													
Receipts	182	171	152	133	162	196	167	167	127	95	102	202	1,856
Local slaughter	88	102	88	92	115	144	117	103	74	57	70	144	1,194
Stocker and feeder shipments	1	1	1	1	(2)	1	1	1	(2)	(2)	2	.....	9

[2] Less than 500.

SWINE—Continued.

TABLE 477.—*Live hogs: Monthly and yearly exports, United States, 1909–1922.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1909	1,229	1,901	2,115	2,807	1,858	733	283	136	253	304	166	101	11,886
1910	340	31	77	810	1,126	783	484	103	25	41	29	170	4,019
1911	67	18	758	1,989	1,807	3,060	1,823	1,230	662	437	182	1,213	13,246
1912	2,100	2,147	3,508	2,335	2,314	1,087	305	271	617	868	216	1,710	17,478
1913	2,429	2,597	2,530	2,256	1,223	310	174	130	101	123	173	72	12,118
1914	1,401	1,304	1,770	1,697	1,240	1,937	1,488	426	286	211	526	113	12,399
5-year average [2]	1,267	1,219	1,729	1,818	1,542	1,435	855	432	338	336	225	656	11,852
1915	73	229	570	1,476	1,536	865	579	147	379	346	448	613	7,261
1916	2,116	4,299	9,300	1,977	584	1,260	2,388	683	671	1,416	1,170	2,437	28,301
1917	3,207	2,520	2,136	2,827	1,540	931	559	403	105	403	205	752	15,588
1918	594	411	919	2,028	1,267	1,634	747	393	310	838	379	788	10,308
1919	1,757	2,615	1,651	2,983	2,840	2,089	755	413	1,117	1,893	3,840	2,792	24,745
5-year average	1,550	2,015	2,915	2,258	1,554	1,356	1,006	408	516	979	1,208	1,476	17,241
1920	2,093	2,279	3,520	4,934	6,027	6,444	5,890	2,959	4,813	6,718	4,624	4,949	55,250
1921	10,643	10,369	13,129	13,008	13,987	12,103	6,006	8,072	6,316	7,581	10,079	11,774	123,067
1922	10,841	9,711	8,805	8,389	6,036	4,145	4,639	4,840	4,305	6,049	5,217	4,780	77,757

[1] Compiled from reports of Foreign and Domestic Commerce, Department of Commerce.
[2] 1910–1914.

TABLE 478.—*Hogs: Monthly average weight at Chicago, East St. Louis, Kansas City, Omaha, and South St. Paul, 1920 to 1922, and 5-year averages.*[1]

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Chicago:												
5-year average—	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
1910–1914	218	223	230	234	238	239	241	243	236	226	217	220
1915–1919	212	219	224	227	228	230	237	241	238	219	209	208
Year—												
1920	239	239	244	248	245	243	252	258	258	247	234	230
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
East St. Louis:												
5-year average—												
1910–1914	175	176	177	179	183	188	181	183	190	182	181	172
1915–1919	199	180	177	176	178	179	180	179	178	172	180	180
Year—												
1920	186	188	182	190	185	180	182	186	184	177	176	181
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
Kansas City:												
5-year average—												
1910–1914	203	206	208	210	206	202	199	199	199	194	194	195
1915–1919	202	203	200	202	201	199	199	191	183	181	187	195
Year—												
1920	223	227	229	228	211	213	221	226	222	216	218	225
1921	236	236	233	229	224	211	223	225	216	222	216	223
1922	226	215	213	220	215	211	216	217	211	206	208	212
Omaha:												
5-year average—												
1910–1914	230	230	237	241	245	245	245	251	260	256	245	237
1915–1919	229	231	236	239	241	243	249	254	264	263	249	232
Year—												
1920	242	242	250	251	247	247	256	263	272	271	260	248
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
South St. Paul: [2]												
1921	219	227	229	231	238	253	258	264	246	232	217	224
1922	223	227	227	239	248	263	273	264	241	218	213	211

[1] Compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics. (East St. Louis, 1920, from Chicago Drovers' Journal Yearbook.)
[2] South St. Paul not reporting previous to 1921.

SWINE—Continued.

TABLE 479.—*Hogs: Average live and dressed weight percentage per animal slaughtered in United States, 1921 and 1922.*[1]

Month.	Cattle.				Calves.				Hogs.				Sheep and lambs.			
	Average live weight (pounds).		Percentage dressed weight of live weight.		Average live weight (pounds).		Percentage dressed weight of live weight.		Average live weight (pounds).		Percentage dressed weight of live weight.		Average live weight (pounds)		Percentage dressed weight of live weight.	
	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922
January	986.3	1,019.7	53	54	169.8	163.9	57	56	227.3	224.3	76	78	87.3	84.2	47	47
February	992.7	1,004.8	54	54	156.2	156.7	60	57	227.9	222.2	77	77	88.1	85.0	46	47
March	1,006.0	1,012.8	55	55	143.6	142.7	60	57	227.7	222.9	77	77	88.6	85.4	47	47
April	1,012.7	1,009.3	53	56	136.8	134.2	59	58	225.6	224.7	77	77	85.1	83.0	47	48
May	1,006.0	1,002.1	56	56	148.2	146.6	57	57	220.0	226.5	78	77	78.2	77.8	48	49
June	1,010.0	982.4	55	56	160.9	156.4	57	56	223.6	231.3	76	77	72.6	71.9	48	49
July	994.8	985.5	55	55	174.5	171.6	58	57	245.7	239.4	76	77	68.0	72.7	49	49
August	1,005.2	972.8	55	54	193.8	192.7	56	57	234.0	241.5	76	75	74.5	76.0	48	48
September	982.4	965.4	55	53	206.5	199.7	54	56	228.4	234.2	76	76	74.8	77.7	48	48
October	999.0	957.8	53	52	199.2	197.2	54	54	223.2	219.5	75	76	79.0	80.2	48	48
November	1,002.4	946.2	53	52	189.0	188.6	53	56	215.6	214.8	76	76	81.2	83.4	48	48
December	1,008.3	957.5	53	53	174.3	176.1	58	58	220.5	220.1	76	77	82.5	85.8	47	48
Average	999.2	981.1	54	54	170.1	169.7	57	56	226.3	226.0	76	76	79.7	80	48	48

[1] Reports of Division of Statistical and Historical Research, Bureau of Agricultural Economics.

TABLE 480.—*Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.*

BY MARKETS—STRAIGHT SHIPMENTS.[1]

Market.	Number of animals upon which figures are based.	Average weight of animals.	Crippled.			Dead.		
			Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
		Pounds.			*Pounds.*			*Pounds.*
Buffalo	23,305	195	0.91	0.93	199	0.31	0.25	157
Chicago	317,621	250	.64	.63	247	.26	.25	246
Cleveland	8,895	203	.57	.55	197	.21	.22	208
East St. Louis	50,176	207	.38	.40	222	.19	.24	255
Kansas City	25,087	239	.35	.33	228	.15	.16	266
Milwaukee	15,072	229	.65	.69	240	.14	.14	235
Omaha	18,309	278	.51	.45	245	.12	.12	272
Pittsburgh	38,856	190	.44	.46	196	.23	.22	181
Sioux City	13,582	241	.46	.47	243	.19	.17	209
Sioux Falls	15,117	242	.41	.41	243	.17	.15	216
St. Joseph	21,293	238	.24	.25	250	.13	.13	237
St. Paul	12,517	238	.22	.24	255	.28	.33	285
BY MARKETS—MIXED SHIPMENTS.[2]								
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

[1] Straight shipments contain but one species of live stock.
[2] Mixed shipments contain more than one species of live stock.

SWINE—Continued.

TABLE 480.—*Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921*—Continued.

Market.	Number of animals upon which figures are based.	Average weight of animals.	Crippled.			Dead.		
			Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
		Pounds.			*Pounds.*			*Pounds.*
BY DISTANCE—STRAIGHT SHIPMENTS.[1]								
Less than 100 miles	97,439	242	0.33	0.31	229	0.12	0.11	235
100-150 miles	124,791	231	.40	.43	238	.20	.22	254
150-200 miles	120,523	235	.41	.40	232	.24	.18	210
200-250 miles	118,845	230	.44	.45	234	.18	.16	210
250-300 miles	4,764	219	.21	.18	183	.21	.20	209
300-350 miles	37,400	254	.89	.83	236	.34	.34	255
350-400 miles	78,293	250	.74	.72	244	.38	.41	270
400-450 miles	43,517	247	.82	.79	234	.33	.31	236
450-500 miles	12,790	241	.86	.86	240	.18	.17	230
500-550 miles	2,997	238	.60	.79	314	.37	.31	203
550-600 miles	2,751	237	1.27	1.38	258	.29	.33	274
BY DISTANCE—MIXED SHIPMENTS.[2]								
Less than 100 miles	72,980	232	0.37	0.35	217	0.18	0.18	229
100-150 m les	52,465	224	.47	.45	209	.27	.28	228
150-200 miles	18,567	237	.34	.36	250	.36	.40	263
200-250 miles	42,120	190	.39	.39	185	.20	.20	184
250-300 miles	1,752	213	.45	.41	194	.11	.18	345
300-350 miles	18,684	200	1.16	1.07	184	.35	.31	178
350-400 miles	62,016	204	1.11	1.15	210	.44	.40	186
400-450 miles	25,166	195	1.02	1.02	196	.49	.33	166
450-500 miles	3,688	203	1.06	1.03	198	.32	.31	195
BY MONTHS—STRAIGHT SHIPMENTS.[1]								
January	76,266	234	0.69	0.73	248	0.19	0.18	222
February	64,486	235	.65	.67	246	.17	.16	222
March	45,055	244	.57	.58	245	.21	.20	241
April	54,188	238	.46	.47	244	.24	.25	244
May	46,721	234	.44	.43	233	.43	.53	290
June	63,673	237	.36	.35	236	.23	.28	284
July	43,602	247	.35	.31	220	.17	.17	255
August	43,819	260	.41	.41	254	.14	.12	215
September	42,318	254	.36	.34	244	.27	.23	216
October	50,105	230	.38	.36	220	.23	.22	226
November	54,259	209	.57	.61	222	.23	.21	191
December	59,715	205	.73	.77	227	.17	.16	211
BY MONTHS—MIXED SHIPMENTS.[2]								
January	28,629	226	0.98	0.98	226	0.38	0.27	159
February	22,646	223	.87	.81	207	.25	.19	172
March	21,868	219	.68	.67	217	.47	.41	190
April	25,879	205	.57	.55	200	.27	.33	253
May	28,524	207	.60	.55	190	.42	.41	203
June	26,328	211	.54	.49	190	.39	.40	216
July	13,631	222	.56	.47	185	.25	.28	253
August	18,865	214	.61	.58	203	.28	.28	213
September	25,404	198	.53	.55	203	.33	.31	188
October	32,694	207	.51	.49	197	.33	.31	194
November	29,705	217	.57	.53	200	.21	.15	163
December	23,452	224	.92	.88	212	.27	.21	169

[1] Straight shipments contain but one species of live stock.
[2] Mixed shipments contain more than one species of live stock.

SWINE—Continued.

TABLE 481.—*Hogs: Percentage of shrinkage in shipments by cooperative associations, 1921.*[1]

BY DISTANCE.

Distance.	Straight shipments.[2]		Mixed shipments.[3]	
	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped.	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped.
Less than 100 miles	86,060	1.48	64,327	1.91
100–150 miles	112,419	1.10	38,039	2.23
150–200 miles	103,605	1.25	14,860	1.91
200–250 miles	109,438	1.24	36,591	2.76
250–300 miles	4,612	2.10	1,692	2.89
300–350 miles	36,639	2.11	18,629	3.47
350–400 miles	56,156	1.80	54,299	4.00
400–450 miles	41,021	1.71	24,004	3.62
450–500 miles	11,787	1.62	23,557	1.94
500–550 miles	2,778	2.13	173	3.60
550–600 miles	2,751	3.07	.....	.....
BY MONTHS.				
January	67,822	1.14	25,710	1.50
February	57,056	1.03	19,680	0.72
March	40,047	1.31	18,948	2.29
April	48,419	1.39	23,069	2.44
May	40,918	1.49	25,500	1.78
June	55,399	1.77	22,860	2.57
July	38,485	1.40	11,840	2.93
August	37,594	1.90	16,031	3.12
September	38,132	1.86	21,862	2.43
October	45,077	1.68	27,313	3.14
November	47,464	1.34	25,638	1.89
December	51,101	1.02	18,970	2.09

[1] Shrinkage represents the difference between the shipping-point weight and the terminal weight, including the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.
[2] Straight shipments contain but one species of live stock.
[3] Mixed shipments contain more than one species of live stock.

TABLE 482.—*Hogs: Corn and hog ratios, 1910–1922.*

[U. S. average based on average farm price per 100 pounds of live hogs, divided by average farm price per bushel of corn.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	12.2	12.0	13.6	14.4	13.3	12.9	12.2	11.7	13.0	14.2	15.1	14.9	13.3
1911	15.3	14.4	13.7	12.1	10.7	9.8	9.4	9.9	9.9	9.3	9.3	9.2	11.1
1912	9.1	8.8	8.6	9.0	8.4	8.1	8.3	9.1	10.1	12.0	13.2	14.1	9.9
1913	13.6	13.9	14.4	14.4	12.7	12.3	12.1	11.1	10.2	10.4	10.5	10.3	12.2
1914	10.8	11.3	11.2	10.9	10.3	9.9	10.1	10.3	10.3	10.0	10.4	10.2	10.5
1915	9.5	8.6	8.4	8.5	8.7	8.7	8.7	8.5	9.2	10.8	10.6	10.1	9.2
1916	9.8	10.5	11.4	11.5	11.4	11.0	10.9	10.6	11.1	10.4	10.1	9.8	10.7
1917	9.9	10.5	11.5	10.3	8.8	8.3	7.4	7.7	9.0	10.1	11.2	12.0	9.7
1918	11.2	10.3	10.1	10.2	10.3	10.0	9.9	10.1	10.8	11.0	11.5	11.3	10.6
1919	11.1	11.3	11.2	11.1	10.8	10.2	10.5	10.2	9.3	9.7	9.2	9.2	10.3
1920	9.3	9.2	8.9	8.4	7.6	7.1	7.8	8.5	10.1	13.0	15.0	13.2	9.8
1921	13.5	13.5	14.3	13.0	12.5	11.6	13.1	14.8	14.0	15.9	16.0	15.2	14.0
Average 1910–1921	11.3	11.2	11.4	11.2	10.5	10.0	10.0	10.2	10.6	11.4	11.8	11.6	10.9
1922	15.4	16.5	15.8	15.7	15.0	14.7	14.7	13.7	13.4	13.4	12.8	11.7	14.4

SWINE—Continued.

TABLE 483.—*Pork, fresh, chilled, and frozen: Yearly exports and imports, by principal countries.*

[000 omitted.]

EXPORTS.

Country.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Exported by—											
Argentina	.....	.....	.....	736	1,969	2,965	1,684	2,269	9,915	28,199	25,761
Australia[1]	1,641	898	215	49	3	33	263	840	371	163	.....
Belgium	3,936	2,332	1,927	.....	.....	.....	.....	.....	(2)	12	1,436
Brazil	.....	.....	.....	.....	.....	.....	.....	.....	1,852	3,395	2,756
British South Africa	15	48	14	19	42	55	.....	55	122	250	[3] 16
Canada	.....	267	876	17,045	15,198	12,904	12,067	[4] 35,783	2,379	1,576	1,092
Denmark	3,461	14,316	4,342	2,682	33,443	29,919	15,983	79	622	4,757	.....
France	1,187	1,296	1,492	1,286	105	105	720	338	156	396	1,242
Netherlands	64,465	55,424	79,111	109,901	97,887	34,694	6,475	(2)	8,593	3,427	39,593
New Zealand	1,222	128	282	165	713	688	1,655	69	2	.....	.....
Russia	5,988	9,091	8,276	5,869	4,453	1,011	.....	.....	.....	.....	.....
Sweden	.....	14,125	4,780	7,662	18,274	20,461	7,443	1	(2)	2,553	.....
United States	2,232	2,608	3,183	1,251	24,230	55,112	49,373	11,633	26,777	38,305	56,083

IMPORTS.

Country.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Imported by—											
Austria-Hungary	3,885	6,964	2,404	.....	.....	.....	.....	.....	.....	[5] 3,585	[5] 17,299
Belgium	459	38	27	.....	.....	.....	.....	.....	63	274	610
Canada	645	496	380	64	9,036	57,533	101,223	1,564	44,937	11,977	33,701
Cuba	107	88	123	186	216	107	158	316	564	.....	.....
Denmark	1,263	1,830	1,794	4,654	714	.....	.....	.....	.....	177	.....
France	15,187	10,794	3,208	2,189	91	2,184	9,848	10,222	6,605	6,803	5,875
Germany	3,129	29,123	35,875	.....	.....	.....	.....	.....	.....	14,445	.....
Netherlands	49	2,321	101	47	60	2	6	1	10	189	248
Sweden	.....	1	4	2	11	43	902	12	15	209	.....
Switzerland	14,606	22,172	12,606	7,545	55	4	1	2	67	4,764	6,166
United Kingdom	50,728	35,027	55,358	96,455	30,162	32,847	18,015	11,150	15,220	52,705	65,779
United States	.....	.....	259	18,952	3,498	955	2,580	1,722	2,779	1,541	816

[1] Year beginning July 1, subsequent to 1913.
[2] Less than 500.
[3] Intercolonial trade excluded.
[4] Unclassified.
[5] Austria only.

TABLE 484.—*Pork:*[1] *Yearly exports, United States, 1910 to 1921.*[2]

[000 omitted.]

Country.	Year ending June 30—						Calendar years—			
	1910	1911	1912	1913	1914	1915	1918	1919	1920	1921
Exported to—										
Belgium	7,778	12,915	20,017	15,559	9,454	12,352	73,323	123,247	42,752	29,329
Denmark	116	165	659	56	5	31,245	.....	44,718	7,635	5,130
France	217	2,012	10,155	3,039	606	54,165	131,882	285,269	53,290	13,703
Germany	756	1,862	2,328	4,582	1,006	639	.....	61,446	81,851	68,406
Italy	2,114	6,707	8,443	11,839	9,748	1,694	105,773	113,796	22,134	9,171
Netherlands	1,317	4,750	7,650	7,919	1,993	11,422	.....	122,255	64,674	31,374
Norway	1,134	5,009	5,353	4,502	6,011	11,729	.....	33,810	7,624	14,051
Sweden	152	2,382	2,751	1,920	3,478	19,557	1,681	55,398	17,570	7,294
United Kingdom	276,528	263,777	336,498	290,739	288,121	393,543	1,273,267	852,857	483,329	425,824
Canada	12,568	13,902	21,678	23,756	28,158	20,131	51,594	72,052	47,048	58,921
Panama	2,864	3,233	3,420	3,538	3,529	2,619	382	668	915	1,432
Mexico	1,555	1,049	1,495	1,196	556	453	997	1,031	1,597	1,572
Newfoundland and Labrador	4,672	5,669	6,979	6,129	8,391	5,567	7,192	5,742	5,843	5,421
Cuba	16,004	17,588	20,070	21,928	23,706	24,291	32,911	32,951	42,389	39,806
Other countries	16,407	24,460	29,882	24,192	26,369	15,221	16,571	48,536	22,088	26,322
Total	344,182	365,480	477,378	420,894	411,131	604,628	1,695,573	1,853,776	900,739	737,756

[1] Includes fresh, canned, and pickled pork, bacon, hams, and shoulders.
[2] Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.

SWINE—Continued.

TABLE 485.—*Pork:*[1] *Monthly and yearly exports of pork and pork products combined, United States, 1910–1922.*[2]

[000 omitted.]

Year.	January.	February.	March.	April.	May.	June.	July.
1910	75,401	66,675	60,599	34,227	42,229	50,415	60,183
1911	75,067	79,351	85,076	87,486	100,768	96,562	83,514
1912	93,601	102,591	104,742	85,895	92,609	65,800	72,295
1913	91,808	106,956	96,771	82,836	83,993	76,476	81,962
1914	101,683	73,958	70,046	60,783	66,067	67,436	53,086
5-year average	87,512	85,906	83,447	70,245	77,133	71,338	70,208
1915	106,325	118,657	169,112	113,501	89,263	121,772	95,029
1916	133,222	162,376	119,963	133,534	148,245	112,361	76,567
1917	199,397	122,571	167,861	137,772	127,193	103,093	45,502
1918	92,864	114,347	308,011	285,763	281,335	169,305	252,767
1919	197,965	236,421	341,295	348,040	180,890	400,393	240,961
5-year average	145,954	150,874	221,248	203,722	165,385	181,385	142,165
1920	137,438	147,133	185,348	87,591	134,208	137,330	94,117
1921	161,695	151,361	143,085	118,192	111,040	128,941	171,555
1922	127,612	138,047	124,411	90,125	99,441	119,854	133,427

Year.	August.	September.	October.	November.	December.	Total.
1910	67,351	56,685	49,280	50,136	71,512	684,693
1911	82,387	107,082	79,551	77,114	97,067	1,051,025
1912	77,105	77,964	64,987	65,696	79,611	982,896
1913	82,726	73,628	77,309	79,717	86,597	1,020,779
1914	54,215	59,388	73,414	73,756	73,691	827,523
5-year average	72,757	74,949	68,908	69,284	81,696	913,383
1915	90,128	100,207	113,464	107,744	143,262	1,368,464
1916	93,101	106,329	95,287	113,579	156,723	1,451,287
1917	71,295	79,460	54,037	99,189	90,333	1,297,703
1918	170,647	114,555	132,237	123,266	205,601	2,250,698
1919	179,503	117,762	117,943	131,663	144,799	2,637,635
5-year average	120,935	103,663	102,594	115,088	148,144	1,801,157
1920	67,701	102,470	123,102	132,698	187,091	1,536,227
1921	174,916	173,989	99,186	90,240	106,449	1,630,649
1922	127,668	120,124	125,715	124,574	156,067	1,487,065

[1] These figures include exports of fresh, canned, and pickled pork, cured hams and shoulders, bacon, lard, and neutral lard.
[2] Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.

35143°—YBK 1922——58

SWINE—Continued.

TABLE 486.—*Pork: Montly and yearly exports of principal pork products, United States, 1910–1922.*[1]

[000 omitted.]

BACON.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1910	16,343	11,474	10,755	6,342	5,528	8,028	10,894	13,746	12,642	9,437	8,646	14,435	128,270
1911	12,876	10,752	11,038	16,091	17,008	19,110	17,006	18,857	25,038	16,368	15,864	18,104	198,112
1912	18,152	16,954	17,468	17,934	16,271	10,559	16,518	18,688	15,360	13,681	13,870	16,567	192,027
1913	19,819	20,325	20,880	17,051	14,423	13,812	16,555	19,551	16,358	17,968	16,688	19,367	212,797
1914	20,814	17,518	13,618	12,603	11,619	11,306	10,905	14,405	17,596	13,838	18,825	21,221	184,268
5 yr. av.	17,601	15,404	14,752	14,004	12,970	12,563	14,376	17,049	17,399	14,258	14,779	17,939	183,094
1915	27,156	37,177	66,828	41,692	33,598	43,477	38,503	37,579	43,370	53,410	45,876	55,472	524,138
1916	50,087	63,810	41,892	53,444	58,343	38,023	30,074	43,954	49,223	41,284	48,785	73,932	592,851
1917	91,812	51,993	67,502	57,310	60,676	50,606	19,462	28,311	35,501	29,363	43,571	42,021	578,128
1918	53,851	50,904	155,604	127,400	142,012	87,294	119,894	68,858	41,540	58,132	72,862	126,437	1,104,788
1919	102,679	114,840	151,087	141,814	67,664	172,441	117,679	84,151	57,209	56,462	65,288	58,983	1,190,297
5 yr. av.	65,117	63,745	96,582	84,332	72,459	78,368	65,122	52,571	45,369	47,730	55,276	71,369	798,040
1920	77,501	75,891	75,003	24,356	50,412	60,731	31,523	23,333	41,372	49,839	57,931	68,784	636,676
1921	43,203	31,637	35,349	32,852	38,464	35,012	48,172	45,340	44,718	23,601	15,642	21,366	415,356
1922	26,108	30,794	31,180	20,490	19,070	24,067	32,584	32,591	30,448	28,850	26,171	39,486	341,839

LARD.

1910	39,686	38,878	32,574	17,213	26,418	29,976	31,658	34,171	26,987	24,625	27,856	38,790	368,832
1911	40,688	47,595	55,043	48,726	54,685	45,284	35,446	34,912	53,670	43,003	40,830	52,548	552,430
1912	45,465	54,143	54,797	40,179	44,900	32,364	32,536	33,142	43,273	34,746	36,057	43,491	495,093
1913	44,281	61,211	49,226	42,114	48,788	41,961	39,567	41,025	37,383	39,466	42,661	48,497	536,180
1914	56,432	35,916	38,001	29,890	35,101	37,519	24,987	25,292	28,538	48,241	42,053	36,046	438,016
5 yr. av.	45,311	47,549	45,928	35,624	41,978	37,421	32,839	33,708	37,970	38,016	37,891	43,875	478,110
1915	55,520	56,133	67,259	38,336	22,293	30,834	21,555	25,146	28,774	28,256	30,776	46,404	451,286
1916	34,040	41,262	37,146	39,017	48,773	45,862	26,088	22,891	32,707	21,242	31,470	46,162	426,660
1917	65,091	39,558	59,080	45,602	30,621	24,256	9,364	23,553	22,145	9,639	30,742	13,070	372,721
1918	20,706	31,683	68,722	53,885	79,751	29,248	68,600	51,921	33,268	46,025	27,285	37,724	548,818
1919	37,850	68,973	97,239	86,556	55,001	114,329	68,192	49,033	36,960	41,017	42,106	63,646	760,902
5 yr. av.	42,641	47,522	65,889	52,679	47,288	48,906	38,760	34,509	30,771	29,236	32,476	41,401	512,078
1920	38,824	36,645	69,430	40,758	55,545	45,070	47,061	31,021	46,326	54,174	57,316	90,080	612,250
1921	76,185	91,841	82,617	53,275	48,604	67,656	83,329	87,411	104741	56,886	51,855	64,542	868,942
1922	73,194	75,520	64,377	42,459	50,817	57,249	66,058	68,907	61,120	66,332	62,321	78,596	766,950

[1] Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.

LARD.

TABLE 487.—*Lard, pure: Monthly and yearly average price, per 100 pounds, Chicago, 1905 to 1922.*[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1905	$6.73	$6.74	$6.92	$7.12	$7.18	$7.20	$7.09	$7.70	$7.51	$7.12	$7.08	$7.51	$7.16
1906	7.44	7.55	8.03	8.59	8.49	8.74	8.93	8.66	7.79	9.33	9.36	8.75	8.47
1907	9.29	9.70	9.03	8.68	8.95	8.69	8.91	8.89	8.98	8.86	8.16	7.98	8.84
1908	7.70	7.21	7.67	8.19	8.42	8.66	9.30	9.33	9.94	9.62	9.31	9.23	8.72
1909	9.57	9.52	10.05	10.32	10.60	11.54	11.52	11.66	12.23	12.17	12.93	13.12	11.27
5 year av	8.15	8.14	8.34	8.58	8.73	8.97	9.15	9.25	9.29	9.42	9.37	9.32	8.89
1910	12.43	12.50	14.08	12.33	12.95	12.27	11.85	11.82	12.44	12.93	10.82	10.31	12.23
1911	10.32	9.50	8.83	7.93	8.03	8.17	8.30	8.97	9.32	8.85	9.07	9.00	8.86
1912	9.24	8.90	9.37	10.06	10.77	10.87	10.57	10.73	11.08	11.47	11.15	10.46	10.39
1913	9.88	10.50	10.66	11.00	11.05	10.99	11.53	11.28	11.15	10.60	10.63	10.68	10.83
1914	10.89	10.67	10.52	10.23	9.95	10.03	10.08	9.69	9.68	10.22	10.89	10.05	10.24
5 year av	10.55	10.41	10.69	10.31	10.55	10.47	10.47	10.50	10.73	10.81	10.51	10.10	10.51
1915	10.69	10.53	9.84	9.95	9.71	9.39	8.05	7.92	8.13	9.07	8.94	9.47	9.31
1916	10.32	9.99	10.79	11.77	12.80	12.87	13.12	13.44	14.47	15.34	16.91	16.66	13.21
1917	15.66	17.00	19.30	21.00	22.30	21.41	20.77	22.40	24.03	24.29	27.13	25.46	21.73
1918	24.39	26.05	26.07	25.44	24.53	24.50	26.09	26.78	26.98	26.66	26.69	25.31	25.79
1919	23.46	24.83	27.35	30.09	33.58	34.15	34.76	30.01	26.19	27.41	25.86	23.11	28.40
5 year av	16.90	17.68	18.67	19.65	20.58	20.46	20.56	20.11	19.96	20.55	21.11	20.00	19.69
1920	23.52	23.14	22.93	22.71	22.75	22.98	21.71	21.16	22.58	23.28	22.07	18.15	22.25
1921	16.03	14.91	14.48	13.07	11.88	12.03	13.94	13.65	13.51	12.16	11.62	11.25	13.21
1922	11.19	12.59	13.50	12.62	13.15	13.22	13.06	13.30	13.00	14.12	12.28	13.31	12.94

[1] Prior to February, 1920, prices compiled from the National Provisioner; subsequent figures complied from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

TABLE 488.—*Lard: Cold storage holdings of lard, 1916 to 1922.*[1]

[000 ommitted.]

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	63,304	92,342	111,897	97,237	108,731	85,113	87,127	95,991	82,028	71,570	56,929	58,950
1917	80,977	86,208	88,460	65,179	61,640	72,365	95,197	112,249	102,172	69,929	37,095	44,367
1918	54,539	59,310	65,355	89,854	103,373	106,194	107,871	102,411	104,668	90,398	76,124	81,676
1919	104,274	138,353	125,410	112,469	112,409	83,096	92,132	100,478	87,947	76,456	66,036	49,147
1920	62,614	97,649	111,975	132,993	141,819	152,307	193,316	191,531	170,774	109,258	47,329	36,683
1921	59,319	83,549	117,690	128,614	152,428	181,992	204,301	194,490	149,886	85,115	48,850	42,001
1922	47,541	61,202	61,297	86,031	96,055	123,798	154,254	143,084	119,755	75,338	36,750	32,506

[1] Compiled from reports of Division of Statistical and Historical Research, Bureau of Agricultural Economics.

MEATS AND LARD.

TABLE 489.—*Fresh and smoked meats: Monthly average wholesale price per 100 pounds, Chicago, and New York, 1922.*[1]

CHICAGO.

Class of meat.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Beef:													
Steer—													
Choice	$16.55	$14.86	$14.93	$15.18	$14.99	$15.25	$16.44	$16.33	$17.02	$17.51	$17.76	$17.82	$16.22
Good	15.00	13.68	14.06	14.42	14.37	14.45	15.34	15.16	16.04	16.10	16.04	16.34	15.08
Medium	13.20	12.22	13.04	13.39	13.50	13.56	14.11	13.94	14.28	14.49	13.43	13.69	13.57
Common	10.35	10.06	11.06	11.50	12.22	12.31	12.66	10.12	10.75	10.18	9.78	10.58	10.96
Cow—													
Good	11.50	10.88	10.67	10.82	12.04	12.39	12.61	11.56	11.95	11.25	10.50	10.60	11.40
Medium	10.50	9.80	9.84	9.90	11.00	11.40	11.65	10.36	10.00	9.60	8.50	9.00	10.13
Common	8.50	8.30	8.84	8.82	9.89	9.95	9.85	8.46	8.18	7.60	7.04	7.46	8.57
Bull, common	8.13	7.66	7.30	7.36	8.22	7.51	8.09	6.80	6.68	6.30	5.99	6.18	7.18
Veal:													
Choice	16.16	17.35	16.56	15.80	16.98	16.62	16.68	18.56	19.93	17.94	16.26	15.95	17.06
Good	14.78	15.50	15.40	14.24	15.04	14.95	15.22	16.54	17.95	16.60	15.26	14.88	15.53
Medium	13.45	14.50	13.91	12.32	13.74	13.80	13.48	13.80	14.55	13.65	12.82	12.68	13.56
Common	11.00	13.00	11.11	9.12	10.30	11.62	10.57	10.98	11.42	10.02	8.56	9.12	10.57
Lamb and mutton:													
Lamb—													
Choice	25.20	27.80	28.70	30.05	29.86	25.92	27.47	26.46	27.49	26.25	25.56	26.02	27.23
Good	24.01	26.75	27.70	28.88	28.54	24.25	25.88	24.50	25.69	24.61	23.62	24.25	25.72
Medium	22.07	25.72	26.12	27.20	27.02	22.55	23.22	22.00	23.27	22.44	21.86	22.25	23.81
Common	19.57	23.28	23.62	24.15	24.81	18.88	18.18	17.28	17.25	18.12	18.61	19.19	20.24
Mutton—													
Good	13.25	17.00	18.26	20.10	19.76	15.90	14.24	14.50	15.05	14.68	15.06	14.47	16.02
Medium	11.42	14.80	16.30	19.02	17.70	13.08	11.00	11.00	12.00	11.10	12.66	12.50	13.55
Common	8.80	11.35	12.76	15.21	13.76	9.02	7.00	7.00	7.75	8.02	8.46	8.50	9.80
Fresh pork cuts:													
Hams, 12–16 pounds average	17.49	23.38	25.00	25.62	26.62	26.50	24.95	19.90	18.06	17.90	17.27	17.56	21.69
Loins—													
8–10 pounds	15.95	16.58	19.82	23.29	23.37	19.40	23.72	25.54	28.74	25.42	18.09	15.52	21.29
10–12 pounds	14.92	15.60	18.85	21.90	21.84	18.00	21.62	22.96	26.44	24.18	17.27	14.81	19.87
12–14 pounds	13.92	14.64	17.70	20.35	19.96	16.82	18.79	19.45	22.84	21.95	16.44	14.00	18.07
14–16 pounds	12.90	13.64	16.70	19.00	18.48	15.68	16.84	16.54	19.47	19.48	15.59	13.20	16.46
16 pounds and over	12.38	12.66	15.66	17.41	17.31	14.64	15.19	14.20	16.24	17.20	14.61	12.42	14.99
Shoulders—													
Skinned	11.86	12.86	15.02	15.01	14.29	13.72	14.18	14.01	14.18	14.26	13.38	12.80	13.80
Picnics, 4–6 pounds	11.28	12.60	13.91	13.85	13.91	14.50	15.25	13.82	12.72	12.98	12.67	12.16	13.30
Picnics, 6–8 pounds	10.75	12.06	13.25	13.35	13.41	13.60	14.42	12.93	11.48	11.82	11.77	11.52	12.53
Butts, Boston style	13.73	14.86	16.80	17.34	16.73	15.96	16.75	16.88	17.80	17.75	16.08	13.55	16.19
Spare ribs	11.06	10.61	11.45	11.72	9.93	7.96	7.96	7.73	10.26	12.21	11.65	10.96	10.29
Cured pork cuts:													
Hams, smoked (14–16 pounds average)	21.70	25.56	28.80	28.88	29.15	29.12	28.12	24.09	22.19	21.66	20.40	19.62	24.94
Shoulders, picnics, smoked	16.29	16.44	17.55	16.88	17.18	18.00	18.25	16.33	14.81	15.81	15.65	15.25	16.54
Bacon, breakfast	19.89	22.88	26.65	26.56	26.25	26.44	26.56	26.65	27.62	29.46	27.20	23.88	25.84
Lard (tierces)	11.19	12.59	13.50	12.62	13.15	13.22	13.06	13.30	13.00	14.12	13.78	13.31	13.07
Lard compound (tierces)	11.00	12.10	14.13	13.44	13.38	13.35	13.35	12.90	11.78	11.79	12.28	12.62	12.68

[1] Compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

MEATS AND LARD—Continued.

TABLE 489.—*Fresh and smoked meats: Monthly average wholesale price per 100 pounds, Chicago, and New York, 1922*—Continued.

NEW YORK.

Class of meat.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
Beef:													
Steer—													
Choice	.....	.....	$14.47	$14.35	$15.03	$15.50	$17.18	$17.52	$18.65	$19.48	$18.73	$18.95	$16.99
Good	$14.06	$13.12	13.62	13.60	14.34	14.08	16.31	16.00	17.19	16.75	16.06	15.63	15.06
Medium	12.76	11.70	12.82	12.69	13.58	12.96	14.81	12.98	14.20	12.74	12.20	13.01	13.04
Common	11.22	10.74	11.94	11.94	12.91	12.00	12.34	9.86	10.96	9.58	8.65	10.22	11.03
Cow—													
Good	11.17	10.55	10.98	10.75	11.59	12.18	13.13	11.60	13.50	11.17	9.80	10.65	11.42
Medium	10.38	9.92	9.75	9.94	10.43	11.06	12.09	9.54	11.21	9.68	8.52	9.65	10.18
Common	9.30	9.34	9.25	9.38	9.53	10.08	11.00	8.50	9.48	8.02	7.47	8.68	9.17
Bull, common	8.53	8.34	8.25	8.31	9.28	7.94	9.09	7.18	7.09	6.64	6.60	6.76	7.83
Veal:													
Choice	.....	.....	19.76	16.22	17.10	16.80	17.18	19.06	21.65	19.71	17.72	18.58	18.38
Good	19.20	18.92	16.04	13.72	14.20	14.52	15.18	15.66	18.19	15.98	14.67	15.45	15.98
Medium	18.00	16.80	14.36	12.50	12.70	12.68	13.02	13.10	14.07	12.32	11.71	13.00	13.69
Common	15.28	14.04	12.22	10.50	10.78	10.99	10.48	12.10	11.30	9.56	9.32	10.74	11.44
Lamb and mutton:													
Lamb—													
Choice	27.53	28.13	28.86	30.10	30.30	24.72	26.86	26.61	28.45	26.48	25.96	26.16	27.51
Good	25.90	26.02	27.38	28.38	27.32	21.82	23.30	24.04	25.70	24.52	24.15	24.45	25.25
Medium	24.15	23.95	25.58	26.00	24.86	18.72	21.15	22.98	23.60	21.85	21.79	22.32	23.08
Common	21.90	21.45	23.08	23.75	22.74	14.98	16.42	19.32	19.27	17.75	19.16	20.12	20.00
Mutton—													
Good	16.25	16.30	18.70	18.72	20.08	14.95	16.45	15.15	15.18	14.82	14.26	15.48	16.36
Medium	15.20	14.80	16.40	16.62	17.16	11.80	13.09	12.31	13.00	12.32	12.37	12.92	14.00
Common	12.32	13.15	14.80	14.90	15.16	9.05	10.38	9.36	9.50	9.05	9.62	9.84	11.43
Fresh pork cuts:													
Hams, 12–16 pounds average	21.50	23.94	26.90	25.75	27.30	27.62	25.19	21.95	19.75	20.50	18.30	19.50	23.18
Loins—													
8–10 pounds	17.10	18.70	21.14	23.65	23.76	21.78	22.08	25.14	28.59	26.98	20.89	16.84	22.22
10–12 pounds	15.79	17.45	20.06	22.65	22.54	20.72	20.75	23.19	26.69	25.39	19.97	16.18	20.95
12–14 pounds	14.61	16.45	18.98	21.65	21.74	19.32	19.54	20.48	23.48	22.80	19.23	15.28	19.46
14–16 pounds	13.35	15.19	17.98	20.65	20.74	18.08	18.44	17.98	19.55	19.80	18.08	14.80	17.89
16 pounds and over	12.99	14.00	17.06	19.65	19.74	16.85	17.13	15.79	17.05	18.37	17.19	13.95	16.65
Shoulders—													
Skinned	12.81	13.98	16.54	15.90	15.50	15.02	15.50	15.54	15.84	15.69	15.24	13.56	15.09
Picnics, 6–8 pounds	11.75	13.30	15.18	14.90	14.50	14.55	15.23	14.92	13.74	13.43	13.00	11.38	13.83
Butts, Boston style	15.05	16.38	18.86	18.65	17.98	17.42	17.14	18.26	18.62	19.10	19.19	16.08	17.73
Spare ribs	13.56	12.75	12.50	12.19	11.95	11.31	11.19	10.10	11.75	12.12	14.02	14.00	12.29
Cured pork cuts:													
Hams, smoked (10–12 pounds average)	21.44	26.88	32.95	33.12	31.20	30.38	31.12	26.40	21.94	22.62	22.00	20.88	26.74
Shoulders, picnics, smoked	15.19	15.75	17.35	15.94	17.10	17.62	17.38	16.15	13.75	15.00	13.80	14.31	15.78
Bacon, breakfast	22.00	23.75	27.80	27.00	28.10	29.38	31.75	30.80	25.38	29.00	27.70	27.75	27.53
Lard (tierces)	11.06	12.69	13.90	12.12	13.23	13.03	13.22	13.18	13.16	13.62	13.38	11.55	12.98
Lard compound (tierces)	10.25	12 03	14.60	13.38	13.53	13.41	13.75	12.97	11.19	11.25	13.16	11.90	12.48

TABLE 490.—*Cold-storage holdings of frozen and cured meats, 1917 to 1922.*[1]

[000,000 omitted.]

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	804	875	914	852	828	832	879	893	778	633	587	709
1918	981	1,118	1,266	1,355	1,319	1,300	1,149	1,137	1,036	905	882	938
1919	1,199	1,452	1,436	1,389	1,332	1,284	1,254	1,171	1,061	984	881	865
1920	1,016	1,187	1,279	1,304	1,252	1,209	1,194	1,115	977	784	670	656
1921	820	976	1,138	1,108	1,043	1,017	989	899	777	607	491	505
1922	567	624	681	717	713	745	817	789	727	589	512	569

[1] Compiled from reports of Division of Statistical and Historical Research, Bureau of Agricultural Economics.

LIVE-STOCK VALUES.

TABLE 491.—*Aggregate live-stock value comparisons.*

[Farm values Jan. 1, in millions of dollars; i. e., 000,000 omitted.]

State.	Cattle, hogs, and sheep.			Horses and mules.			Total (cattle, hogs, sheep, horses, and mules.)			Rank in aggregate value.	
	Average, 1917–1921.	1922	1923	Average, 1917–1921.	1922	1923	Average, 1917–1921.	1922	1923	1922	1923
Maine	20	13	15	16	12	11	36	25	26	42	43
New Hampshire	12	9	9	6	4	4	18	13	13	46	46
Vermont	30	22	24	11	8	8	41	30	32	40	40
Massachusetts	21	17	16	8	7	6	29	24	22	43	44
Rhode Island	3	3	3	1	1	1	4	4	4	48	48
Connecticut	15	12	13	7	5	5	22	17	18	45	45
New York	183	134	129	80	62	60	263	196	189	8	10
New Jersey	22	16	17	13	11	10	35	27	27	41	42
Pennsylvania	137	98	102	75	62	61	212	160	163	12	13
Delaware	5	3	3	4	3	3	9	6	6	47	47
Maryland	26	19	20	20	16	15	46	35	35	38	38
Virginia	64	38	42	46	35	35	110	73	77	25	24
West Virginia	44	26	30	21	16	16	65	42	46	36	36
North Carolina	52	36	36	64	51	51	116	87	87	22	23
South Carolina	35	21	21	52	34	32	87	55	53	32	33
Georgia	75	41	39	83	47	49	158	88	88	20	22
Florida	38	23	23	13	11	10	51	34	33	39	39
Ohio	206	124	139	99	81	75	305	205	214	5	6
Indiana	168	104	119	93	65	59	261	169	178	11	11
Illinois	257	146	180	155	96	96	412	242	276	3	3
Michigan	134	81	92	70	56	55	204	137	147	14	14
Wisconsin	233	151	170	79	61	67	312	212	237	4	4
Minnesota	201	128	141	93	70	69	294	198	210	6	8
Iowa	441	246	320	152	102	111	593	348	431	1	1
Missouri	216	122	143	128	70	69	344	192	212	9	7
North Dakota	69	42	48	76	45	45	145	87	93	21	21
South Dakota	145	81	104	66	39	40	211	120	144	15	15
Nebraska	246	137	175	98	59	60	344	196	235	7	5
Kansas	206	112	133	128	67	64	334	179	197	10	9
Kentucky	80	43	49	71	50	46	151	93	95	18	17
Tennessee	68	40	44	76	53	51	144	93	95	17	18
Alabama	59	31	31	58	38	41	117	69	72	27	26
Mississippi	63	33	31	63	42	43	126	75	74	24	25
Louisiana	47	25	23	42	34	32	89	59	55	30	31
Texas	299	184	167	186	129	121	485	313	288	2	2
Oklahoma	106	58	55	92	54	48	198	112	103	16	16
Arkansas	55	29	25	60	40	38	115	69	63	26	29
Montana	98	57	70	43	28	25	141	85	95	23	19
Wyoming	89	43	51	14	8	7	103	51	58	33	30
Colorado	109	64	72	37	25	22	146	89	94	19	20
New Mexico	80	41	35	16	10	10	96	51	45	34	37
Arizona	61	38	45	11	10	9	72	48	54	35	32
Utah	48	29	40	12	9	9	60	38	49	37	35
Nevada	36	18	24	5	2	3	41	20	27	44	41
Idaho	67	41	49	24	18	16	91	59	65	29	28
Washington	41	33	31	31	22	21	72	55	52	31	34
Oregon	70	43	46	27	22	23	97	65	69	28	27
California	159	118	129	49	36	36	208	154	165	13	12
United States	4,939	2,973	3,323	2,674	1,826	1,788	7,613	4,799	5,111	.....	.....

LIVE-STOCK PRICES.

TABLE 492.—*Farm prices of live stock, by ages and classes, United States, 1917–1923.*

Classes.	1917	1918	1919	1920	1921	1922	1923
Horses:							
Under 1 year old	$45.17	$45.20	$42.62	$37.22	$31.57	$26.32	$26.12
1 and under 2 years	70.21	70.21	65.94	58.88	49.72	41.24	40.98
2 years and over	112.64	114.30	108.17	103.53	90.70	76.02	75.00
Mules:							
Under 1 year old	53.98	57.61	59.14	60.12	47.49	35.18	34.17
1 and under 2 years	80.28	86.32	89.14	90.48	71.76	53.04	51.51
2 years and over	128.17	139.88	147.65	160.54	126.39	95.44	93.14
Other cattle (than milk):							
Under 1 year	20.71	23.44	24.97	24.50	17.42	13.42	14.81
1 and under 2 years	33.93	38.63	41.74	40.69	29.01	22.32	24.46
2 years and over	48.63	55.62	60.41	59.66	43.72	32.83	34.94
Sheep:							
Under 1 year	5.63	9.06	8.82	8.06	5.34	4.24	6.66
Ewes 1 year and over	7.48	12.70	12.44	11.03	6.37	4.84	7.68
Wethers 1 year and over	6.78	11.26	11.02	9.60	5.93	4.07	6.05
Rams	13.62	20.84	21.90	21.63	15.10	11.37	14.18

LIVE-STOCK MARKETING.

TABLE 493.—*Yearly receipts, local slaughter, and stocker and feeder shipments at all public stockyards in United States, 1915 to 1922.*[1]

[000 omitted]

Year.	Cattle.			Hogs.			Sheep.		
	Receipts.	Local slaughter.	Stocker and feeder shipments.	Receipts.	Local slaughter.	Stocker and feeder shipments.	Receipts.	Local slaughter.	Stocker and feeder shipments.
1915	14,553	7,912	(2)	36,213	24,893	(2)	18,435	10,254	(2)
1916	17,676	10,294	3,847	43,265	30,984	194	20,692	11,228	3,277
1917	23,066	13,275	4,803	38,042	25,440	788	20,216	9,142	4,448
1918	25,295	14,874	5,013	44,863	30,441	989	22,485	10,266	5,208
1919	24,624	13,633	5,286	44,469	30,018	902	27,256	12,646	6,956
1920	22,197	12,194	4,102	42,121	26,761	728	23,538	10,981	5,180
1921	19,787	11,078	3,504	41,101	26,335	499	24,168	12,858	3,095
1922	23,217	12,435	4,929	44,067	28,737	593	22,364	10,669	4,167

[1] Compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.
[2] Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many markets.

LIVE-STOCK SLAUGHTER.

TABLE 494.—*Live stock: Yearly slaughter under Federal inspection, 1910 to 1922.*[1]

[000 omitted.]

Year ending June 30—	Cattle.	Calves.	Swine.	Sheep.	Goats.	All animals.	Food products.	Condemned.
							Pounds.	*Pounds.*
1910	7,963	2,295	27,656	11,150	116	49,179	6,223,965	19,032
1911	7,781	2,220	29,916	13,006	54	52,977	6,934,233	21,074
1912	7,532	2,243	34,966	14,209	64	59,014	7,279,559	18,097
1913	7,156	2,098	32,288	14,724	57	56,323	7,094,810	18,852
1914	6,724	1,815	33,290	14,959	122	56,910	7,033,296	19,135
5-year average	7,431	2,134	31,623	13,610	83	54,881	6,913,173	19,238
1915	6,964	1,736	36,248	12,909	166	58,023	7,533,070	18,780
1916	7,404	2,048	40,483	11,986	180	62,101	7,474,242	17,897
1917	9,299	2,680	40,211	11,343	175	63,708	7,663,634	19,857
1918	10,938	3,323	35,449	8,770	150	58,630	7,905,185	17,543
1919	11,242	3,674	44,399	11,268	126	70,709	9,169,042	30,323
5-year average	9,169	2,692	39,358	11,255	159	62,634	7,949,035	20,880
1920	9,710	4,228	38,982	12,335	77	[2] 65,332	7,755,158	18,202
1921	8,180	3,896	37,703	12,452	20	[2] 62,252	7,127,820	14,079
1922	7,872	3,924	39,416	11,968	14	[2] 63,196	7,427,117	13,034

[1] Reports of Bureau of Animal Industry.
[2] Includes 1,089 horses in 1920, 1,335 in 1921, and 1,898 in 1922.

FOREST STATISTICS.

TABLE 495.—*Production of lumber, by States, 1870 to 1920.*

Reported quantities for each period known, except 1915–1918 and 1920, for which years computed quantities are given, with rank of leading 25 States. Black-faced figures indicate maximum production 1870 to 1920.

The figures in this table and Table 496 are rounded off from tables containing more detailed figures, which has resulted in slight discrepancies in the totals of the columns.

State.	1870		1880		1890		1899		1904		1905		1906		1907		1908		1909		1910		State
	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	
		Millions bd. ft.		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*	
United States	....	12,756	....	18,091	....	[1] 23,498	....	[2] 34,787	....	[1] 34,135	....	30,503	....	37,551	....	40,256	....	33,224	....	44,510	....	[3] 40,018	United States.
Alabama	25	97	20	252	9	586	12	1,097	11	1,244	13	844	15	1,010	15	1,225	12	1,152	11	1,691	11	1,466	Alabama.
Arizona	....	1	....	11	....	5	....	36	....	56	....	(4)	....	57	....	72	....	43	....	63	....	73	Arizona.
Arkansas	....	79	....	173	14	526	5	1,596	8	1,681	6	1,489	6	1,839	6	1,989	4	1,657	5	**2,111**	7	1,844	Arkansas.
California	10	319	17	305	15	516	22	734	13	1,077	11	1,062	11	1,349	14	1,346	15	996	18	1,144	14	1,255	California.
Colorado	....	14	....	64	....	80	....	134	....	**142**	....	57	....	110	....	134	....	117	....	142	....	121	Colorado.
Connecticut	....	56	....	64	....	48	....	108	....	69	....	70	....	125	....	140	....	138	....	**168**	....	126	Connecticut.
Delaware	....	19	....	32	....	23	....	35	....	30	....	12	....	44	....	51	....	41	....	**55**	....	47	Delaware.
Florida	19	159	21	248	21	411	18	789	18	813	19	658	17	888	21	839	20	731	17	1,202	18	992	Florida.
Georgia	13	245	9	452	10	573	7	1,309	12	1,136	17	713	18	832	19	854	17	905	15	**1,342**	16	1,042	Georgia.
Idaho	....	1	....	18	....	28	....	65	....	211	....	213	....	419	....	514	24	519	25	646	21	746	Idaho.
Illinois	12	246	12	334	....	219	....	**382**	....	212	....	119	....	141	....	141	....	123	....	170	....	114	Illinois.
Indiana	5	656	5	916	8	707	13	**978**	23	564	24	352	25	448	....	505	....	412	....	556	....	423	Indiana.
Iowa	9	325	10	413	11	**569**	....	352	....	282	....	129	....	164	....	144	....	97	....	132	....	75	Iowa.
Kansas	....	**74**	....	45	....	4	....	11	....	2	....	[5] 1	....	(4)	....	(4)	....	(4)	....	5	....	1	Kansas.
Kentucky	15	214	16	306	20	421	21	765	21	586	22	465	20	661	17	**918**	21	659	21	861	20	754	Kentucky.
Louisiana	....	76	....	133	25	304	11	1,113	3	2,459	3	2,294	2	2,796	2	2,972	2	2,722	2	3,552	2	3,734	Louisiana.
Maine	6	639	7	567	12	564	19	757	16	864	15	746	13	1,089	16	1,104	16	929	19	**1,112**	19	860	Maine.
Maryland	....	96	....	[6] 127	....	81	....	183	....	166	....	164	....	219	....	214	....	169	....	**268**	....	155	Maryland.
Massachusetts	17	197	23	205	....	209	....	342	....	262	....	253	....	354	....	364	....	**385**	....	361	....	239	Massachusetts.
Michigan	1	2,252	1	4,173	1	**4,246**	2	3,012	4	2,007	5	1,720	4	2,094	7	1,828	7	1,478	10	1,890	9	1,681	Michigan.
Minnesota	14	242	8	564	4	1,079	3	**2,342**	5	1,942	4	1,926	7	1,794	9	1,661	9	1,286	12	1,562	12	1,458	Minnesota.
Mississippi	18	161	....	169	17	453	10	1,202	7	1,727	8	1,299	5	1,840	4	2,094	3	1,861	3	2,573	3	2,122	Mississippi.
Missouri	8	330	11	400	23	396	24	**716**	24	554	23	362	24	507	24	549	....	459	23	660	24	502	Missouri.
Montana	....	13	....	21	....	90	....	256	....	236	....	189	....	329	....	344	....	312	....	309	....	319	Montana.
Nebraska	....	14	....	14	....	9	....	5	....	2	....	(7)	....	.....	....	.....	....	.....	....	(4)	....	(4)	Nebraska.

Nevada	....	**35**	....	22	....	.....	....	1	....	(4)	....	(4)	....	.....	....	(4)	....	(4)	....	(4)	....	(4)	Nevada.
New Hampshire	11	253	19	292	....	267	25	562	25	492	25	341	23	539	22	**754**	22	607	24	650	....	444	New Hampshire.
New Jersey	24	102	....	**110**	....	32	....	73	....	44	....	18	....	36	....	40	....	35	....	62	....	37	New Jersey.
New Mexico	....	7	....	11	....	26	....	31	....	81	....	(4)	....	103	....	**113**	....	79	....	92	....	**24**	New Mexico.
New York	3	**1,310**	4	1,184	6	910	17	875	22	582	14	750	19	811	20	849	19	781	22	681	23	506	New York.
North Carolina	22	125	22	242	16	509	8	1,278	10	1,318	10	1,081	12	1,223	11	1,622	13	1,137	4	2,178	8	1,825	North Carolina.
Ohio	7	557	6	911	13	541	14	**957**	....	421	....	332	....	439	25	529	25	459	....	543	25	490	Ohio.
Oklahoma	....	.....	....	.....	....	3	....	22	....	(4)	....	12	....	[8] 49	....	140	....	159	....	226	....	165	Oklahoma.
Oregon	....	75	....	177	19	445	23	734	14	987	9	1,263	10	1,605	10	1,636	8	1,468	9	1,899	4	2,085	Oregon.
Pennsylvania	2	1,630	2	1,734	3	2,113	4	**2,321**	6	1,739	7	1,397	9	1,621	8	1,735	10	1,203	14	1,463	15	1,241	Pennsylvania.
Rhode Island	....	13	....	8	....	8	....	18	....	15	....	14	....	22	....	**33**	....	31	....	25	....	14	Rhode Island.
South Carolina	....	95	24	186	....	198	....	466	20	610	21	466	22	567	23	649	23	561	20	**898**	22	707	South Carolina.
South Dakota	....	4	....	29	....	[9] 28	....	[9] 34	....	14	....	12	....	23	....	35	....	26	....	31	....	16	South Dakota.
Tennessee	16	205	18	303	18	450	16	939	19	776	20	541	21	635	18	895	18	791	16	**1,224**	17	1,016	Tennessee.
Texas	23	107	13	329	7	840	9	1,231	9	1,406	12	930	8	1,741	3	**2,230**	6	1,524	7	2,099	6	1,884	Texas.
Utah	....	20	....	**26**	....	14	....	17	....	13	....	4	....	8	....	15	....	15	....	13	....	12	Utah.
Vermont	15	242	14	323	24	370	....	366	....	337	....	267	....	329	....	**374**	....	304	....	352	....	285	Vermont.
Virginia	20	144	15	316	22	410	15	956	15	950	16	715	14	1,063	12	1,412	11	1,199	6	**2,102**	10	1,652	Virginia.
Washington	21	129	....	160	5	1,062	6	1,428	2	2,486	1	3,917	1	4,305	1	3,778	1	2,916	1	3,863	1	4,097	Washington.
West Virginia	....	76	25	180	....	300	20	774	17	856	18	673	16	976	13	1,396	14	1,097	13	**1,473**	13	1,377	West Virginia.
Wisconsin	4	1,098	3	1,542	2	2,817	1	**3,362**	1	2,623	2	2,544	3	2,331	5	2,003	5	1,613	8	2,025	5	1,891	Wisconsin.
Wyoming	....	3	....	3	....	6	....	17	....	8	....	4	....	13	....	17	....	19	....	29	....	31	Wyoming.
All other	....	.....	....	.....	....	[10] 3	....	[10] 7	....	[11] 52	....	[12] 89	....	[13] 1	....	[14] 6	....	[14] 11	....	[15] 11	....	[15] 12	All other.
STATE GROUPS.																							
Northeastern	1	4,557	2	4,643	2	4,626	3	5,640	3	4,602	4	4,031	4	5,190	3	**5,657**	3	4,622	5	5,197	6	3,954	Northeastern.
Central	3	2,284	3	3,349	4	3,034	4	**5,511**	5	3,968	5	2,844	5	3,807	6	4,928	5	4,000	3	5,487	4	4,675	Central.
Southern	4	923	4	1,755	3	3,693	2	8,359	1	10,466	1	8,226	1	10,947	1	12,342	1	10,711	1	14,796	1	13,249	Southern.
No. Carolina pine	7	364	5	744	6	1,117	6	2,701	6	2,878	6	2,262	6	2,853	5	3,684	6	2,896	6	**5,177**	5	4,184	No. Carolina pine.
Lake	2	3,592	1	6,279	1	8,144	1	**8,716**	2	6,572	3	6,189	3	6,220	4	5,492	4	4,378	4	5,476	3	5,030	Lake.
Pacific	5	558	6	664	5	2,022	5	2,891	4	4,550	2	6,241	2	7,259	2	6,759	2	5,380	2	6,905	2	7,437	Pacific.
Rocky Mountain	8	59	8	154	8	249	7	556	7	747	7	467	7	1,039	7	1,209	7	1,104	7	1,292	7	1,385	Rocky Mountain.
All other	6	417	7	505	7	**612**	8	407	8	351	8	243	8	236	8	185	8	134	8	179	8	104	All other.

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, Mississippi, Oklahoma, Texas.
North Carolina pine.—North Carolina, South Carolina, Virginia.
Lake.—Michigan, Minnesota, Wisconsin.
Pacific.—California, Nevada, Oregon, Washington.
Rocky Mountain.—Arizona, Colorado, Idaho, Montana, New Mexico, Utah, Wyoming.
All other.—Iowa, Kansas, Nebraska, South Dakota.
* See footnotes on p. 0349.

TABLE 495.—*Production of lumber, by States, 1870 to 1920*—Continued.

State.	1911		1912		1913		1914		1915		1916		1917		1918		1919		1920		State.
	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantitu.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	
		Millions bd. ft.		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*	
United States	....	[3] 37,003	....	[3] 39,158		[3] 38,387		[1] 837,346	....	[3] 37,012	....	[3] 39,807	....	[3] 35,831	....	[3] 31,890	....	[2][16] 34,552	....	[3] 33,799	United States.
Alabama	13	1,226	12	1,378	8	1,524	8	1,495	8	1,500	8	1,720	7	1,555	9	1,270	5	**1,799**	7	1,439	Alabama.
Arizona	....	73	....	76	....	77	....	79	....	76	....	93	....	79	....	84	....	74	....	**121**	Arizona.
Arkansas	6	1,777	7	1,822	7	1,912	6	1,797	5	1,800	7	1,910	5	1,765	5	1,470	6	1,772	6	1,452	Arkansas.
California	14	1,208	14	1,203	13	1,183	12	1,303	11	[17] 1,130	11	[17] 1,420	9	[17] 1,417	7	[17] 1,277	9	1,259	5	[17] **1,513**	California.
Colorado	....	96	....	88	....	75	....	102	....	74	....	78	....	72	....	57	....	65	....	70	Colorado.
Connecticut	....	125	....	109	....	94	....	82	....	90	....	75	....	66	....	64	....	87	....	72	Connecticut.
Delaware	....	24	....	28	....	18	....	26	....	25	....	12	....	8	....	6	....	27	....	20	Delaware.
Florida	16	984	15	1,068	15	1,055	15	1,074	12	1,110	10	**1,425**	11	1,230	12	950	10	1,137	12	1,001	Florida.
Georgia	19	802	17	941	17	844	16	1,026	17	1,000	16	1,000	19	740	21	515	13	894	15	762	Georgia.
Idaho	20	766	21	714	21	653	20	764	21	777	19	850	17	760	15	803	16	765	13	**970**	Idaho.
Illinois	....	97	....	123	....	103	....	66	....	110	....	60	....	45	....	42	....	65	....	57	Illinois.
Indiana	....	361	....	401	....	333	....	299	....	350	....	270	....	240	....	250	....	282	....	258	Indiana.
Iowa	....	60	....	47	....	22	....	11	....	35	....	20	....	13	....	14	....	18	....	14	Iowa.
Kansas	....	(4)	....	(4)	....	(4)	....	(4)	....	(3)	....	1	....	4	....	[5] 8	....	3	....	[5] 4	Kansas.
Kentucky	21	632	22	641	22	542	22	596	22	560	22	525	23	360	23	340	22	512	22	421	Kentucky.
Louisiana	2	3,566	2	3,876	2	4,162	1	3,956	2	3,900	2	4,200	2	**4,210**	2	3,450	2	3,164	3	3,120	Louisiana.
Maine	18	828	19	882	18	835	17	993	16	1,000	17	935	16	770	17	650	21	596	21	506	Maine.
Maryland	....	144	....	174	....	140	....	162	....	165	....	90	....	68	....	71	....	113	....	86	Maryland.
Massachusetts	....	273	....	259	....	225	....	143	....	250	....	210	....	155	....	175	....	167	....	139	Massachusetts.
Michigan	10	1,467	10	1,489	12	1,223	13	1,214	13	1,100	13	1,230	13	1,065	13	940	14	876	16	750	Michigan.
Minnesota	9	1,485	11	1,437	14	1,150	11	1,312	14	1,100	15	1,220	12	1,075	11	1,005	18	700	19	576	Minnesota.
Mississippi	3	2,042	3	2,382	3	2,611	3	2,281	3	2,300	3	**2,730**	4	2,425	4	1,935	4	2,390	4	2,224	Mississippi.
Missouri	25	419	....	422	24	417	25	371	....	350	....	260	....	275	....	273	25	321	25	274	Missouri.
Montana	....	228	....	272	....	358	....	318	....	328	25	384	24	350	24	340	....	287	24	**410**	Montana.
Nebraska	....	(4)	....	(4)	....	(4)	....	(4)	....	(3)	....	(3)	....	.....	....	(7)	....	1	....	(7)	Nebraska.
Nevada	....	(4)	....	(4)	....	(4)	....	(4)	....	(18)	....	(18)	....	(18)	....	(18)	....	20	....	(18)	Nevada.
New Hampshire	....	389	25	479	....	309	24	483	23	500	24	385	25	290	22	350	24	339	....	249	New Hampshire.
New Jersey	....	29	....	35	....	27	....	49	....	45	....	40	....	25	....	20	....	37	....	23	New Jersey.
New Mexico	....	84	....	83	....	66	....	57	....	66	....	92	....	93	....	89	....	87	....	112	New Mexico.
New York	23	526	23	502	23	458	23	486	24	475	23	400	22	360	25	335	23	358	23	411	New York.

North Carolina	5	1,799	4	2,193	6	1,957	4	**2,228**	4	2,090	5	2,100	8	1,460	10	1,240	7	1,654	9	1,247		North Carolina
Ohio	24	427	24	500	25	415	....	286	25	400	....	280	....	225	....	235	....	280	....	247		Ohio.
Oklahoma	....	144	....	169	....	140	....	201	....	230	....	**240**	....	240	....	195	....	168	....	163		Oklahoma.
Oregon	4	1,804	5	1,916	4	2,098	5	1,818	7	1,690	4	2,222	3	2,585	3	2,710	3	2,577	2	**3,317**		Oregon.
Pennsylvania	15	1,049	16	992	19	782	19	865	18	950	20	750	21	565	20	530	19	630	20	520		Pennsylvania.
Rhode Island	....	9	....	14	....	15	....	16	....	15	....	18	....	11	....	13	....	11	....	9		Rhode Island.
South Carolina	22	585	20	817	20	752	21	702	19	800	18	857	18	745	19	545	20	622	18	610		South Carolina.
South Dakota	....	13	....	21	....	19	....	19	....	23	....	30	....	29	....	30	....	43	....	45		South Dakota.
Tennessee	17	915	18	933	16	872	18	885	20	800	21	700	20	630	18	630	15	792	14	780		Tennessee.
Texas	8	1,681	6	1,902	5	2,081	7	1,554	6	1,750	6	2,100	6	1,735	6	1,350	8	1,380	8	1,329		Texas.
Utah	....	11	....	9	....	5	....	9	....	11	....	9	....	9	....	10	....	12	....	8		Utah.
Vermont	....	239	....	236	....	195	....	250	....	260	....	200	....	170	....	160	....	218	....	164		Vermont.
Virginia	12	1,360	8	1,570	10	1,274	9	1,488	9	1,500	12	1,335	14	1,060	14	855	12	1,098	11	1,014		Virginia.
Washington	1	4,065	1	5,000	1	4,592	2	3,946	1	3,950	1	4,494	1	4,568	1	4,603	1	4,961	1	**5,525**		Washington.
West Virginia	11	1,388	13	1,319	11	1,250	14	1,118	15	1,110	14	1,220	15	890	16	720	17	763	17	698		West Virginia.
Wisconsin	7	1,762	9	1,499	9	1,493	10	1,391	10	1,210	9	1,600	10	1,385	8	1,275	11	1,116	10	1,060		Wisconsin.
Wyoming	....	**33**	....	14	....	13	....	12	....	17	....	18	....	9	....	8	....	9	....	8		Wyoming.
All other	....	[19] 12	....	[19] 23	....	[19] 19	....	[19] 16	....	([8])	....	([8])	....	.....	....	.....	....	.....	....	.....		All other.
STATE GROUPS.																						
Northeastern	6	3,635	6	3,713	6	3,097	6	3,553	4	3,775	6	3,115	6	2,488	6	2,374	6	2,584	6	2,198		Northeastern.
Central	4	4,238	5	4,338	4	3,931	5	3,621	5	3,670	5	3,315	5	2,665	5	2,490	4	3,016	4	2,735		Central.
Southern	1	12,222	1	13,538	1	14,329	1	13,384	1	13,590	1	**15,325**	1	13,900	1	11,135	1	12,704	1	11,490		Southern.
North Carolina pine	5	3,743	3	4,580	3	3,983	3	4,417	3	4,390	3	4,292	4	3,265	4	2,640	3	3,374	3	2,872		North Carolina pine.
Lake	3	4,714	4	4,424	5	3,866	4	3,918	6	3,410	4	4,050	3	3,525	3	3,220	5	2,692	5	2,386		Lake.
Pacific	2	7,076	2	7,219	2	7,874	2	7,067	2	6,770	2	8,136	2	8,571	2	8,590	2	8,818	2	**10,355**		Pacific.
Rocky Mountain	7	1,291	7	1,256	7	1,247	7	1,340	7	1,349	7	1,524	7	1,371	7	1,389	7	1,298	7	**1,699**		Rocky Mountain.
All other	8	85	8	90	8	60	8	46	8	58	8	50	8	47	8	52	8	65	8	64		All other.

[1] Excludes custom mills (sawing 3,196,527 M feet in 1890).
[2] Includes both merchant and custom sawing.
[3] Mills cutting less than 50 M feet each per year excluded.
[4] Included in "all other."
[5] Includes cut of mills in Nebraska.
[6] Includes cut of mills in District of Columbia.
[7] Included with Kansas.
[8] Reported as cut of Indian Territory.
[9] Includes cut of mills in North Dakota.
[10] Reported as the cut of Alaska.
[11] Includes cut of Alaska, Nevada, and Oklahoma.
[12] Includes cut of Arizona, Nevada, and New Mexico.
[13] Includes cut of Kansas and a part of Oklahoma.
[14] Includes cut of Kansas and Nevada.
[15] Includes cut of Nebraska and Nevada.
[16] Includes 2,655 mills cutting less than 50 M feet each.
[17] Includes cut of mills in Nevada.
[18] Included with California.
[19] Includes cut of Kansas, Nebraska, and Nevada.

TABLE 496.—*Production of lumber, by species, 1899 to 1920.*

Reported quantities for each known period, except 1915–1918 and 1920, for which years computed quantities are given, with rank of 15 leading kinds of wood.

The figures in this table and Table 495 are rounded off from tables containing more detailed figures, which has resulted in slight dicrepancies in the totals of the columns.

Species or kind of wood.	1899		1904		1905		1906		1907		1908	
	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.
		Millions bd. ft.		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*
Total	....	34,787	....	34,135	....	30,503	....	37,551	....	40,256	....	33,224
Softwoods	....	26,153	....	27,353	....	24,915	....	30,235	....	31,001	....	25,546
Yellow pine	1	9,659	1	11,533	1	8,772	1	11,661	1	13,215	1	11,236
Douglas fir	5	1,737	4	2,928	3	4,319	2	4,970	2	4,749	2	3,675
White pine	2	7,742	2	5,333	2	4,984	3	4,584	3	4,193	3	3,345
Hemlock	4	3,421	3	3,269	4	2,804	4	3,537	5	3,373	5	2,531
Western yellow pine	8	945	7	1,279	7	989	7	1,387	7	1,527	7	1,276
Spruce	6	1,448	6	1,304	6	1,166	6	1,645	6	1,727	6	1,412
Cypress	10	496	9	750	8	753	9	839	10	758	9	743
Redwood	13	360	12	519	11	412	11	660	13	569	14	405
Cedar	....	233	....	223	12	364	....	358	....	251	....	273
Larch	....	51	....	32	....	141	....	289	....	325	....	382
White fir	....	.....	....	.....	....	53	....	104	....	147	....	98
Sugar pine	....	54	....	.....	....	123	....	134	....	115	....	100
Balsam fir	....	.....	....	.....	....	36	....	.....	....	[1] 53	....	70
Lodgepole pine	....	.....	....	.....	....	.....	....	.....	....	.....	....	.....
All other softwoods	....	9	....	184	....	.....	....	67	....	.....	....	.....
Hardwoods	....	8,634	....	6,782	....	5,588	....	7,315	....	9,255	....	7,678
Oak	3	4,438	5	2,903	5	1,834	5	2,820	4	3,719	4	2,772
Maple	9	633	10	588	9	609	8	883	8	939	8	875
Gum, red and sap	15	285	11	524	13	317	12	454	11	689	11	589
Yellow poplar	7	1,115	8	854	10	583	10	683	9	863	10	654
Chestnut	....	207	15	244	....	224	13	407	12	653	12	539
Birch	....	133	....	224	15	241	15	370	15	388	15	386
Beech	....	.....	....	.....	....	219	....	276	14	430	13	410
Basswood	14	308	....	228	14	258	14	377	....	381	....	320
Elm	11	457	14	258	....	227	....	225	....	261	....	274
Cottonwood	12	415	13	321	....	236	....	264	....	293	....	232
Ash	....	269	....	169	....	160	....	214	....	252	....	225
Hickory	....	97	....	107	....	96	....	148	....	203	....	197
Tupelo	....	.....	....	.....	....	36	....	48	....	69	....	69
Walnut	....	39	....	31	....	30	....	48	....	41	....	44
Sycamore	....	30	....	18	....	.....	....	.....	....	46	....	43
Cherry	....	.....	....	.....	....	.....	....	.....	....	9	....	18
All other hardwoods	....	209	....	313	....	[2] 520	....	98	....	.....	....	.....
Minor species	....	.....	....	.....	....	.....	....	.....	....	19	....	30

[1] Includes a small quantity of softwoods in New York not separately reported.
[2] Reported as "Mixed" and probably includes some softwoods.

TABLE 496.—*Production of lumber, by species, 1899 to 1920*—Continued.

Species or kind of wood.	1909		1910		1911		1912		1913		1914	
	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.
		Millions bd. ft.		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*
Total	....	44,510	....	40,018	....	37,003	....	39,158	....	38,387	....	37,346
Softwoods	....	33,897	....	31,161	....	28,902	....	30,526	....	30,303	....	29,407
Yellow pine	1	16,277	1	14,143	1	12,897	1	14,737	1	14,839	1	14,473
Douglas fir	2	4,856	2	5,204	2	5,054	2	5,175	2	5,556	2	4,764
White pine	4	3,900	4	3,352	3	3,231	4	3,138	4	2,569	4	2,633
Hemlock	5	3,051	5	2,836	5	2,555	5	2,427	5	2,320	5	2,166
Western yellow pine	7	1,500	6	1,562	6	1,331	7	1,219	6	1,259	6	1,327
Spruce	6	1,749	7	1,450	7	1,262	6	1,239	8	1,047	7	1,246
Cypress	9	956	9	936	8	982	9	997	7	1,097	8	1,013
Redwood	13	522	12	543	13	490	13	497	12	510	12	535
Cedar	....	346	....	415	....	375	....	329	....	358	14	500
Larch	....	421	....	383	....	368	15	407	14	395	....	359
White fir	....	89	....	132	....	124	....	123	....	88	....	113
Sugar pine	....	97	....	103	....	118	....	132	....	150	....	136
Balsam fir	....	109	....	75	....	83	....	84	....	94	....	125
Lodgepole pine	....	24	....	27	....	33	....	22	....	20	....	18
All other softwoods	....	.....	....	.....	....	.....	....	.....	....	.....	....	.....
Hardwoods	....	10,613	....	8,857	....	8,101	....	8,632	....	8,084	....	7,939
Oak	3	4,414	3	3,522	4	3,098	3	3,319	3	3,212	3	3,279
Maple	8	1,107	8	1,007	9	952	8	1,021	9	901	9	910
Gum, red and sap	11	707	11	610	11	583	10	694	10	773	10	675
Yellow poplar	10	858	10	735	10	659	11	623	11	620	13	519
Chestnut	12	664	13	535	12	529	12	554	13	506	11	541
Birch	....	452	15	421	14	433	....	388	15	379	15	431
Beech	14	511	14	437	15	404	14	435	....	366	....	376
Basswood	....	399	....	345	....	305	....	297	....	257	....	265
Elm	....	347	....	265	....	236	....	262	....	215	....	214
Cottonwood	....	266	....	220	....	199	....	227	....	209	....	195
Ash	....	291	....	246	....	214	....	235	....	208	....	189
Hickory	....	334	....	272	....	240	....	279	....	163	....	116
Tupelo	....	97	....	92	....	98	....	123	....	120	....	124
Walnut	....	46	....	36	....	38	....	43	....	41	....	26
Sycamore	....	57	....	45	....	43	....	49	....	31	....	23
Cherry	....	25	....	18	....	21	....	22	....	14	....	.....
All other hardwoods	....	.....	....	.....	....	.....	....	.....	....	.....	....	.....
Minor species	....	38	....	50	....	48	....	60	....	71	....	56

TABLE 496.—*Production of lumber, by species, 1899 to 1920*—Continued.

Species or kind of wood.	1915		1916		1917		1918		1919		1920	
	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.	Rank.	Quantity.
		Millions bd. ft.		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*		*Millions bd. ft.*
Total	....	37,012	....	39,807	....	35,831	....	31,890	....	34,552	....	33,799
Softwoods	....	29,485	....	31,332	....	29,174	....	25,668	....	27,407	....	26,810
Yellow pine	1	14,700	1	15,055	1	13,539	1	10,845	1	13,063	1	11,091
Douglas fir	2	4,431	2	5,416	2	5,585	2	5,820	2	5,902	2	6,960
White pine	4	2,700	4	2,700	3	2,250	3	2,200	6	1,724	6	1,500
Hemlock	5	2,275	5	2,350	5	2,200	5	1,875	5	1,755	5	1,850
Western yellow pine	7	1,294	6	1,690	6	1,960	6	1,710	4	1,755	4	2,290
Spruce	6	1,400	7	1,250	7	1,125	7	1,125	7	980	9	825
Cypress	8	1,100	8	1,000	8	950	10	630	10	656	10	625
Redwood	13	420	13	491	11	487	11	443	12	410	11	476
Cedar	14	420	....	410	....	265	....	245	....	332	....	260
Larch	....	375	14	455	14	360	14	355	13	388	14	390
White fir	....	125	....	190	....	218	....	213	....	223	....	280
Sugar pine	....	128	....	169	....	133	....	112	....	134	....	146
Balsam fir	....	100	....	125	....	89	....	82	....	68	....	85
Lodgepole pine	....	26	....	31	....	12	....	12	....	16	....	31
All other softwoods	....	.....	....	.....	....	.....	....	.....	....	.....	....	.....
Hardwoods	....	7,527	....	8,475	....	6,657	....	6,223	....	7,145	....	6,989
Oak	3	2,970	3	3,300	4	2,250	4	2,025	3	2,708	3	2,500
Maple	9	900	9	975	9	860	8	815	8	857	7	875
Gum, red and sap	10	655	10	800	10	788	9	765	9	851	8	850
Yellow poplar	12	464	11	560	15	350	15	290	....	329	15	350
Chestnut	11	490	12	535	13	415	12	400	11	546	12	475
Birch	15	415	15	450	12	415	13	370	14	375	13	405
Beech	....	360	....	360	....	296	15	290	15	359	....	325
Basswood	....	260	....	275	....	203	....	200	....	184	....	195
Elm	....	210	....	240	....	205	....	195	....	194	....	225
Cottonwood	....	180	....	200	....	190	....	175	....	144	....	155
Ash	....	190	....	210	....	175	....	170	....	155	....	170
Hickory	....	100	....	125	....	95	....	100	....	170	....	150
Tupelo	....	170	....	275	....	265	....	237	....	144	....	180
Walnut	....	90	....	90	....	62	....	100	....	39	....	35
Sycamore	....	25	....	40	....	32	....	30	....	28	....	31
Cherry	....	.....	....	.....	....	.....	....	.....	....	.....	....	.....
All other hardwoods	....	.....	....	.....	....	.....	....	.....	....	.....	....	.....
Minor species	....	48	....	40	....	56	....	61	....	61	....	68

TABLE 497.—*Lumber production reported, 1920.*[1]

YELLOW PINE.

State.	Number of active mills reporting.	Quantity reported.		Average value per 1,000 feet f. o. b. mill.
		M feet b. m.	Per cent.	
United States	6,014	8,964,313	100.0	$35.89
Louisiana	202	2,066,263	23.0	42.50
Mississippi	549	1,322,958	14.8	36.67
Texas	221	1,125,015	12.6	33.81
Alabama	872	985,773	11.0	31.44
Florida	196	744,373	8.3	35.77
Arkansas	361	586,369	6.5	36.77
North Carolina	1,053	517,425	5.8	29.88
Georgia	694	478,547	5.3	26.84
South Carolina	367	436,246	4.9	39.06
Virginia	731	404,804	4.5	33.48
Oklahoma	48	135,280	1.5	37.60
Tennessee	292	74,167	.8	25.16
Maryland	149	35,360	.4	29.71
Missouri	92	23,693	.3	25.57
All other States	187	28,040	.3	27.43

[1] For total production in United States, by species, see Table 496.

TABLE 497.—*Lumber production reported, 1920*—Continued.

DOUGLAS FIR.

State.	Number of active mills reporting.	Quantity reported.		Average value per 1,000 feet f. o. b. mill.
		M feet b. m.	Per cent.	
United States	1,403	6,956,683	100.0	$34.59
Washington	464	4,275,017	61.5	34.94
Oregon	527	2,347,368	33.8	34.80
California	101	161,632	2.2	30.50
Idaho	131	105,786	1.5	25.09
Montana	84	55,670	.8	29.73
All other States	96	11,210	.2	31.16

WHITE PINE.

United States	2,769	1,377,327	100.0	$41.49
Minnesota	170	429,210	31.2	37.45
Idaho	36	261,251	19.0	53.92
Maine	347	165,102	12.0	33.94
New Hampshire	195	121,202	8.8	32.07
Wisconsin	207	88,979	6.5	49.20
Washington	38	69,051	5.0	45.02
New York	725	66,311	4.8	46.79
Massachusetts	164	57,905	4.2	30.26
Michigan	129	36,186	2.6	48.07
Pennsylvania	337	29,004	2.1	48.12
Vermont	88	13,827	1.0	41.14
West Virginia	51	6,163	.4	40.12
Virginia	86	6,127	.4	32.97
All other States	196	27,009	2.0	36.92

HEMLOCK.

United States	3,001	1,685,320	100.0	$32.05
Washington	124	495,444	29.4	27.90
Wisconsin	213	403,325	23.9	31.61
Michigan	176	206,840	12.3	31.58
Pennsylvania	334	134,740	8.0	44.69
Oregon	47	89,130	5.3	25.73
West Virginia	91	85,408	5.1	41.98
New York	946	74,004	4.4	38.99
Maine	310	54,726	3.3	31.09
North Carolina	76	33,271	2.0	30.64
Tennessee	57	32,721	1.9	29.07
New Hampshire	143	23,508	1.4	30.36
Vermont	203	17,330	1.0	34.11
Virginia	65	16,992	1.0	37.46
Massachusetts	94	7,105	.4	29.19
Kentucky	43	6,775	.4	26.05
All other States	79	4,001	.2	32.27

WESTERN YELLOW PINE.

United States	900	2,270,898	100.0	$38.73
Oregon	180	630,326	27.7	44.03
California, including Nevada	141	509,471	22.6	37.50
Idaho	124	366,857	16.1	35.97
Washington	148	278,573	12.2	37.34
Montana	67	173,507	7.6	34.78
Arizona	19	119,406	5.3	37.48
New Mexico	53	104,059	4.6	38.22
South Dakota	44	45,033	2.0	41.00
Colorado	81	37,191	1.6	27.22
All other States	43	6,475	.3	23.71

TABLE 497.—*Lumber production reported, 1920*—Continued.

SPRUCE.

State.	Number of active mills reporting.	Quantity reported.		Average value per 1,000 feet f. o. b. mill.
		M feet b. m.	Per cent.	
United States	1,241	805,320	100.0	$38.94
Washington	75	192,671	23.9	37.70
Oregon	39	165,418	20.5	37.03
Maine	244	164,652	20.5	40.65
West Virginia	11	48,121	6.0	46.23
New Hampshire	94	43,835	5.4	39.80
North Carolina	9	33,588	4.2	42.90
Minnesota	74	31,492	3.9	34.97
New York	188	27,823	3.5	44.33
Vermont	205	25,962	3.2	38.92
Montana	21	21,573	2.7	32.98
Colorado	64	13,859	1.7	32.89
Idaho	24	10,572	1.3	42.38
Michigan	67	8,686	1.1	39.79
All other States	126	17,068	2.1	32.87

CYPRESS.

United States	656	571,674	100.0	$51.02
Louisiana	90	273,116	47.8	54.84
Florida	40	105,329	18.4	52.27
Georgia	59	45,863	8.0	53.18
Missouri	43	41,053	7.2	39.93
South Carolina	33	36,183	6.3	51.35
Arkansas	134	34,790	6.1	37.78
Mississippi	63	11,945	2.1	38.97
North Carolina	54	5,913	1.0	42.48
Tennessee	45	5,737	1.0	43.04
All other States	95	11,745	2.1	40.00

REDWOOD.

United States [1]	43	476,003	100.0	$46.90

CEDAR.

United States	637	245,079	100.0	$38.68
Washington	96	113,351	46.2	36.65
California	71	36,030	14.7	31.68
Oregon	51	34,482	14.1	47.09
Idaho	21	26,663	10.9	34.48
Tennessee	111	10,963	4.5	69.61
Maine	55	6,837	2.8	35.27
Michigan	34	5,252	2.1	33.56
Wisconsin	41	2,445	1.0	29.72
All other States	157	9,056	3.7	42.85

LARCH.

United States	528	375,103	100.0	$30.28
Idaho	62	142,103	37.9	31.01
Montana	44	112,400	30.0	30.22
Washington	75	66,266	17.7	28.01
Oregon	19	17,938	4.8	31.97
Michigan	86	12,457	3.3	31.89
Wisconsin	114	11,765	3.1	28.71
Minnesota	89	11,706	3.1	31.68
All other States	39	468	.1	38.85

[1] All in California.

TABLE 497.—*Lumber production reported, 1920*—Continued.

WHITE FIR.

State.	Number of active mills reporting.	Quantity reported.		Average value per 1,000 feet f. o. b. mill.
		M feet b. m.	Per cent.	
United States	231	279,645	100.0	$30.44
California, including Nevada	65	151,957	54.3	30.05
Idaho	38	54,424	19.5	35.23
Washington	43	32,395	11.6	22.49
Montana	4	22,891	8.2	37.80
Oregon	51	14,199	5.1	23.30
All other States	30	3,779	1.3	27.38

SUGAR PINE.

United States	73	145,906	100.0	$48.76
California	62	141,134	96.7	49.20
Oregon	11	4,772	3.3	35.78

BALSAM FIR.

United States	407	70,511	100.0	$34.33
Maine	142	31,042	44.0	35.39
Wisconsin	38	13,903	19.7	36.23
Minnesota	53	12,377	17.6	28.52
Michigan	39	5,321	7.5	36.83
Vermont	72	4,440	6.3	34.59
New Hampshire	29	2,332	3.3	27.87
All other States	34	1,096	1.6	46.26

LODGEPOLE.

United States	103	30,136	100.0	$30.58
Montana	19	15,603	51.8	33.03
Colorado	39	10,634	35.3	29.45
Wyoming	24	2,744	9.1	23.50
All other States	21	1,155	3.8	24.71

OAK.

United States	8,552	1,853,580	100.0	$46.88
Arkansas	477	225,422	12.2	43.42
Tennessee	551	221,260	11.9	46.00
West Virginia	383	202,499	10.9	59.51
Virginia	813	166,667	9.0	51.07
Kentucky	532	141,588	7.6	44.25
Mississippi	320	115,399	6.2	41.35
Missouri	377	101,667	5.5	36.95
Louisiana	104	92,725	5.0	39.84
Pennsylvania	715	88,729	4.8	45.11
Ohio	454	85,131	4.6	54.21
North Carolina	625	82,671	4.5	45.07
Indiana	375	79,640	4.3	62.74
Alabama	425	46,646	2.5	33.26
New York	625	32,157	1.7	53.88
Texas	73	27,074	1.5	42.43
Georgia	239	26,003	1.4	37.79
All other States	1,464	118,302	6.4	43.41

TABLE 497.—*Lumber production reported, 1920*—Continued.

MAPLE.

State.	Number of active mills reporting.	Quantity reported.		Average value per 1,000 feet f. o. b. mill.
		M feet b. m.	Per cent.	
United States	4,131	768,345	100.0	$50.16
Michigan	212	279,911	36.4	54.04
Wisconsin	264	188,252	24.5	49.77
New York	857	72,724	9.5	48.38
West Virginia	186	56,630	7.4	57.26
Pennsylvania	454	39,194	5.1	47.01
Indiana	310	26,664	3.5	47.87
Ohio	342	21,817	2.8	40.01
Vermont	197	17,759	2.3	41.10
Missouri	105	8,679	1.1	40.99
New Hampshire	82	7,702	1.0	34.32
All other States	1,122	49,013	6.4	39.62

GUM.

United States	2,060	684,745	100.0	$35.24
Arkansas	288	194,981	28.5	36.79
Mississippi	232	147,781	21.6	34.86
Louisiana	103	125,944	18.4	35.79
Tennessee	234	52,821	7.7	34.47
Alabama	162	33,700	4.9	29.46
South Carolina	34	20,483	3.0	35.29
Texas	55	18,033	2.6	36.33
Georgia	49	17,991	2.6	35.51
Missouri	60	17,304	2.5	37.08
Virginia	143	12,607	1.8	27.88
North Carolina	105	8,687	1.3	26.56
Kentucky	171	7,417	1.1	28.48
Florida	7	7,255	1.1	34.45
Oklahoma	6	6,546	1.0	54.60
All other States	411	13,195	1.9	32.23

YELLOW POPLAR.

United States	2,583	270,407	100.0	$58.87
West Virginia	236	64,443	23.8	74.28
Tennessee	421	45,436	16.8	60.15
Virginia	329	34,738	12.8	55.15
Kentucky	294	31,462	11.6	54.26
North Carolina	220	20,584	7.6	49.61
Georgia	87	17,169	6.4	62.86
Alabama	198	16,933	6.3	39.79
Mississippi	97	10,915	4.0	45.43
Ohio	174	9,304	3.4	59.51
Indiana	166	5,875	2.2	61.40
Pennsylvania	157	4,528	1.7	49.01
South Carolina	27	3,789	1.4	42.71
Maryland	56	2,077	.8	40.24
All other States	121	3,154	1.2	39.83

TABLE 497.—*Lumber production reported, 1920*—Continued.

CHESTNUT.

State.	Number of active mills reporting.	Quantity reported.		Average value per 1,000 feet f. o. b. mill.
		M feet b. m.	Per cent.	
United States	2,977	379,675	100.0	$42.48
West Virginia	279	97,301	25.6	50.93
Virginia	421	56,103	14.8	46.86
North Carolina	157	47,170	12.4	39.42
Pennsylvania	617	45,067	11.9	37.09
Tennessee	198	32,653	8.6	42.52
Connecticut	117	22,875	6.0	35.59
New York	419	17,780	4.7	42.38
Massachusetts	110	17,682	4.7	39.50
Kentucky	258	16,011	4.2	32.40
Ohio	167	7,227	1.9	39.92
Maryland	87	5,342	1.4	34.46
New Jersey	44	3,764	1.0	46.11
Rhode Island	16	3,135	.8	32.94
Georgia	6	2,561	.7	34.57
All other States	81	5,004	1.3	32.11

BIRCH.

United States	1,882	346,577	100.0	$53.44
Wisconsin	198	177,305	51.2	57.27
Michigan	128	58,866	17.0	54.88
New York	445	33,221	9.6	52.04
Maine	128	17,496	5.0	39.01
Vermont	189	15,307	4.4	42.75
West Virginia	77	10,910	3.1	69.21
New Hampshire	104	10,023	2.9	35.01
Minnesota	78	6,427	1.9	36.90
Pennsylvania	181	6,370	1.8	51.71
All other States	354	10,652	3.1	37.69

BEECH.

United States	3,051	264,572	100.0	$36.51
New York	700	43,982	16.6	37.59
Michigan	127	41,987	15.9	41.28
Pennsylvania	247	34,471	13.0	37.29
Indiana	314	33,471	12.7	35.83
West Virginia	196	27,826	10.5	40.02
Ohio	304	18,970	7.2	33.99
Kentucky	283	17,565	6.6	28.74
Louisiana	33	10,446	3.9	26.14
Tennessee	285	8,711	3.3	29.84
Vermont	132	6,206	2.3	36.04
New Hampshire	58	4,447	1.7	34.42
Virginia	67	4,189	1.6	47.79
Mississippi	39	2,289	.9	32.42
North Carolina	30	2,154	.8	32.26
All other States	236	7,858	3.0	31.41

TABLE 497.—*Lumber production reported, 1920*—Continued.

BASSWOOD.

State.	Number of active mills reporting.	Quantity reported.		Average value per 1,000 feet f. o. b. mill.
		M feet b. m.	Per cent.	
United States	2,372	169,276	100.0	$54.28
Wisconsin	225	59,067	34.9	57.05
Michigan	154	23,562	13.9	56.65
West Virginia	138	19,369	11.5	60.81
New York	679	14,834	8.8	50.44
North Carolina	66	7,616	4.5	44.81
Virginia	56	7,258	4.3	64.16
Minnesota	104	5,412	3.2	38.69
Tennessee	70	4,953	2.9	52.87
Ohio	165	4,940	2.9	50.14
Indiana	122	4,662	2.8	53.24
Pennsylvania	153	4,417	2.6	53.59
Vermont	127	4,308	2.5	44.88
Kentucky	99	4,303	2.5	42.36
All other States	214	4,575	2.7	37.56

ELM.

United States	2,473	182,845	100.0	$47.23
Wisconsin	237	49,120	26.9	53.91
Michigan	164	28,951	15.8	59.07
Arkansas	117	20,938	11.4	43.24
Indiana	253	20,012	10.9	51.88
Ohio	280	10,751	5.9	43.36
Mississippi	75	9,272	5.1	44.78
Missouri	122	9,118	5.0	32.17
New York	423	6,879	3.8	40.31
Tennessee	139	6,692	3.7	31.92
Louisiana	45	5,763	3.1	27.72
Minnesota	96	4,611	2.5	28.05
All other States	522	10,738	5.9	32.14

COTTONWOOD.

United States	926	138,076	100.0	$33.38
Minnesota	99	47,773	34.6	27.38
Mississippi	55	21,798	15.8	38.51
Arkansas	47	13,673	9.9	43.08
Louisiana	34	8,165	5.9	31.19
Wisconsin	50	7,464	5.4	32.26
Missouri	57	6,133	4.4	37.37
Michigan	42	5,454	4.0	32.04
Tennessee	43	4,937	3.6	40.81
Iowa	44	3,578	2.6	35.46
Oklahoma	10	3,160	2.3	31.78
All other States	445	15,941	11.5	34.15

TABLE 497.—*Lumber production reported, 1920*—Continued.

ASH.

State.	Number of active mills reporting.	Quantity reported.		Average value per 1,000 feet f. o. b. mill.
		M feet b. m.	Per cent.	
United States	3,161	147,618	100.0	$61.28
Louisiana	66	20,051	13.6	57.44
Arkansas	130	16,516	11.2	53.54
Wisconsin	173	12,939	8.8	56.55
Indiana	223	12,104	8.2	87.42
Tennessee	173	10,911	7.4	69.59
Ohio	284	9,948	6.7	76.28
New York	620	9,363	6.4	57.74
Mississippi	75	7,665	5.2	50.54
Michigan	126	5,816	3.9	55.59
West Virginia	109	5,063	3.4	86.96
Georgia	27	4,894	3.3	55.37
Pennsylvania	250	3,867	2.6	62.69
Alabama	42	3,596	2.4	51.69
Missouri	68	3,527	2.4	55.45
South Carolina	20	3,372	2.3	70.99
Kentucky	157	3,321	2.3	50.18
All other States	618	14,665	9.9	48.36

HICKORY.

United States	2,686	131,553	100,0	$52.57
Arkansas	174	28,594	21.7	58.59
Tennessee	306	21,993	16.7	48.82
Kentucky	259	11,492	8.7	48.96
West Virginia	206	11,448	8.7	49.18
Indiana	267	9,532	7.2	55.78
Mississippi	79	9,345	7.1	53.09
Ohio	309	6,818	5.2	62.48
Missouri	130	6,370	4.9	52.71
Louisiana	43	4,913	3.7	62.32
Pennsylvania	134	3,799	2.9	43.21
Virginia	179	2,982	2.3	41.11
Illinois	70	2,848	2.2	42.59
North Carolina	104	2,327	1.8	37.92
All other States	426	9,092	6.9	49.36

TUPELO.

United States	721	161,055	100.0	$33.68
Louisiana	45	87,038	54.0	35.09
Alabama	46	12,696	7.9	36.74
South Carolina	21	12,278	7.6	38.54
Mississippi	52	8,758	5.4	27.01
Arkansas	71	7,685	4.8	31.73
Virginia	39	7,639	4.8	29.12
North Carolina	45	4,730	2.9	32.90
Tennessee	84	3,583	2.2	28.99
Missouri	25	3,430	2.1	22.52
Illinois	10	2,494	1.6	18.46
All other States	283	10,724	6.7	32.22

TABLE 497.—*Lumber production reported, 1920*—Continued.

WALNUT.

State.	Number of active mills reporting.	Quantity reported.		Average value per 1,000 feet f. o. b. mill.
		M feet b. m.	Per cent.	
United States	1,076	32,704	100.0	$88.92
Missouri	69	6,964	21.3	64.18
Ohio	150	5,589	17.1	100.72
Indiana	165	4,723	14.4	94.77
Illinois	28	2,445	7.5	102.14
Kentucky	137	2,186	6.7	83.91
Iowa	21	2,112	6.5	59.82
Tennessee	104	1,392	4.2	77.98
West Virginia	88	1,008	3.1	58.59
All other States	314	6,287	19.2	115.09

SYCAMORE.

United States	915	29,256	100.0	$32.12
Arkansas	64	6,966	23.8	36.62
Indiana	188	4,106	14.0	34.54
Mississippi	35	3,519	12.0	31.79
Missouri	98	2,667	9.1	28.56
Tennessee	46	1,991	6.8	31.13
Kentucky	120	1,915	6.6	27.89
Ohio	108	1,741	6.0	35.38
North Carolina	3	1,527	5.2	29.90
Illinois	46	1,178	4.0	24.73
All other States	207	3,646	12.5	28.22

TABLE 498.—*Lumber production reported, 1920—Minor species.*[1]

Kind of wood.	Number of active mills reporting.	Quantity reported (M feet b. m.).	Average value per 1,000 feet f. o. b. mill.	States reporting.
Total		64,158	$100.89	
Mahogany	9	21,193	211.47	Louisiana, New York, Indiana, Illinois, Ohio.
Cherry	220	8,563	76.48	West Virginia, New York, Pennsylvania, Ohio, Indiana, Tennessee, North Carolina, Michigan, Virginia, Kentucky, Vermont, Massachusetts, Arkansas, Illinois, Wisconsin, Connecticut, Maryland.
Willow	15	7,480	32.18	Louisiana, Mississippi, Arkansas, New York, Wisconsin, Virginia.
Noble fir	(2)	6,397	33.53	Oregon.
Pecan	51	3,990	38.17	Louisiana, Arkansas, Mississippi, Oklahoma, Tennessee, Illinois, Texas.
Buckeye	59	3,980	46.25	Tennessee, North Carolina, Virginia, West Virginia, Kentucky, Ohio.
Magnolia	31	3,879	36.00	Louisiana, Mississippi, Texas, Georgia, Alabama.
Hackberry	57	1,974	29.69	Arkansas, Mississippi, Louisiana, Indiana, Illinois, Oklahoma, Missouri, Alabama, Tennessee, Ohio.
Locust	52	1,700	36.14	Pennsylvania, Indiana, Arkansas, Louisiana, Maryland, West Virginia, Missouri, Mississippi, Tennessee, Virginia, Ohio, Kentucky, North Carolina, Illinois.
Alder	14	1,624	38.40	Washington, Oregon.
Butternut	[2] 63	654	46.55	West Virginia, Wisconsin, Indiana, New York, Virginia, Vermont, North Carolina, Minnesota, Pennsylvania, Tennessee, Ohio, Michigan, Kentucky.
Cucumber	19	616	49.09	West Virginia, Pennsylvania, New York, Ohio, Tennessee.
Dogwood	(2)	603	75.00	Florida, Mississippi.
Laurel	(2)	500	60.00	California.
Persimmon	16	399	85.49	Arkansas, South Carolina, Florida, Mississippi, Georgia, Missouri, Louisiana.
Spanish cedar	3	234	140.92	New York, Louisiana, Ohio.
Bellwood	(2)	117	54.46	Tennessee.
Red bay	3	93	46.09	Georgia, Alabama, South Carolina.
Apple	(2)	72	40.00	New York, Indiana.
Holly	(2)	31	111.13	Massachusetts, Mississippi.
Sassafras	8	15	41.33	Arkansas, Tennessee, Indiana.
Chittum	(2)	15	34.67	North Carolina, Tennessee.
Box elder	(2)	14	31.28	North Carolina.
Boxwood	(3)	13	[3] 100.00	Illinois.
Coffee tree	(2)	1	[3] 30.00	Arkansas.
Mulberry	(2)	1	[3] 30.00	Ohio.

[1] Computed total production in the United States, 68,300 M feet.
[2] Less than 3 mills.
[3] Arbitrary value assigned.

TABLE 499.—*Value of lumber produced, by States, 1840, 1850, and 1860, compared with 1920.*

States and Territories.	1840		1850		1860		1920	
	Rank.	Value.	Rank.	Value.	Rank.	Value.	Rank.	Value.
United States		$12,943,507		$58,521,976		$93,338,606		$1,298,899,107
Alabama	20	169,008	16	1,103,481	17	1,873,484	8	45,708,992
Arizona								4,539,865
Arkansas	19	176,617		122,918		1,155,902	6	56,722,932
California			20	959,485	8	3,943,881	5	60,459,480
Colorado								2,008,300
Connecticut		147,841		534,794		572,731		2,548,960
Delaware		5,562		236,863		276,161		580,140
Florida		20,346		391,034		1,476,645	13	37,934,110
Georgia		114,050		923,403	12	2,412,996	18	23,600,564
Idaho							14	37,694,200
Illinois	16	203,666	11	1,324,484	10	2,543,985		2,215,269
Indiana	8	420,791	6	2,195,351	7	4,271,605		14,426,055
Iowa		50,280		470,760	16	2,124,502		583,011
Kansas						1,550,737		[1] 617,737
Kentucky		130,329	8	1,502,434	11	2,463,085		17,627,246
Louisiana		66,106	13	1,129,677		1,575,995	2	137,155,200
Maine	2	1,808,683	3	5,872,573	4	6,598,565		18,398,784
Maryland	14	226,977		[2] 614,168		[2] 626,989		2,865,888
Massachusetts	11	344,845	7	1,552,265	13	2,218,144		4,279,008
Michigan	9	392,325	5	2,464,329	3	7,040,190	15	34,483,302
Minnesota				57,800		1,234,203	20	20,850,534
Mississippi	18	192,794		913,197	18	1,823,627	4	82,421,440
Missouri		70,355	9	1,479,124	9	3,074,226		10,293,468
Montana								13,509,500
Nebraska						335,340		[1] 13,568
Nevada								([3])
New Hampshire	7	433,217	17	1,099,492		1,208,629		8,412,624
New Jersey	12	271,591	14	1,123,052	20	1,608,610		983,027
New Mexico				20,000		45,150		4,265,120
New York	1	3,891,302	1	13,126,759	2	9,710,945		19,760,181
North Carolina	6	506,766	18	985,075		1,074,003	10	41,901,587
Ohio	13	262,821	4	3,864,452	5	5,158,076		12,914,280
Oklahoma								6,305,606
Oregon			10	1,355,500		690,008	3	121,707,500
Pennsylvania	3	1,150,220	2	7,729,058	1	10,743,752	19	22,994,400
Rhode Island		44,455		241,556		74,592		307,228
South Carolina	5	537,684	15	1,108,880		1,124,440	17	24,401,685
South Dakota								1,849,100
Tennessee	15	217,606		725,387	15	2,199,703	16	33,227,278
Texas				466,012	19	1,735,454	9	45,312,080
Utah				14,620		119,145		178,638
Vermont	10	346,939		618,065		901,519		6,471,430
Virginia	4	538,092	19	977,412	14	2,201,187	11	40,758,592
Washington						1,172,520	1	190,778,250
West Virginia [4]							12	38,556,352
Wisconsin	17	202,239	12	1,218,516	6	4,377,880	7	46,720,392
Wyoming								193,204
STATE GROUPS.[5]								
Northeastern	1	8,671,632	1	32,748,645	1	34,540,637		87,601,670
Central	3	1,305,568	2	11,091,232	2	19,710,680	3	129,259,948
Southern	4	738,921	3	5,049,722	4	12,054,103	1	435,160,924
North Carolina pine	2	1,582,542	5	3,071,367		4,399,630	4	107,061,864
Lake	5	594,564	4	3,740,645	3	12,652,273	5	102,054,228
Pacific				2,314,985	5	5,806,409	2	372,308,230
Rocky Mountain				34,620		164,295		62,388,827
All other		50,280		470,760		4,010,579		3,063,416

[1] Proportional division for comparative purposes.
[2] Includes District of Columbia (product valued at $29,000 in 1850 and $21,125 in 1860).
[3] Included with California.
[4] Part of Virginia prior to 1870.
[5] Distribution of States same as shown in Table 495.

TABLE 500.—*Causes of forest fires.*

SUMMARY BY GROUPS OF STATES.

Group.	Year, average, and per cent.	Number of fires by causes.									
		Lightning.	Railroads.	Lumbering.	Brush burning.	Campers.	Incendiary.	Miscellaneous.	Unknown.	Total.	Per cent.
United States (continental, exclusive of Alaska).	1921	2,188	5,515	1,826	4,358	7,638	5,336	2,804	8,770	38,435	100
	6-year average	3,006	4,987	1,973	4,431	4,696	4,253	2,092	8,078	33,516	100
	Per cent	9.0	14.9	5.9	13.2	14.0	12.7	6.2	24.1	100	.....
Northeastern group—											
(a) Softwood subgroup.	1921	93	489	42	202	770	35	92	335	2,058	5.3
	6-year average	32	463	25	94	273	22	128	178	1,215	3.6
	Per cent	2.6	38.1	2.1	7.7	22.5	1.8	10.5	14.7	100	.....
(b) Hardwood subgroup.	1921	.....	1,436	4	497	50	64	778	1,661	4,490	11.7
	6-year average	1	1,208	6	364	255	46	391	1,234	3,505	10.5
	Per cent	.....	34.5	.2	10.4	7.3	1.3	11.1	35.2	100	.....
Appalachian group.	1921	19	1,140	85	308	119	258	266	1,353	3,548	9.2
	6-year average	17	800	190	392	231	206	173	1,047	3,056	9.1
	Per cent	.5	26.2	6.2	12.8	7.6	6.7	5.7	34.3	100	.....
Southeastern group	1921	269	877	1,053	1,551	2,706	2,727	712	2,175	12,070	31.4
	6-year average	435	945	958	1,765	1,334	2,191	569	2,284	10,481	31.3
	Per cent	4.2	9.0	9.2	16.8	12.7	20.9	5.4	21.8	100	.....
East Mississippi group.	1921	76	137	59	171	141	148	37	257	1,026	2.7
	6-year average	68	276	115	287	201	154	65	350	1,516	4.5
	Per cent	4.5	18.2	7.6	18.9	13.3	10.1	4.3	23.1	100	.....
West Mississippi group.	1921	157	298	231	514	961	1,290	148	1,501	5,100	13.3
	6-year average	91	309	241	630	572	936	126	1,319	4,224	12.6
	Per cent	2.2	7.3	5.7	14.9	13.5	22.2	3.0	31.2	100	.....
Lake States group.	1921	28	365	58	456	314	25	274	533	2,053	5.3
	6-year average	10	326	42	267	138	18	173	493	1,467	4.4
	Per cent	.7	22.2	2.9	18.2	9.4	1.2	11.8	33.6	100	.....
Prairie group	1921	36	6	4	12	20	3	8	14	103	.3
	6-year average	47	6	3	6	7	1	6	14	90	.3
	Per cent	52.2	6.7	3.3	6.7	7.8	1.1	6.7	15.5	100	.....
Rocky Mountain group—											
(a) Northern subgroup.	1921	656	306	109	131	607	177	69	216	2,271	5.9
	6-year average	937	307	52	183	430	101	70	275	2,355	7.0
	Per cent	39.8	13.0	2.2	7.8	18.2	4.3	3.0	11.7	100	.....
(b) Southern subgroup.	1921	135	97	29	42	218	25	29	45	620	1.6
	6-year average	284	90	53	37	146	18	51	128	807	2.4
	Per cent	35.2	11.1	6.6	4.6	18.1	2.2	6.3	15.9	100	.....
Pacific group	1921	719	364	152	474	1,732	584	391	680	5,096	13.3
	6-year average	1,084	257	288	406	1,109	560	340	756	4,800	14.3
	Per cent	22.6	5.3	6.0	8.5	23.1	11.7	7.1	15.7	100	.....

BY STATES.

Northeastern group:											
(a) Softwood subgroup—											
Maine [1]	1921	37	39	18	21	104	9	18	115	361	17.6
	6-year average	9	17	11	13	36	1	8	42	137	11.3
	Per cent	6.6	12.4	8.0	9.5	26.3	0.7	5.8	30.7	100.0	.....
New Hampshire.[2]	1921	6	282	9	50	88	.....	34	149	618	30.0
	6-year average	4	342	9	34	47	4	32	111	583	48.0
	Per cent	0.7	58.7	1.5	5.8	8.1	0.7	5.5	19.0	100.0	.....
Vermont [2]	1921	3	27	3	65	70	8	4	71	251	12.2
	6-year average	1	16	1	18	14	5	5	24	84	6.9
	Per cent	1.2	19.1	1.2	21.4	16.7	5.9	5.9	28.6	100.0	.....
New York [1]	1921	47	141	12	66	508	18	36	.....	828	40.2
	6-year average	18	88	4	29	176	12	83	1	411	33.8
	Per cent	4.4	21.4	1.0	7.1	42.8	2.9	20.2	0.2	100.0	.....
(b) Hardwood subgroup—											
Massachusetts[2]	1921	.....	862	4	327	12	52	537	1,055	2,849	63.5
	6-year average	1	677	5	221	170	30	200	710	2,014	57.5
	Per cent	0.1	33.6	0.2	11.0	8.4	1.5	9.9	35.3	100.0	.....
Rhode Island [2]	1921	.....	11	.....	7	4	4	5	25	56	1.2
	6-year average	.....	6	.....	7	2	2	5	26	48	1.4
	Per cent	.....	12.5	.....	14.6	4.2	4.2	10.4	54.1	100.0	.....
Connecticut [2]	1921	.....	226	.....	80	31	4	102	246	689	15.3
	6-year average	.....	278	.....	63	12	10	110	259	732	20.9
	Per cent	.....	38.0	.....	8.6	1.6	1.4	15.0	35.4	100.0	.....

[1] State official records prior to 1920 covered only stipulated forest fire protection districts—in Maine designated "Maine forestry district" and in New York "Fire towns;" since 1920 additional protection areas have been organized and records extended accordingly.

[2] Based on official State and Federal records for the entire forest area of the State.

TABLE 500.—*Causes of forest fires*—Continued.

BY STATES—Continued.

Group.	Year, average, and per cent.	Number of fires by causes.									
		Lightning.	Railroads.	Lumbering.	Brush burning.	Campers.	Incendiary.	Miscellaneous.	Unknown	Total.	Per cent.
Northeastern group—Continued. (b) Hardwood subgroup—Contd. New Jersey [1]	1921	.....	337	.....	83	3	4	134	335	896	20.0
	6-year average	.....	247	1	73	71	4	76	239	711	20.2
	Per cent	.....	34.7	0.1	10.3	10.0	0.6	10.7	33.6	100.0	.....
Appalachian group: Pennsylvania [1]	1921	11	997	13	135	48	103	157	920	2,384	67.2
	6-year average	7	553	36	111	154	108	66	574	1,609	52.7
	Per cent	0.4	34.4	2.2	6.9	9.6	6.7	4.1	35.7	100.0	.....
Delaware [2]	1921	.....	.....	.....	.....	.....	.....	.....	4	4	0.1
	6-year average	.....	1	.....	.....	.....	.....	.....	5	6	0.2
	Per cent	.....	16.7	.....	.....	.....	.....	.....	83.3	100.0	.....
Maryland [1]	1921	.....	29	9	41	38	35	3	63	218	6.1
	6-year average	.....	22	6	22	29	29	3	43	154	5.0
	Per cent	.....	14.3	3.9	14.3	18.8	18.8	2.0	27.9	100.0	.....
Virginia [5]	1921	3	73	35	117	13	46	106	267	660	18.6
	6-year average	9	192	134	240	43	42	99	325	1,084	35.5
	Per cent	0.8	17.7	12.4	22.1	4.0	3.9	9.1	30.0	100.0	.....
West Virginia [3]	1921	5	41	28	15	20	74	.....	99	282	8.0
	6-year average	1	32	14	19	5	27	5	100	203	6.6
	Per cent	0.5	15.7	6.9	9.4	2.5	13.3	2.5	49.2	100.0	.....
Southeasern group: North Carolina [4]	1921	17	297	102	293	258	73	145	537	1,632	13.5
	6-year average	12	228	168	375	179	76	98	500	1,636	15.6
	Per cent	0.7	13.9	10.3	22.9	10.9	4.7	6.0	30.6	100.0	.....
South Carolina [2]	1921	87	239	147	440	322	353	242	422	2,252	18.7
	6-year average	23	64	70	206	110	117	105	146	841	8.0
	Per cent	2.7	7.6	8.3	24.5	13.1	13.9	12.5	17.4	100.0	.....
Georgia [2]	1921	51	79	134	235	1,090	954	54	326	2,923	24.2
	6-year average	315	222	222	619	458	1,002	174	819	3,831	36.6
	Per cent	8.2	5.8	5.8	16.2	12.0	26.1	4.5	21.4	100.0	.....
Florida [3]	1921	11	73	399	98	241	949	93	121	1,985	16.4
	6-year average	15	113	171	167	163	584	45	164	1,422	13.6
	Per cent	1.1	7.9	12.0	11.7	11.5	41.1	3.2	11.5	100.0	.....
Alabama [2]	1921	44	109	72	151	161	228	110	533	1,408	11.7
	6-year average	44	192	195	203	191	211	93	299	1,428	13.6
	Per cent	3.1	13.4	13.7	14.2	13.4	14.8	6.5	20.9	100.0	.....
Mississippi [2]	1921	59	170	199	334	634	170	68	236	1,870	15.5
	6-year average	26	126	132	195	233	201	54	356	1,323	12.6
	Per cent	2.0	9.5	10.0	14.7	17.6	15.2	4.1	26.9	100.0	.....
East Mississippi group: Ohio [2]	1921	[5] 4	[5] 34	[5] 23	[5] 12	[5] 17	[5] 61	.....	[5] 82	[5] 233	22.7
	6-year average	16	52	20	36	17	30	11	51	233	15.4
	Per cent	6.9	22.3	8.6	15.4	7.3	12.8	4.7	21.9	100.0	.....
Indiana [2]	1921	28	20	2	32	25	2	.....	22	131	12.8
	6-year average	19	56	1	45	36	9	7	42	215	14.2
	Per cent	8.8	26.1	0.5	20.9	16.7	4.2	3.3	19.5	100.0	.....
Illinois [2]	1921	[5] 26	[5] 19	[5] 2	[5] 30	[5] 23	[5] 2	.....	[5] 20	[5] 122	11.9
	6-year average	20	49	7	41	26	10	8	34	195	12.9
	Per cent	10.3	25.1	3.6	21.0	13.3	5.1	4.1	17.5	100.0	.....
Kentucky [2]	1921	17	45	25	80	50	38	31	66	352	34.3
	6-year average	3	18	6	46	20	10	9	29	141	9.3
	Per cent	21.0	12.8	4.2	32.6	14.2	7.1	6.4	20.6	100.0	.....
Tennessee [5]	1921	1	19	7	17	26	45	6	67	188	18.3
	6-year average	10	101	81	119	102	95	30	194	732	48.2
	Per cent	1.4	13.8	11.0	16.3	13.9	13.0	4.1	26.5	100.0	.....
West Mississippi group: Missouri [2]	1921	124	46	12	364	447	783	17	267	2,060	40.4
	6-year average	64	91	76	323	217	483	31	272	1,557	36.8
	Per cent	4.1	5.8	4.9	20.8	13.9	31.0	2.0	17.5	100.0	.....
Arkansas [2]	1921	4	46	6	31	34	357	19	226	723	14.2
	6-year average	4	60	32	153	154	343	33	333	1,112	26.3
	Per cent	0.4	5.4	2.9	13.8	13.8	30.8	3.0	29.9	100.0	.....

[1] Based on official State and Federal records for the entire forest area of the State.
[2] No State organized protection; estimates secured from volunteer reporters or general averages.
[3] Official records cover a portion of the forest area of the State.
[4] Official records supplemented by estimates secured from volunteer reporters in localities where no organized protection exists.
[5] Estimates based on averages; local, if the data are available, otherwise general.

TABLE 500.—*Causes of forest fires*—Continued.

BY STATES—Continued.

Group.	Year, average, and per cent.	Number of fires by causes.									
		Lightning.	Railroads.	Lumbering.	Brush burning.	Campers.	Incendiary.	Miscellaneous.	Unknown.	Total.	Per cent.
West Mississippi group—Continued.											
Oklahoma [1]	1921	25	57	.....	50	45	28	21	47	273	5.4
	6-year average	19	78	16	83	48	27	16	88	375	8.9
	Per cent	5.0	20.8	4.3	22.1	12.8	7.2	4.3	23.5	100.0	.....
Louisiana [2]	1921	.....	72	80	8	218	30	42	317	767	15.0
	6-year average	1	38	51	16	66	52	27	377	628	14.9
	Per cent	0.2	6.1	8.1	2.5	10.5	8.3	4.3	60.0	100.0	.....
Texas [3]	1921	4	77	133	61	217	92	49	644	1,277	25.0
	6-year average	3	42	66	55	87	31	19	249	552	13.1
	Per cent	0.5	7.6	12.0	10.0	15.8	5.6	3.4	45.1	100.0	.....
Lake States group:											
Michigan [3]	1921	17	153	56	222	262	17	133	168	1,028	50.1
	6-year average	7	139	18	139	84	11	97	193	688	46.9
	Per cent	1.0	20.2	2.6	20.2	12.2	1.6	14.1	28.1	100.0	.....
Wisconsin [3]	1921	2	8	2	29	13	3	5	75	137	6.7
	6-year average	.....	21	2	17	7	1	4	46	98	6.7
	Per cent	.....	21.4	2.0	17.4	7.2	1.0	4.1	46.9	100.0	.....
Minnesota [3]	1921	9	204	.....	205	39	5	136	290	888	43.2
	6-year average	3	166	22	111	47	6	72	254	681	46.4
	Per cent	0.4	24.4	3.2	16.3	6.9	0.9	10.6	37.3	100.0	.....
Prairie group:											
South Dakota [3]	1921	35	6	4	11	20	3	8	14	101	98.1
	6-year average	44	6	3	6	7	1	6	13	86	95.6
	Per cent	51.2	7.0	3.5	7.0	8.1	1.1	7.0	15.1	100.0	.....
Nebraska [1]	1921	1	.....	.....	1	.....	.....	.....	.....	2	1.9
	6-year average	3	.....	.....	.....	.....	.....	.....	1	4	4.4
	Per cent	75.0	.....	.....	.....	.....	.....	.....	25.0	100.0	.....
Rocky Mountain group:											
(a) Northern sub-group—											
Montana [2]	1921	207	179	23	44	288	117	26	127	1,011	44.5
	6-year average	318	195	14	96	191	55	29	114	1,012	43.0
	Per cent	31.4	19.3	1.4	9.5	18.9	5.4	2.8	11.3	100.0	.....
Idaho [2]	1921	439	99	85	84	257	59	37	85	1,145	50.4
	6-year average	603	74	38	84	215	46	37	152	1,249	53.0
	Per cent	48.3	5.9	3.0	6.7	17.2	3.7	3.0	12.2	100.0	.....
Wyoming [3]	1921	10	28	1	3	62	1	6	4	115	5.1
	6 year average	16	38	.....	3	24	.....	4	9	94	4.0
	Per cent	17.0	40.4	.....	3.2	25.5	.....	4.3	9.6	100.0	.....
(b) Southern sub-group—											
Colorado [3]	1921	8	83	3	9	39	.....	3	9	154	24.8
	6-year average	25	54	4	13	42	1	12	22	173	21.4
	Per cent	14.5	31.2	2.3	7.5	24.3	0.6	6.9	12.7	100.0	.....
Arizona [3]	1921	90	11	25	23	104	12	7	21	293	47 3
	6-year average	196	21	40	10	57	6	23	58	411	50.9
	Per cent	47.7	5.1	9.7	2.4	13.9	1.5	5.6	14.1	100.0	.....
New Mexico [3]	1921	35	3	.....	4	58	13	18	15	146	23.5
	6-year average	58	11	8	10	36	9	13	39	184	22.8
	Per cent	31.5	6.0	4.3	5.4	19.6	4.9	7.1	21.2	100.0	.....
Nevada [3]	1921	1	.....	.....	4	3	.....	.....	.....	8	1.3
	6-year average	1	.....	.....	2	2	1	1	3	10	1.3
	Per cent	10.0	.....	.....	20.0	20.0	10.0	10.0	30.0	100.0	.....
Utah [3]	1921	1	.....	1	2	14	.....	1	.....	19	3.1
	6-year average	4	4	1	2	9	1	2	6	29	3.6
	Per cent	13.8	13.8	3.4	6.9	31.1	3.4	6.9	20.7	100.0	.....
Pacific group:											
Washington [4]	1921	57	124	60	60	299	44	121	139	904	17.7
	6-year average	141	124	168	105	336	39	149	138	1,200	25.0
	Per cent	11.7	10.3	14.0	8.8	28.0	3.3	12.4	11.5	100.0	.....
Oregon [4]	1921	445	100	52	170	688	357	59	76	1,947	38.2
	6-year average	443	61	68	182	389	357	68	261	1,829	38.1
	Per cent	24.2	3.3	3.7	10.0	21.3	19.5	3.7	14.3	100.0	.....
California [4]	1921	217	140	40	244	745	183	211	465	2,245	44.1
	6-year average	500	72	52	119	384	164	123	357	1.771	36.9
	Per cent	28.2	4.1	2.9	6.7	21.7	9.3	6.9	20.2	100.0	.....

[1] No State organized protection; estimates secured from volunteer reporters or general averages.
[2] Official records supplemented by estimates secured from volunteer reporters in localities where no organized protection exists.
[3] Official records cover a portion of the forest area of the State.
[4] Based on official State and Federal records for the entire forest area of the State.

TABLE 501.—*Size, damage, and area of forest fires—Summary by groups and States.*

BY GROUPS.

Group.	Year, average, and per cent.	Number of fires by size and damage.						Damage to—			Area burned—acres.		Per cent.	
		Under ¼ acre.	¼ to 10 acres.	Over 10 acres—			Total.	Timber.[1]	Improvements.	Total.[2]	Forest land.	Total.	Damage.	Total area burned.
				Under $100.	$100–$1,000.	Over $1,000.								
United States (continental, exclusive of Alaska).	1921	8,689	14,983	8,000	5,262	1,501	38,435	$10,092,591	$1,870,561	$11,963,152	4,737,408	8,295,567	100.0	100
	6-year average	7,942	11,893	8,403	4,097	1,181	33,516	10,297,726	6,126,620	16,424,346	7,088,159	10,862,011	100.0	100
	Per cent	23.7	35.5	25.1	12.2	3.5	100	62.7	37.3	100.0	65.3	100.0	.....	.....
Northeastern group:														
(a) Softwood subgroup.	1921	457	1,109	277	151	64	2,058	637,820	22,380	660,200	104,337	116,427	5.5	1.4
	6-year average	250	665	173	100	27	1,215	196,022	30,934	226,956	31,675	46,989	1.4	.4
	Per cent	20.6	54.7	14.3	8.2	2.2	100.0	86.4	13.6	100.0	67.4	100.0	.....	.....
(b) Hardwood subgroup.	1921	732	2,793	499	400	66	4,490	827,592	99,071	926,663	132,829	145,543	7.7	1.8
	6-year average	375	1,940	847	297	46	3,505	307,147	63,788	370,935	80,598	110,220	2.3	1.0
	Per cent	10.7	55.3	24.2	8.5	1.3	100.0	82.8	17.2	100.0	73.1	100.0	.....	.....
Appalachian group	1921	246	1,329	928	845	200	3,548	938,097	179,443	1,117,540	254,691	393,865	9.3	4.7
	6-year average	165	1,001	843	872	175	3,056	1,080,971	164,297	1,245,268	396,334	495,602	7.6	4.5
	Per cent	5.4	32.8	27.6	28.5	5.7	100.0	86.8	13.2	100.0	80.0	100.0	.....	.....
Southeastern group	1921	2,750	4,737	2,512	1,605	466	12,070	4,900,412	848,810	5,749,222	2,763,093	3,800,604	48.1	45.8
	6-year average	2,693	3,700	2,593	1,156	339	10,481	3,882,792	754,677	4,637,469	3,219,711	4,537,225	28.2	41.8
	Per cent	25.7	35.3	24.8	11.0	3.2	100.0	83.7	16.3	100.0	71.0	100.0	.....	.....
East Mississippi group.	1921	151	273	283	271	48	1,026	229,700	29,278	258,978	77,628	100,321	2.2	1.2
	6-year average	384	486	369	225	52	1,516	420,956	57,296	478,252	250,960	335,683	2.9	3.1
	Per cent	25.3	32.1	24.4	14.8	3.4	100.0	88.0	12.0	100.0	74.8	100.0	.....	.....
West Mississippi group.	1921	713	1,488	1,284	1,247	368	5,100	1,570,119	122,369	1,692,488	1,058,309	2,428,673	14.2	29.3
	6-year average	793	1,285	1,267	692	187	4,224	1,274,396	151,126	1,425,522	2,073,041	3,313,153	8.7	30.5
	Per cent	18.8	30.4	30.0	16.4	4.4	100.0	89.4	10.6	100.0	62.6	100.0	.....	.....
Lake States group	1921	189	595	858	306	105	2,053	365,580	225,832	591,412	219,220	433,695	4.9	5.2
	6-year average	121	353	613	256	124	1,467	1,043,503	4,431,144	5,474,647	428,696	714,145	33.3	6.6
	Per cent	8.2	24.1	41.8	17.4	8.5	100.0	19.1	80.9	100.0	60.0	100.0	.....	.....
Prairie group	1921	35	54	10	4	.....	103	719	.....	719	646	29,201	0	.3
	6-year average	39	36	11	3	1	90	2,347	4,253	6,600	875	7,745	0	.1
	Per cent	43.4	40.0	12.2	3.3	1.1	100.0	35.6	64.4	100.0	11.3	100.0	.....	.....
Rocky Mountain group:														
(a) Northern subgroup.	1921	1,391	565	223	62	30	2,271	82,431	1,620	84,051	46,806	64,010	.7	.8
	6-year average	1,195	705	246	121	88	2,355	1,069,496	10,110	1,079,606	299,770	401,584	6.6	3.7
	Per cent	50.8	29.9	10.5	5.1	3.7	100.0	99.1	0.9	100.0	74.6	100.0	.....	.....

(b) Southern subgroup.	1921	298	222	78	13	9	620	14,331	.....	14,331	15,942	22,378	.1	.3
	6-year average	422	249	111	20	5	807	17,414	8	17,422	24,863	31,443	.1	.3
	Per cent	52.3	30.9	13.7	2.5	0.6	100.0	100.0	.....	100.0	79.1	100.0	.....	.....
Pacific group	1921	1,727	1,818	1,048	358	145	5,096	525,790	341,758	867,548	63,907	760,850	7.3	9.2
	6-year average	1,505	1,473	1,330	355	137	4,800	1,002,682	458,987	1,461,669	281,636	868,222	8.9	8.0
	Per cent	31.4	30.7	27.7	7.4	2.8	100.0	68.6	31.4	100.0	32.4	100.0	.....	.....

BY STATES.

Northeastern group:														
(a) Softwood subgroup—														
Maine [4]	1921	28	167	42	80	44	361	521,391	.....	521,391	66,059	68,559	79.0	58.9
	6-year average	10	58	21	34	14	137	142,416	13,107	155,523	18,775	23,496	68.5	50.0
	Per cent	7.3	42.4	15.3	24.8	10.2	100.0	91.6	8.4	100.0	79.9	100.0	.....	.....
New Hampshire [3]	1921	124	414	36	33	11	618	60,945	15,358	76,303	6,969	7,830	11.5	6.7
	6-year average	105	366	52	49	11	583	37,663	15,150	52,813	4,104	6,659	23.3	14.2
	Per cent	18.0	62.8	8.9	8.4	1.9	100.0	71.3	28.7	100.0	61.6	100.0	.....	.....
Vermont [3]	1921	46	168	26	7	4	251	11,619	187	11,806	1,935	2,265	1.8	2.0
	6-year average	14	50	14	5	1	84	4,150	797	4,947	1,104	1,232	2.2	2.6
	Per cent	16.7	59.5	16.7	5.9	1.2	100.0	83.9	16.1	100.0	89.6	100.0	.....	.....
New York [4]	1921	259	360	173	31	5	828	43,865	6,835	50,700	29,374	37,773	7.7	32.4
	6-year average	121	191	86	12	1	411	11,793	1,880	13,673	7,694	15,602	6.0	33.2
	Per cent	29.5	46.5	20.9	2.9	0.2	100.0	86.3	13.7	100.0	49.3	100.0	.....	.....
(b) Hardwood subgroup—														
Massachusetts [3]	1921	617	1,927	212	82	11	2,849	81,560	40,230	121,790	21,657	29,221	13.2	20.1
	6-year average	255	1,208	461	78	12	2,014	61,260	26,174	87,434	10,664	23,273	23.4	21.1
	Per cent	12.6	60.0	22.9	3.9	0.6	100.0	70.1	29.9	100.0	45.8	100.0	.....	.....
Rhode Island [3]	1921	.....	28	6	17	5	56	41,950	.....	41,950	3,381	3,773	4.5	2.6
	6-year average	.....	24	6	16	2	48	19,309	1,700	21,009	2,145	2,858	5.7	2.6
	Per cent	.....	50.0	12.5	33.3	4.2	100.0	91.9	8.1	100.0	75.1	100.0	.....	.....
Connecticut [3]	1921	15	371	191	101	11	689	47,050	22,440	69,490	17,198	20,496	7.5	14.1
	6-year average	48	353	212	103	16	732	66,421	20,838	87,259	21,083	24,965	23.5	22.7
	Per cent	6.6	48.2	28.9	14.1	2.2	100.0	76.1	23.9	100.0	84.4	100.0	.....	.....
New Jersey [3]	1921	100	467	90	200	39	896	657,032	36,401	693,433	90,593	92,053	74.8	63.2
	6-year average	72	355	168	100	16	711	160,157	15,076	175,233	46,706	59,124	47.2	53.6
	Per cent	10.1	49.9	23.6	14.1	2.3	100.0	91.4	8.6	100.0	79.0	100.0	.....	.....

[1] Includes damage to young growth and forage when reported.

[2] These totals do not take into account the vast amount of intangible and indirect damage resulting from forest fires such as that through decay of damaged timber, replacemen of desirable species of trees by less desirable but more fire-resistant ones, soil deterioration and erosion, loss of wild life, uncertain stream flow, interrupted tourist traffic, and the like.

[3] Based on official State and Federal records for the entire forest area of the State.

[4] State official records prior to 1920 covered only stipulated forest-fire protection districts. In Maine designated "Maine Forestry District;" since 1920 additional protection areas have been organized and records extended accordingly.

TABLE 501.—*Size, damage, and area of forest fires—Summary by groups and States*—Continued.

BY STATES—Continued.

Group.	Year, average, and per cent.	Number of fires by size and damage.						Damage to—			Area burned—acres.		Per cent.	
		Under ¼ acre.	¼ to 10 acres.	Over 10 acres— Under $100.	$100–$1,000.	Over $1,000.	Total.	Timber.[1]	Improvements.	Total.[2]	Forest land.	Total.	Damage.	Total area burned.
Appalachian group:														
Pennsylvania	1921	205	1,081	650	384	64	2,384	$300,373	$25,919	$326,292	95,621	186,561	29.2	47.4
	6-year average	110	615	429	381	74	1,609	419,089	60,854	479,943	149,448	211,818	38.5	42.7
	Per cent	6.8	38.2	26.7	23.7	4.6	100.0	87.3	12.7	100.0	87.0	100.0	.....	.....
Delaware [4]	1921	.....	[6] 2	[6] 1	[6] 1	.....	4	.....	.....	.....	80	80	.....	.....
	6-year average	.....	2	2	2	.....	6	4,516	.....	4,516	197	302	0.4	0.1
	Per cent	.....	33.4	33.3	33.3	.....	100.0	100.0	.....	100.0	65.2	100.0	.....	.....
Maryland [7]	1921	13	63	52	63	27	218	99,688	3,422	103,110	30,850	30,850	9.2	7.8
	6-year average	7	41	45	48	13	154	52,800	4,388	57,188	18,796	22,156	4.6	4.5
	Per cent	3.9	27.3	29.2	31.2	8.4	100	92.3	7.7	100.0	84.8	100.0	.....	.....
Virginia [6]	1921	28	164	173	212	83	660	458,417	148,602	607,019	116,240	159,603	54.3	40.5
	6-year average	48	324	285	351	75	1,084	546,989	93,236	640,225	190,421	212,136	51.4	42.8
	Per cent	4.4	29.9	26.4	32.4	6.9	100.0	85.4	14.6	100.0	89.8	100.0	.....	.....
West Virginia [7]	1921	.....	19	52	185	26	282	79,619	1,500	81,119	11,900	16,771	7.3	4.3
	6-year average	.....	19	81	90	13	203	57,577	5,819	63,396	37,472	49,190	5.1	9.9
	Per cent	.....	9.4	39.9	44.3	6.4	100.0	90.8	9.2	100.0	76.2	100.0	.....	.....
Southeastern group:														
North Carolina [6]	1921	[5] 372	[5] 640	[5] 340	[5] 217	[5] 63	1,632	727,000	366,500	1,093,500	271,430	271,430	19.0	7.1
	6-year average	434	551	407	188	56	1,636	1,055,018	442,714	1,497,732	317,227	337,737	32.3	7.5
	Per cent	26.5	33.7	24.9	11.5	3.4	100.0	70.4	29.6	100.0	93.9	100.0	.....	.....
South Carolina [4]	1921	[5] 513	[5] 884	[5] 469	[5] 299	[5] 87	2,252	906,325	129,537	1,035,862	481,735	707,183	18.0	18.6
	6-year average	202	311	195	103	30	841	282,353	46,072	328,425	328,274	398,825	7.1	8.8
	Per cent	24.0	37.0	23.2	12.2	3.6	100.0	86.0	14.0	100.0	82.3	100.0	.....	.....
Georgia [4]	1921	[5] 666	[5] 1,147	[5] 608	[5] 389	[5] 113	2,923	1,236,234	88,633	1,324,867	757,702	933,716	23.0	24.6
	6-year average	1,042	1,358	947	378	106	3,831	790,818	143,094	933,912	820,080	997,581	20.1	22.0
	Per cent	27.2	35.4	24.7	9.9	2.8	100.0	84.7	15.3	100.0	82.2	100	.....	.....
Florida [4]	1921	[5] 452	[5] 779	[5] 413	[5] 264	[5] 77	1,985	1,108,364	61,930	1,170,294	920,639	1,412,637	20.4	37.2
	6-year average	338	494	373	165	52	1,422	957,993	29,063	987,056	1,128,005	1,540,044	21.3	33.9
	Per cent	23.8	34.7	26.2	11.6	3.7	100.0	97.1	2.9	100	73.2	100	.....	.....
Alabama [4]	1921	[5] 321	[5] 553	[5] 293	[5] 187	[5] 54	1,408	396,518	127,240	523,758	193,482	252,921	9.1	6.6
	6-year average	348	510	350	170	50	1,428	397,739	53,605	451,344	326,538	535,506	9.7	11.8
	Per cent	24.4	35.7	24.5	11.9	3.5	100	88.1	11.9	100.0	61.0	100.0	.....	.....
Mississippi [4]	1921	[5] 426	[5] 734	[5] 389	[5] 249	[5] 72	1,870	525,971	74,970	600,941	138,105	222,717	10.5	5.9
	6-year average	329	476	321	152	45	1,323	398,871	40,129	439,000	299,587	727,532	9.5	16.0
	Per cent	24.9	36.0	24.2	11.5	3.4	100.0	90.9	9.1	100.0	41.2	100.0	.....	.....

East Mississippi group:														
Ohio [4]	1921	.....	[5] 16	[5] 43	[5] 153	[5] 21	[5] 233	[5] 65,908	[5] 1,242	[5] 67,150	[5] 9,851	[5] 13,883	25.9	13.8
	6-year average	43	60	49	69	12	233	46,095	16,420	62,515	10,771	13,332	13.1	4.0
	Per cent	18.5	25.8	21.0	29.6	5.1	100.0	73.7	26.3	100.0	80.8	100.0	.....	.....
Indiana [4]	1921	[5] 30	[5] 51	[5] 27	[5] 18	[5] 5	131	9,986	8,102	18,088	2,275	3,945	7.0	3.9
	6-year average	57	78	47	26	7	215	22,033	6,681	28,714	26,090	45,531	6.0	13.5
	Per cent	26.5	36.3	21.8	12.1	3.3	100.0	76.7	23.3	100.0	57.3	100.0	.....	.....
Illinois [4]	1921	[5] 28	[5] 47	[5] 25	[5] 17	[5] 5	[5] 122	[5] 9,326	[5] 7,566	[5] 16,892	[5] 2,125	[5] 3,684	6.5	3.7
	6-year average	52	70	43	24	6	195	23,360	11,940	35,300	16,097	26,135	7.4	7.8
	Per cent	26.7	35.9	22.0	12.3	3.1	100.0	66.2	33.8	100.0	61.6	100.0	.....	.....
Kentucky [4]	1921	[5] 81	[5] 137	[5] 73	[5] 48	[5] 13	352	128,505	11,678	140,183	32,940	47,317	54.1	47.2
	6-year average	17	44	36	36	8	141	46,682	3,596	50,278	15,847	19,376	10.5	5.8
	Per cent	12.9	33.6	23.7	23.7	6.1	100.0	92.8	7.2	100.0	81.8	100.0	.....	.....
Tennessee [6]	1921	12	22	115	35	4	188	15,975	690	16,665	30,437	31,492	6.5	31.4
	6-year average	215	234	194	70	19	732	282,786	18,659	301,445	182,155	231,309	63.0	68.9
	Per cent	29.4	32.0	26.5	9.5	2.6	100.0	93.8	6.2	100.0	78.7	100.0	.....	.....
West Mississippi group:														
Missouri [4]	1921	[5] 470	[5] 808	[5] 429	[5] 274	[5] 79	2,060	490,498	50,048	540,546	261,444	309,224	31.9	12.7
	6-year average	388	562	375	178	54	1,557	283,742	62,815	296,557	340,471	496,617	20.8	15.0
	Per cent	24.9	36.1	24.1	11.4	3.5	100.0	78.8	21.2	100.0	68.5	100.0	.....	.....
Arkansas [4]	1921	[5] 165	[5] 284	[5] 150	[5] 96	[5] 28	723	107,392	32,825	140,217	102,507	112,966	8.3	4.7
	6-year average	247	370	335	125	35	1,112	182,784	31,960	214,694	363,259	558,650	15.1	16.8
	Per cent	22.2	33.3	30.1	11.2	3.2	100.0	85.1	14.9	100.0	65.0	100.0	.....	.....
Oklahoma [4]	1921	[5] 62	[5] 107	[5] 57	[5] 36	[5] 11	273	92,571	26,124	118,695	120,294	191,330	7.0	7.9
	6-year average	88	134	91	47	15	375	50,786	28,090	78,876	70,891	124,846	5.5	3.8
	Per cent	23.5	35.7	24.3	12.5	4.0	100.0	64.4	35.6	100.0	56.8	100.0	.....	.....
Louisiana [6]	1921	2	130	315	237	83	767	570,980	9,208	580,188	73,713	1,113,033	34.3	45.8
	6-year average	38	101	282	174	33	628	572,777	12,855	585,632	997,183	1,605,903	41.1	48.5
	Per cent	6.1	16.1	44.9	27.7	5.2	100.0	97.8	2.2	100.0	62.1	100.0	.....	.....
Texas [7]	1921	14	159	333	604	167	1,277	308,678	4,164	312,842	500,351	702,120	18.5	28.9
	6-year average	32	118	184	168	50	552	234,357	15,406	249,763	301,237	527,137	17.5	15.9
	Per cent	5.8	21.4	33.3	30.4	9.1	100.0	93.8	6.2	100.0	57.1	100.0	.....	.....
Lake States group:														
Michigan [7]	1921	16	229	552	170	61	1,028	222,293	74,097	296,390	127,956	283,641	50.1	65.4
	6-year average	19	127	417	92	33	688	137,931	88,551	226,482	94,590	248,967	4.1	22.1
	Per cent	2.8	18.4	60.6	13.4	4.8	100.0	60.9	39.1	100.0	38.0	100.0	.....	.....
Wisconsin [7]	1921	7	35	41	44	10	137	33,677	2,735	36,412	29,264	38,054	6.2	8.8
	6-year average	16	18	20	34	10	98	27,398	28,354	55,752	72,010	81,581	1.0	16.8
	Per cent	16.3	18.4	20.4	34.7	10.2	100.0	49.1	50.9	100.0	28.9	100.0	.....	.....
Minnesota [7]	1921	166	331	265	92	34	888	109,610	149,000	258,610	62,000	112,000	43.7	25.8
	6-year average	86	208	176	130	81	681	878,174	4,314,239	5,192,413	262,096	383,597	94.9	61.1
	Per cent	12.6	30.5	25.9	19.1	11.9	100.0	16.9	83.1	100.0	68.3	100.0	.....	.....

[1] Includes damage to young growth and forage when reported.

[2] These totals do not take into account the vast amount of intangible and indirect damage resulting from forest fires such as that through decay of damaged timber, replacement of desirable species of trees by less desirable but more fire-resistant ones, soil deterioration and erosion, loss of wild life, uncertain stream flow, interrupted tourist traffic, and the like.

[3] Based on official State and Federal records for the entire forest area of the State.

[4] No State organized protection; estimates secured from volunteer reports or general averages.

[5] Estimates based on averages—local if the data are available, otherwise general.

[6] Official records supplemented by estimates secured from volunteer reports in localities where no organized protection exists.

[7] Official records cover a portion of the forest area of the State.

TABLE 501.—*Size, damage, and area of forest fires—Summary by groups and States*—Continued.

BY STATES—Continued.

Group.	Year, average, and per cent.	Number of fires by size and damage.						Damage to—			Area burned—acres.		Per cent.	
		Under ¼ acre.	¼ to 10 acres.	Over 10 acres— Under $100.	Over 10 acres— $100–$1,000.	Over 10 acres— Over $1,000.	Total.	Timber.[1]	Improvements.	Total.[2]	Forest land.	Total.	Damage.	Total area burned.
Prairie group:														
South Dakota [3]	1921	34	54	9	4	.....	101	$716	.....	$716	646	2,641	99.6	9.0
	6-year average	38	35	9	3	1	86	1,549	$4,253	5,802	875	1,315	87.9	17.0
	Per cent	44.2	40.7	10.5	3.5	1.1	100.0	26.7	73.3	100.0	66.5	100.0	.....	.....
Nebraska [4]	1921	1	.....	1	.....	.....	2	3	.....	3	.....	26,560	.4	91.0
	6-year average	1	1	2	.....	.....	4	798	.....	798	.....	6,430	12.1	83.0
	Per cent	25.0	25.0	50.0	.....	.....	100.0	100.0	.....	100.0	.....	100.0	.....	.....
Rocky Mountain group:														
(a) Northern sub-group—														
Montana [5]	1921	603	268	94	36	10	1,011	34,170	113	34,283	17,373	29,349	40.8	45.9
	6-year average	506	302	114	53	37	1,012	352,550	1,483	354,033	100,837	128,669	32.8	32.0
	Per cent	50.0	29.8	11.3	5.2	3.7	100.0	99.6	0.4	100.0	78.4	100.0	.....	.....
Idaho [5]	1921	693	288	121	24	19	1,145	47,082	1,507	48,589	29,278	34,204	57.8	53.4
	6-year average	622	388	127	64	48	1,249	675,262	8,618	683,880	194,632	267,228	63.3	66.6
	Per cent	49.8	31.1	10.2	5.1	3.8	100.0	98.7	1.3	100.0	72.8	100.0	.....	.....
Wyoming [3]	1921	95	9	8	2	1	115	1,179	.....	1,179	155	457	1.4	.7
	6-year average	67	15	5	4	3	94	41,684	9	41,693	4,301	5,687	3.9	1.4
	Per cent	71.3	15.9	5.3	4.3	3.2	100.0	100.0	.....	100.0	75.6	100.0	.....	.....
(b) Southern sub-group—														
Colorado [3]	1921	78	53	19	3	1	154	557	.....	557	1,174	2,043	3.9	9.1
	6-year average	80	66	22	4	1	173	2,005	.....	2,005	1,193	2,002	11.5	6.4
	Per cent	46.2	38.2	12.7	2.3	0.6	100.0	100.0	.....	100.0	59.6	100.0	.....	.....
Arizona [3]	1921	155	101	27	4	6	293	11,617	.....	11,617	11,094	14,536	81.1	65.0
	6-year average	256	105	41	7	2	411	7,629	.....	7,629	13,567	16,712	43.8	53.2
	Per cent	62.3	25.5	10.0	1.7	0.5	100.0	100.0	.....	100.0	81.2	100.0	.....	.....
New Mexico [3]	1921	56	55	28	5	2	146	1,890	.....	1,890	3,628	4,780	13.2	21.4
	6-year average	71	64	40	7	2	184	6,701	.....	6,701	9,719	11,325	38.5	36.0
	Per cent	38.6	34.8	21.7	3.8	1.1	100.0	100.0	.....	100.0	85.8	100.0	.....	.....
Nevada [3]	1921	3	4	1	.....	.....	8	31	.....	31	6	27	.2	.1
	6-year average	4	4	2	.....	.....	10	283	8	291	36	512	1.7	1.6
	Per cent	40.0	40.0	20.0	.....	.....	100.0	97.3	2.7	100.0	7.0	100.0	.....	.....

Utah [3]	1921	6	9	3	1	.....	19	236	.....	236	40	992	1.6	4.4
	6-year average	11	10	6	2	.....	29	796	.....	796	348	892	4.5	2.8
	Per cent	37.9	34.5	20.7	6.9	.....	100.0	100.0	.....	100.0	39.0	100.0	.....	.....
Pacific group:														
Washington [5]	1921	445	220	166	43	30	904	76,933	74,022	150,955	24,867	71,724	17.4	9.4
	6-year average	436	288	310	115	51	1,200	261,463	260,584	522,047	53,671	196,323	35.7	22.6
	Per cent	36.3	24.0	25.8	9.6	4.3	100.0	50.1	49.9	100.0	27.3	100.0	.....	.....
Oregon [5]	1921	713	834	357	31	12	1,947	7,316	77,998	85,314	8,892	38,402	9.8	5.1
	6-year average	506	616	592	83	32	1,829	370,448	97,681	468,129	116,651	223,717	32.0	25.8
	Per cent	27.7	33.7	32.4	4.5	1.7	100.0	79.1	20.9	100.0	52.1	100.0	.....	.....
California [5]	1921	569	764	525	284	103	2,245	441,541	189,738	631,279	30,148	650,724	72.8	85.5
	6-year average	563	569	428	157	54	1,771	370,771	100,722	471,493	111,314	448,182	32.3	51.6
	Per cent	31.8	32.1	24.2	8.9	3.0	100.0	78.6	21.4	100.0	24.8	100.0	.....	.....

[1] Includes damage to young growth and forage when reported.

[2] These totals do not take into account the vast amount of intangible and indirect damage resulting from forest fires such as that through decay of damaged timber, replacement of desirable species of trees by less desirable but more fire-resistant ones, soil deterioration and erosion, loss of wild life, uncertain stream flow, interrupted tourist traffic, and the like.

[3] Official records cover a portion of the forest area of the State.

[4] No State organized protection: estimates secured from volunteer reports or general averages.

[5] Based on official State and Federal records for the entire forest area of the State.

TABLE 502.—*National forest areas, by States, June 30, 1922.*

State.	Net area.	State.	Net area.	State.	Net area.
	Acres.		*Acres.*		*Acres.*
Alabama	81,302	Montana	15,933,889	Utah	7,451,548
Alaska	20,573,444	Nebraska	205,944	Virginia	365,938
Arizona	11,267,640	Nevada	4,976,137	Washington	9,934,275
Arkansas	944,091	New Hampshire	404,207	West Virginia	103,459
California	19,181,508	New Mexico	8,423,338	Wyoming	8,414,452
Colorado	13,291,280	North Carolina	334,480		
Florida	320,273	Oklahoma	61,480	Aggregate for the 148 national forests	156,837,282
Georgia	144,668	Oregon	13,132,659		
Idaho	18,752,625	Porto Rico	12,443		
Maine	32,164	South Carolina	18,454		
Michigan	123,647	South Dakota	1,058,745		
Minnesota	1,047,941	Tennessee	245,251		

TABLE 503.—*State forests, State parks, and other State forest land.*[1]

State.	State forests.	State parks.	Other State forest land.[2]	State.	State forests.	State parks.	Other State forest land.[2]
	Acres.	*Acres.*	*Acres.*		*Acres.*	*Acres.*	*Acres.*
Alabama			175,000	New Hampshire	18,000		950
Arizona			31,130	New Jersey	16,504	560	
California		11,400	44,845	New Mexico			170,000
Colorado			120,000	New York	1,992,516	33,962	20,375
Connecticut	6,529	5,121	2,500	North Carolina	200	1,225	2,200
Florida		1,920		North Dakota		250	
Idaho	685,000	14,814	227,340	Ohio	20,371	200	22,900
Illinois		40		Oregon		800	74,000
Indiana	2,851	1,500		Pennsylvania	1,126,237	1,410	46,754
Iowa		4,500		Rhode Island			
Kansas		255		South Dakota	61,440		26,400
Maine			385,000	Tennessee			25,000
Maryland	3,835		2,000	Vermont	29,300	800	12,000
Massachusetts	50,353	13,000	20,000	Virginia	588		1,500
Michigan	338,000	10,000	300,000	Washington	58,000	5,600	800,000
Minnesota	381,000	5,068	350,000	Wisconsin	300,000	55	
Missouri			50,000				
Montana	460,000		106,000	Total	5,550,824	112,480	3,015,894

[1] This table was prepared from information furnished for the most part by State forestry departments supplemented by data from other State officials and municipal officers.

[2] Lands connected with State institutions, forested lands managed by the State including Federal grant lands of various sorts.

TABLE 504.—*Municipal and county forests, by States.*

State.	Area in acres.	State.	Area in acres.	State.	Area in acres.
Alabama	19,232	Massachusetts	46,160	Pennsylvania	18,733
California	7,640	Michigan	1,035	Rhode Island	104
Colorado	29,630	Minnesota	60	Texas	310
Connecticut	14,322	Nebraska	42	Utah	1,710
District of Columbia	1,632	New Hampshire	8,056	Vermont	1,845
Idaho	160	New Jersey	36,100	Virginia	9,700
Illinois	25,000	New York	169,600	Washington	11,964
Kansas	200	North Carolina	26,864		
Maine	803	Ohio	11,477	Total	453,979
Maryland	7,400	Oregon	4,800		

TABLE 505.—*Forest planting—total area planted to 1922.*[1]

Class of owner.	New England.[2]	Middle Atlantic.[3]	Central Hardwoods.[4]	Lake.[5]	South Atlantic.[6]	Gulf Coast.[7]	Plains and Prairie.[8]	Rocky Mountain.[9]	Pacific Coast.[10]	Total.
	State group.									
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
States	15,000	53,626	455	16,810	23	30	.....	100	60	86,104
Farmers and estate owners	32,400	32,775	24,169	172,850	5,943	2,825	760,900	14,725	40,000	1,085,687
Large timberland owners and operators and wood-using industries	12,600	.....	5	2,470	300	4,800	50	0	50	20,275
Railroads	62	9,950	918	9	58	1,300	1,510	0	1,200	15,007
Pulp companies	1,650	5,000	500	0	300	0	0	0	1,150	8,600
Mining companies	0	2,000	1,245	125	5	0	0	0	0	3,375
Municipalities	10,700	20,575	1,060	0	1,000	300	0	80	0	33,715
Others	1,800	3,100	0	100	458	0	20	0	10,000	15,478
Total	74,212	127,026	28,352	192,364	7,187	9,255	762,480	14,905	52,460	1,268,241
	Area being planted yearly.									
States	1,925	3,410	40	1,650	2	0	0	25	0	7,052
Farmers and estate owners	2,085	4,850	435	700	69	310	3,500	342	1,500	13,791
Large timberland owners and operators and wood-using industries	1,150	0	0	0	25	500	3	0	0	1,678
Railroads	0	1,000	4	0	0	0	6	0	0	1,010
Pulp companies	241	1,000	0	0	0	0	0	0	0	1,241
Mining companies	0	400	26	0	0	0	0	0	0	426
Municipalities	650	600	25	0	100	0	0	0	0	1,375
Others	200	1,500	0	0	0	0	0	0	0	1,700
Total	6,251	12,760	530	2,350	196	810	3,509	367	1,500	28,273

[1] Total planted by Federal agencies (Forest Service), 180,000 acres; planted yearly, 7,500 acres. Grand total planted by all agencies to date, 1,448,241 acres; planted yearly, 35,773 acres.
[2] Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.
[3] New York, New Jersey, Pennsylvania.
[4] Ohio, Indiana, Illinois, Kentucky, Tennessee, Arkansas, Missouri.
[5] Michigan, Wisconsin, Minnesota.
[6] Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.
[7] Alabama, Mississippi, Louisiana, Texas.
[8] North Dakota, South Dakota, Iowa, Nebraska, Kansas, Oklahoma.
[9] Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico.
[10] Washington, Oregon, California.

TABLE 506.—*State, municipal, and private forest planting, by regions, to January, 1923.*

	Area planted to date.	Per cent of total.	Area now being planted yearly.	Per cent of total.
	Acres.		*Acres.*	
New England States	74,212	5.9	6,251	22.1
Middle Atlantic States	127,026	10.0	12,760	45.1
Central Hardwood States	28,352	2.2	530	1.9
Lake States	[1] 192,364	15.2	2,350	8.3
South Atlantic States	7,187	.6	196	.7
Gulf Coast States	[1] 9,255	.7	810	2.9
Plains and Prairie States	762,480	60.1	3,509	12.4
Rocky Mountain States	[1] 14,905	1.2	367	1.3
Pacific Coast States	52,460	4.1	1,500	5.3
Total	1,268,241	.....	28,273	.....

[1] A large portion of this acreage is in the plains or prairie region.

FOREST PLANTING, BY CLASSES OF LANDOWNERS.

Federal Government	180,000	12.4	7,500	21.0
State governments	86,104	6.0	7,052	19.7
Farmers and estate owners	1,085,687	75.0	13,791	38.6
Large timberland owners and operators and wood-using industries	20,275	1.4	1,678	4.7
Railroads	15,007	1.0	1,010	2.8
Pulp companies	8,600	.6	1,241	3.5
Mining companies	3,375	.2	426	1.2
Municipalities	33,715	2.3	1,375	3.8
Other	15,478	1.1	1,700	4.7
Total	1,448,241	.....	35,773	.....

TABLE 507.—*Forests: Present and possible annual growth by timber regions.*[1]

[In millions.]

Timber region.[2]	Character of forest management.[3]	Growing area.[4]	Annual worth.	
			Total.	Saw timber.
		Acres.	*Cubic feet.*	*Board feet.*
Totals, entire United States	Present	250.2	6,039	9,874
	Crude, 1950	352.8	10,146	11,370
	Crude, ultimately	469.5	13,878	26,170
	Intensive	469.5	27,408	69,800
EASTERN UNITED STATES.				
Spruce, fir:				
Northeast	Present	8.8	176	264
	Crude, 1950	11.0	275	260
	Crude, ultimately	13.4	335	470
	Intensive	13.4	603	1,000
Lake States	Present	1.5	23	23
	Crude, 1950	4.0	80	40
	Crude, ultimately	4.5	90	90
	Intensive	4.5	158	200
Birch, beech, maple:				
Northeast	Present	16.5	413	495
	Crude, 1950	20.2	606	500
	Crude, ultimately	23.4	702	820
	Intensive	23.4	1,404	2,000
Lake States	Present	7.5	150	300
	Crude, 1950	18.0	540	450
	Crude, ultimately	19.7	591	800
	Intensive	19.7	1,182	1,900
Pine:				
Northeast	Present	4.5	180	540
	Crude, 1950	4.8	216	600
	Crude, ultimately	5.2	234	680
	Intensive	5.2	520	1,900
Lake States	Present	7.5	173	450
	Crude, 1950	11.0	440	600
	Crude, ultimately	18.3	732	1,800
	Intensive	18.3	1,464	4,000
Oak, chestnut, yellow poplar	Present	42.7	1,068	1,708
	Crude, 1950	51.0	1,530	1,700
	Crude, ultimately	56.4	1,692	2,200
	Intensive	56.4	3,384	8,000
Oak, pine	Present	39.1	860	1,173
	Crude, 1950	51.0	1,377	1,300
	Crude, ultimately	56.1	1,515	1,700
	Intensive	56.1	3,647	8,500
Southern pine	Present	27.7	831	1,108
	Crude, 1950	40.0	1,600	1,800
	Crude, ultimately	57.5	2,300	3,400
	Intensive	57.5	3,738	9,500
Southern and cypress hardwoods	Present	19.6	333	686
	Crude, 1950	31.4	534	800
	Crude, ultimately	33.9	576	1,200
	Intensive	33.9	1,695	3,500
Oak, hickory	Present	44.3	842	1,329
	Crude, 1950	58.5	1,170	1,200
	Crude, ultimately	61.2	1,224	1,800
	Intensive	61.2	3,366	5,000
Totals	Present	219.7	5,049	8,076
	Crude, 1950	300.9	8,368	9,250
	Crude, ultimately	349.6	9,991	14,960
	Intensive	349.6	21,161	45,500

[1] The estimates of growth and growing area are based on the best available information, which is admittedly limited and fragmentary. The figures are therefore the best approximation now possible. They are given simply to indicate the present timber growth and its possible future improvement. A discussion of growth will be found in Yearbook article "Timber: Mine or Crop?" In estimating the proportion of the growth in each region which would make saw timber, the part of the total volume of the trees which may be converted into saw timber has been considered, and the result expressed in board feet lumber tally.

[2] For timber regions used in this table see map, p. 85, in Yearbook article "Timber: Mine or Crop?"

[3] Under present forest management, new tree growth is largely volunteer. By "crude forestry, 1950," is meant the annual growth that may be expected by 1950 if such crude measures as fire protection and seed trees where needed are adopted in the near future. By "crude forestry, ultimately" is meant the utmost growth that can finally be secured by these crude measures. By "intensive forestry" is meant an intensive management of forests as crops, comparable to forestry as practiced in some of the European countries.

[4] At present nearly half our forest area is not producing any net growth, either because it is virgin forest, where growth is offset by decay, or because it is so denuded by overcutting and fire as to be unproductive. With the removal of the virgin forest and with adequate fire protection and planting, most of our forest land will gradually come into production.

TABLE 507.—*Forests: Present and possible annual growth by timber regions*—Con.

WESTERN UNITED STATES.

Timber region.	Character of forest management.	Growing area.	Annual growth. Total.	Annual growth. Saw timber.
		Acres.	*Cubic feet.*	*Board feet.*
Western white pine	Present	1.7	51	136
	Crude, 1950	2.5	65	100
	Crude, ultimately	2.5	75	200
	Intensive	2.5	150	400
Lodgepole pine	Present	9.9	149	149
	Crude, 1950	14.1	282	250
	Crude, ultimately	20.2	404	360
	Intensive	20.2	505	600
Douglas fir, Engelmann spruce	Present	2.1	32	53
	Crude, 1950	4.2	71	100
	Crude, ultimately	10.5	179	260
	Intensive	10.5	368	700
Western yellow pine (Oregon, Washington, Idaho).	Present	3.9	66	78
	Crude, 1950	9.0	135	45
	Crude, ultimately	29.0	580	1,160
	Intensive	29.0	870	3,500
Rocky Mountains	Present	2.6	13	26
	Crude, 1950	4.4	31	65
	Crude, ultimately	14.2	142	280
	Intensive	14.2	284	1,136
Douglas fir (Pacific coast)	Present	8.0	632	1,200
	Crude, 1950	12.9	1,058	1,200
	Crude, ultimately	25.2	2,066	7,500
	Intensive	25.2	2,822	14,364
Sugar pine and western yellow pine (California).	Present	1.9	29	76
	Crude, 1950	4.0	80	120
	Crude, ultimately	16.8	336	1,000
	Intensive	16.8	1,008	2,700
Redwood	Present	.4	18	80
	Crude, 1950	.8	56	240
	Crude, ultimately	1.5	105	450
	Intensive	1.5	240	900
Totals	Present	30.5	990	1,798
	Crude, 1950	51.9	1,778	2,120
	Crude, ultimately	119.9	3,887	11,210
	Intensive	119.9	6,247	24,300

TABLE 508.—*Forests: Present and possible rates of growth by regions.*

Region.	Average annual rate of growth per acre. Under present conditions.	Under crude forestry. 1950	Under crude forestry. Ultimately.	Under intensive forestry. Regional.[1]	Under intensive forestry. Range on small tracts.[1]	
	Cubic feet.	*Cubic feet.*	*Cubic feet.*	*Cubic feet.*	*Cubic feet.*	*Board ft.*
Spruce, fir:						
Northeast	20	25	25	45	40- 80	160- 400
Lake States	15	20	20	35	30- 70	90- 350
Beech, birch, maple:						
Northeast	25	30	30	60	40-120	120- 480
Lake States	20	30	30	60	40-100	120- 450
Pine:						
Northeast	40	45	45	100	100-170	500- 950
Lake States	23	40	40	80	80-120	320- 720
Oak, chestnut, yellow poplar	25	30	30	60	40-120	120- 600
Oak, pine	22	27	27	65	55-105	200- 480
Southern pine	30	40	40	65	60-140	270- 700
Southern hardwood and cypress	17	17	17	50	50-100	200- 460
Oak, hickory	19	20	20	55	40-120	200- 550
Western white pine	30	26	30	60	50- 90	200- 470
Lodgepole pine	15	20	20	25	10- 50	30- 150
Western yellow pine:						
Oregon, Washington, Idaho	17	15	20	30	15- 45	75- 250
Southern Rockies	5	7	10	20	10- 40	40- 180
Douglas fir, Engelmann spruce, Rocky Mountains	15	17	17	35	20- 65	30- 180
Douglas fir (Pacific coast)	79	82	82	112	95-170	500-1,000
Sugar and western yellow pine, California	15	20	20	60	65-180	320- 900
Redwood	44	70	70	160	100-240	500-1,400

[1] The growth on small tracts is often much greater per acre than it is for whole regions, because in the latter case allowance must be made for areas of adverse soil and topography, or of poor stocking, exceptional damage, etc.

TABLE 509.—*National forest timber sales and amount and value of timber cut thereunder from July 1, 1904, to December 31, 1921.*

Fiscal year.	Number of sales.			Amount cut in board feet (000 omitted).			Value of timber cut.		
	Commercial.	Cost.[1]	Total.	Commercial sales.	Cost[1] sales.	Total.	Commercial sales.	Cost[1] sales.	Total.
1905	411	.....	411	68,475	.....	68,475	[2] $85,597	.....	[2] $85,597
1906	1,023	.....	1,023	138,665	.....	138,665	[2] 203,333	.....	[2] 203,333
1907	1,508	.....	1,508	194,872	.....	194,872	337,952	.....	337,952
1908	5,062	.....	5,062	392,792	.....	392,792	794,252	.....	794,252
1909	4,980	.....	4,980	352,434	.....	352,434	677,784	.....	677,784
1910	5,398	.....	5,398	379,616	.....	379,616	906,309	.....	906,309
1911	5,653	.....	5,653	374,678	.....	374,678	842,993	.....	842,993
1912	5,772	.....	5,772	431,492	.....	431,492	942,819	.....	942,819
1913	6,091	91	6,182	494,950	718	495,668	1,074,682	$503	1,075,185
1914	5,957	2,341	8,298	616,661	9,645	626,306	1,264,490	6,570	1,271,060
1915	6,343	4,562	10,905	546,508	19,246	565,754	1,165,268	14,180	1,179,448
1916	6,407	4,433	10,840	575,552	19,470	595,022	1,241,105	14,593	1,255,698
1917	6,921	4,686	11,607	706,558	20,858	727,416	1,490,814	16,095	1,506,909
1918	7,130	5,907	13,037	706,342	21,641	727,983	1,507,121	16,300	1,523,421
1919	6,570	6,022	12,592	685,172	19,597	704,769	1,497,702	14,671	1,512,373
1920	7,690	5,582	13,272	783,947	22,184	806,131	1,754,600	15,801	1,770,401
1920 (last 6 months)	3,608	3,045	6,653	489,841	14,272	504,113	1,168,885	9,874	1,178,759
1921 (calendar year)	7,069	6,621	13,690	666,191	21,731	687,922	1,646,818	16,364	1,663,182
Total	93,593	43,290	136,883	8,604,746	169,362	8,774,108	18,602,524	124,951	[3] 18,727,475

[1] "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] Estimated.
[3] Value of other timber products, not convertible into board feet, taken from the national forests: Fiscal years 1917, $394; 1918, $4,837; 1919, $7,779; 1920, $10,381; last 6 months 1920, $7,563; calendar year 1921, $4,511; total, $35,465.

TABLE 510.—*National forests: Estimate 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 2.[2]	*M feet b. m.*	*Cords.*
Absaroka	1,769,000	.....	Arapaho	2,341,981	52,510
Beartooth	592,525	.....	Battlement	750,000	100,000
Beaverhead	4,183,000	.....	Bighorn	1,500,569	2,461,000
Bitterroot	4,887,000	.....	Black Hills	1,510,000	718,000
Blackfeet	2,797,200	.....	Cochetopa	1,632,346	60,000
Cabinet	960,000	.....	Colorado	1,196,300	357,000
Clearwater	6,558,684	.....	Gunnison	729,700	397,500
Coeur d'Alene	4,131,585	.....	Harney	1,374,420	458,000
Custer	458,136	.....	Hayden	789,275	297,800
Deerlodge	1,119,500	.....	Holy Cross	1,533,030	1,533,000
Flathead	4,777,685	.....	Leadville	326,077	131,710
Gallatin	1,272,476	.....	Medicine Bow	3,132,866	1,855,000
Helena	613,062	.....	Michigan	4,295	18,580
Jefferson	1,711,696	.....	Minnesota	295,000	505,000
Kaniksu	1,667,826	.....	Montezuma	1,755,250	1,285,500
Kootenai	3,515,000	.....	Pike	1,100,000	965,000
Lewis & Clark	304,600	.....	Rio Grande	1,551,905	1,258,852
Lolo	1,810,000	.....	Routt	1,662,600	882,000
Madison	873,000	.....	San Isabel	811,227	34,924
Missoula	3,550,000	.....	San Juan	3,013,322	301,806
Nezperce	6,258,918	.....	Shoshone	1,622,551	81,125
Pend Oreille	1,221,200	.....	Superior	229,500	1,447,000
St. Joe	4,184,000	.....	Uncompahgre	504,700	1,263,000
Selway	4,514,304	.....	Washakie	1,455,600	675,000
			White River	1,797,595	1,797,595
Total, district 1	63,730,397	.....	Total, district 2	32,710,109	18,936,902

[1] Montana, northeastern Washington, northern Idaho, and northwestern South Dakota.
[2] Colorado, Wyoming (except western Wyoming), South Dakota, Nebraska, northern Michigan, and northern Minnesota.

TABLE 510.—*National forests: Estimate of standing timber June 30, 1922*—Continued.

District and forest.	Saw timber.	Cordwood.
DISTRICT 3.[1]	*M feet b. m.*	*Cords.*
Apache	2,419,269	327,569
Carson	1,152,125	984,782
Coconino	3,983,231	1,400,000
Coronado	290,000	3,748,000
Crook	376,000	449,000
Datil	3,330,000	4,850,000
Gila	2,150,000	875,000
Lincoln	598,702	1,898,000
Manzano	346,000	1,200,000
Prescott	180,000	2,105,000
Santa Fe	2,672,037	1,486,638
Sitgreaves	4,257,775	922,000
Tonto	593,368	1,086,608
Tusayan	770,795	1,045,556
Total, district 3	23,119,302	22,378,153
DISTRICT 4.[2]		
Ashley	1,194,130	396,300
Boise	3,396,980	.....
Bridger	585,791	428,183
Cache	156,495	574,758
Caribou	169,800	560,000
Challis	1,690,731	.....
Dixie-Sevier	425,649	1,730,764
Fillmore	240,428	986,362
Fishlake	102,115	925,420
Humboldt	12,131	341,451
Idaho	8,379,781	3,916,748
Kaibab	1,718,919	532,800
La Sal	104,555	804,998
Lemhi	598,875	315,085
Manti	279,518	1,276,102
Minidoka	50,753	545,000
Nevada	22,250	1,610,000
Payette	5,304,748	56,500
Powell	1,559,600	985,680
Salmon	3,363,009	.....
Sawtooth	696,000	61,500
Targhee	1,726,523	256,320
Teton	2,699,500	400,000
Toiyabe	.....	2,811,000
Uinta	1,048,210	.....
Wasatch	474,792	259,670
Weiser	1,525,910	.....
Wyoming	690,863	589,728
Total, district 4	38,218,056	20,364,369
DISTRICT 5.[3]		
Angeles	1,204,238	1,437,749
California	4,040,600	200,000
Cleveland	227,300	210,250
Eldorado	4,841,862	668,250
Inyo	681,000	3,166,000
Klamath	12,485,162	3,280,000
Lassen	6,884,350	84,640
Modoc	2,799,256	747,000
Mono	1,080,834	1,209,205
Plumas	10,145,689	200,000
Santa Barbara	596,000	1,785,000
Sequoia	7,454,724	547,525
DISTRICT 5—continued.	*M feet b. m.*	*Cords.*
Shasta	4,000,000	250,000
Sierra	13,166,000	2,375,000
Stanislaus	9,219,798	4,204,000
Tahoe	6,709,000	187,000
Trinity	10,980,000	5,863,120
Total, district 5	96,515,813	26,414,739
DISTRICT 6.[4]		
Cascade	23,589,613	.....
Chelan	4,548,126	.....
Columbia	11,011,571	.....
Colville	2,681,508	.....
Crater	8,860,128	.....
Deschutes	7,317,000	.....
Fremont	6,597,280	.....
Malheur	6,560,000	.....
Ochoco	7,675,000	.....
Olympic	30,000,000	.....
Oregon	14,105,653	.....
Rainier	7,232,290	.....
Santiam	12,023,499	.....
Siskiyou	11,980,343	.....
Siuslaw	5,913,080	.....
Snoqualmie	8,936,786	.....
Umatilla	4,528,795	.....
Umpqua	23,594,201	.....
Wallowa	1,800,130	.....
Washington	10,437,269	.....
Wenatchee	3,608,500	.....
Whitman	5,864,758	.....
Total, district 6	218,865,530	.....
DISTRICT 7.[5]		
Alabama	94,489	30,000
Arkansas	1,281,380	.....
Cherokee	346,709	407,423
Florida	182,250	1,287,785
Luquille	.....	.....
Monongahela	22,015	10,700
Nantahala	282,381	617,600
Natural Bridge	152,314	251,768
Ozark	416,750	.....
Pisgah	289,030	2,280,000
Shenandoah	140,172	226,671
Unaka	152,732	515,024
White Mountain	923,764	.....
Wichita	.....	.....
Total, district 7	4,283,986	5,626,971
DISTRICT 8.[6]		
Chugach	6,589,950	.....
Tongass	73,538,000	.....
Total, district 8	80,127,950	.....
Total, all districts	557,571,143	93,721,134

[1] Arizona (except north of Grand Canyon) and New Mexico.
[2] Utah, southern Idaho, western Wyoming, eastern and central Nevada, and northwestern Arizona.
[3] California and southwestern Nevada.
[4] Washington (except northeastern Washington) and Oregon.
[5] Arkansas, Alabama, Florida, Oklahoma, South Carolina, Georgia, North Carolina, Tennessee, Virginia, West Virginia, New Hampshire, Maine, Porto Rico.
[6] Alaska.

NOTE.—In round numbers the total estimated stand, including cordwood converted to board feet, is 590,000,000 M feet b. m.

TABLE 510.—*National forests: Estimate of standing timber June 30, 1922*—Continued.

SUMMARY BY STATES.

State.	Saw timber.	Cordwood.	State.	Saw timber.	Cordwood.
	M feet b. m.	*Cords.*		*M feet b. m.*	*Cords.*
Alabama	94,489	30,000	New Mexico	10,262,864	11,484,420
Alaska	80,127,950	.....	North Carolina	454,917	2,662,531
Arizona	14,575,357	11,426,533	Oklahoma	.....	.....
Arkansas	1,698,130	.....	Oregon	136,096,751	.....
California	99,591,705	25,430,728	Porto Rico	.....	.....
Colorado	21,177,413	10,659,397	South Carolina	24,064	52,636
Florida	182,250	1,287,785	South Dakota	2,641,931	896,000
Georgia	259,695	390,730	Tennessee	295,008	588,816
Idaho	54,223,550	6,017,207	Utah	5,364,881	6,669,716
Maine	67,725	.....	Virginia	309,746	570,004
Michigan	4,295	18,580	Washington	80,461,018	.....
Minnesota	524,500	1,952,000	West Virginia	41,923	44,469
Montana	35,189,369	.....	Wyoming	12,876,222	6,971,836
Nebraska	.....	.....			
Nevada	169,351	6,567,746	Total for all States	557,571,143	93,721,134
New Hampshire	856,039	.....			

TABLE 511.—*National forests: Estimate of saw timber, by species.*

Species.	Thousands of board feet.							
	District 1.	District 2.	District 3.	District 4.	District 5.	District 6.	District 8.	Total.
Douglas fir	12,554,153	1,549,301	2,195,112	8,830,525	16,476,048	100,960,806	.....	142,565,945
Western yellow pine	5,450,232	5,081,374	19,058,288	11,286,392	31,192,012	33,122,435	.....	105,190,733
Western hemlock	51,661	.....	.....	.....	.....	29,693,309	52,633,428	82,378,398
Lodgepole pine	17,601,352	10,109,010	.....	8,507,930	2,634,906	4,737,354	.....	43,593,552
Alpine species	1,808,340	1,789,136	129,301	2,320,992	75,211	25,345,312	.....	31,468,292
Cedar	2,738,161	5,275	.....	.....	4,404,971	8,573,908	8,104,406	23,826,721
Engelmann spruce	5,448,782	12,363,529	754,297	3,796,926	.....	1,396,774	.....	23,760,308
White fir	[1]3,246,189	48,064	739,027	132,622	14,461,403	5,129,352	.....	23,756,657
Sitka spruce	.....	.....	.....	.....	.....	1,555,005	18,510,753	20,065,758
Sugar pine	.....	.....	.....	.....	11,655,089	1,729,437	.....	13,384,526
Red fir	.....	.....	.....	.....	12,934,782	.....	.....	12,934,782
Larch	6,852,121	.....	.....	499,639	.....	4,312,438	.....	11,664,198
White pine	6,045,523	40,200	.....	.....	151,681	1,247,365	.....	7,484,769
Jeffrey pine	.....	.....	.....	.....	1,925,605	.....	.....	1,925,605
Hardwoods	2,600	1,225,305	.....	505,949	.....	33,376	122,703	1,889,933
Black and white spruce	.....	117,020	.....	.....	.....	.....	756,660	873,680
Redwood	.....	.....	.....	.....	258,147	78,150	.....	336,297
Blue spruce	.....	96,000	.....	104,400	.....	.....	.....	200,400
Jack pine	.....	182,300	.....	.....	.....	.....	.....	182,300
Norway pine	.....	76,000	.....	.....	.....	.....	.....	76,000
Juniper	3,500	8,000	.....	43,330	.....	.....	.....	54,830
Miscellaneous	[2]1,924,783	[3]19,595	[4]243,277	[5]2,189,351	[6]345,958	950,509	.....	5,673,473
Total, all species, district 7	.....	.....	.....	.....	.....	.....	.....	4,283,986
Total	63,730,397	32,710,109	23,119,302	38,218,056	96,515,813	218,865,530	80,127,950	557,571,143

[1] Includes some hemlock.
[2] Includes balsam, white fir, hemlock, and others.
[3] Includes pinon pine, tamarack, hemlock.
[4] Includes Mexican white pine, cork bark fir, foxtail pine, Chihuahua pine, cypress, etc.
[5] Includes balsam, dead, and other species not specified.
[6] Includes Coulter pine, big cone spruce, and miscellaneous.

TABLE 511.—*National forests: Estimate of saw timber, by species*—Continued.

DISTRICT 7.[1]

Species.	M feet b. m.	Species.	M feet b. m.	Species.	M feet b. m.
Yellow pine[2]	1,228,368	Gum	82,031	Spanish oak	2,600
Spruce and fir	508,717	White pine	67,901	Walnut	976
White oak	482,336	Beech	62,929	Locust	909
Chestnut	317,146	Hickory	51,911	Cherry	875
Longleaf pine	179,456	Mixed oak	33,446	Cypress	80
Red oak	168,035	Basswood	17,934	Pond pine	75
Hemlock	142,927	Aspen	14,340	Juniper	10
Chestnut oak	137,489	Ash	10,405	Miscellaneous	76,096
Maple	127,822	Scarlet oak	8,882	Tie timber	123,569
Yellow birch	110,819	Buckeye	6,017		
Black oak	108,351	Birch	4,742	Total	4,283,986
Yellow poplar	105,234	Cucumber	2,958		
Paper birch	95,971	Slash pine	2,629		

[1] Presented separately due to difference in species.
[2] Includes shortleaf, Virginia scrub, table-mountain, and pitch pine.

TABLE 512.—*National forests: Timber granted without charge to local residents, under "free use" regulations, July 1, 1906, to December 31, 1921.*

Fiscal year.	Number of permittees.	Amount cut, M board feet.	Estimated value.
1907	17,399	86,818	$100,362
1908	30,377	131,977	169,320
1909	33,431	105,205	169,081
1910	35,364	104,796	176,167
1911	40,660	123,488	196,930
1912	38,749	123,233	196,335
1913	38,264	121,750	191,825
1914	39,466	120,575	183,223
1915	40,040	123,259	206,597
1916	42,070	119,488	184,720
1917	41,427	113,073	149,802
1918	38,073	96,616	127,688
1919	34,617	90,798	113,117
1920	37,336	88,060	113,000
1920 (last six months)	21,168	56,813	60,391
1921 (calendar year)	40,535	123,245	117,055
Total	568,976	1,729,194	2,455,613

TABLE 513.—*Expenditures for forestry in the United States for fiscal year ending June 30, 1922.*

I. Total expenditures by all agencies			[1] $17,013,48
II. Federal Government			9,785,904
1. Forest Service		$9,015,904	
(a) National forest administration	[2] $6,922,256		
(b) Research	695,000		
(c) Acquisition of lands	999,880		
(d) State cooperation	398,768		
2. Bureau of Plant Industry		195,057	
3. Bureau of Entomology		[3] 488,124	
4. Indian Service		86,621	
III. State governments			5,020,934
1. Administration, research, and acquisition (calendar year 1921)		4,065,434	
2. White-pine blister rust control		105,500	
3. Gipsy-moth control		850,000	
IV. Municipalities			300,000
Blister rust control		18,000	
Other		282,000	
V. Private owners			[2] 1,281,648
1. Planting		225,000	
2. Protection and brush disposal (calendar year)		1,000,000	
3. Methods of cutting (estimated)		25,000	
4. Insect control (Oregon and California)		16,416	
5. Blister rust control		15,232	
VI. Forest schools			625,000

[1] Not including special forest road and trail appropriations or cooperative contributions to Forest Service.
[2] Not including private industrial research in pulp and paper, wood preservation, etc.
[3] Chiefly for control of gipsy moth.

IMPORTS AND EXPORTS OF AGRICULTURAL PRODUCTS.[1]

[Compiled in the Bureau of Markets and Crop Estimates from reports of the Foreign Commerce and Navigation of the United States, United States Department of Commerce.]

TABLE 514.—*Agricultural imports of the United States during the 3 years ending Dec. 31, 1921.*

[The figures are in round thousands, i. e., 000 omitted.]

Article imported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
ANIMAL MATTER.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Animals, live:						
Cattle [2] ..... number..	642	$53,296	379	$27,419	195	$6,133
Horses [2] ..... do....	5	803	4	1,089	4	827
Sheep [2] ..... do....	225	2,473	173	1,730	85	472
Swine ..... do....	21	758	1	23	3	65
All other, including fowls	.....	707	.....	1,291	.....	1,584
Total live animals	.....	58,037	.....	31,552	.....	9,081
Beeswax ..... pounds..	2,384	896	4,143	1,418	2,493	481
Dairy products:						
Butter ..... do....	9,519	4,860	37,454	18,646	18,558	7,392
Cheese ..... do....	11,332	4,073	15,994	5,657	26,866	8,677
Milk and cream—						
Fresh ..... gallons..	3,685	1,850	4,118	2,702	4,613	2,991
Condensed ..... pounds..	16,599	2,080	23,756	3,332	8,668	1,420
Total dairy products	.....	12,863	.....	30,337	.....	20,480
Eggs ..... dozen..	1,247	395	1,709	618	3,063	923
Egg albumen ..... pounds..	7,978	6,061	9,111	4,593	4,639	1,160
Eggs, dried, frozen, etc ..... do....	24,891	8,470	29,023	7,234	17,898	3,167
Feathers and downs, crude:						
Ostrich ..... do....	309	2,698	143	1,088	150	1,338
Other ..... do....	1,600	853	3,720	1,509	2,129	751
Fibers, animal:						
Silk—						
Cocoons ..... do....	852	487	201	315	128	99
Raw, or as reeled from the cocoons ..... pounds..	44,817	329,339	30,058	284,891	45,355	259,054
Waste ..... do....	9,853	12,061	9,401	15,832	6,849	5,570
Total silk ..... do....	55,522	341,887	39,660	301,038	52,332	264,723
Wool and hair of the camel, goat, alpaca, and like animals—						
Class 1, clothing ..... pounds..	334,100	171,289	212,392	109,001	207,867	45,772
Class 2, combing ..... do....	7,734	4,584	6,643	3,834	10,838	2,202
Class 3, carpets ..... do....	96,948	36,898	35,870	11,564	97,900	11,499
Hair of the angora goat, alpaca, etc ..... pounds..	7,111	3,994	4,712	2,572	4,061	1,008
Total wool ..... do....	445,893	216,765	259,617	126,971	320,666	60,481
Gelatin ..... do....	449	242	2,313	1,225	1,844	847
Glue and glue size ..... do....	866	209	2,777	662	3,489	590
Honey ..... gallons..	454	565	990	1,335	163	96

[1] Forest products come within the scope of the Department of Agriculture and are therefore included in alphabetical order in these tables.

[2] Including all imported free of duty.

TABLE 514.—*Agricultural imports of the United States during the 3 years ending Dec. 31, 1921*—Continued.

Article imported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
ANIMAL MATTER—continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Packing-house products:						
Blood, dried.....pounds..	11,004	$380	14,463	$575	9,983	$254
Bones, hoofs, and horns.....do....	50,388	841	178,067	3,338	53,715	883
Bristles.....do....	3,159	6,035	4,945	10,388	3,430	5,401
Grease.....do....	33,871	3,304	26,323	2,843	22,174	1,150
Hair—						
Horse.....do....	4,015	1,644	4,896	2,202	3,190	1,324
Other animal.....do....	4,545	542	6,770	1,218	3,439	447
Hide cuttings and other glue stock .....pounds..	13,781	979	36,856	2,239	28,743	1,595
Hides and skins, other than furs—						
Buffalo hides, dry.....pounds..	15,620	3,463	9,484	2,721	1,918	358
Cabretta.....do....	94	86	12	14	23	11
Calfskins—						
Dry.....do....	42,325	20,914	16,903	9,980	14,261	3,271
Green or pickled.....do....	22,230	12,739	18,230	9,271	33,677	7,092
Cattle hides—						
Dry.....do....	96,190	34,367	59,150	21,092	13,257	2,349
Green or pickled.....do....	311,092	91,224	216,174	64,383	166,929	20,910
Goat skins—						
Dry.....do....	111,134	85,828	69,877	82,415	54,925	22,374
Green or pickled.....do....	22,523	9,729	10,327	6,225	8,202	1,497
Horse and ass skins—						
Dry.....do....	12,077	3,612	5,043	1,620	812	97
Green or pickled.....do....	15,976	3,633	11,803	2,636	3,248	270
Kangaroo.....do....	1,384	1,363	1,389	1,481	455	283
Sheepskins [1]—						
Dry.....do....	43,560	21,288	29,833	17,395	13,457	3,323
Green or pickled.....do....	41,471	15,232	52,916	20,830	32,398	4,686
Other.....do....	9,159	3,031	9,098	3,815	4,487	1,035
Total hides and skins.....do....	744,835	306,509	510,239	243,878	348,049	67,561
Meat—						
Cured—						
Bacon and hams.....do....	2,646	788	755	235	166	51
Meat prepared or preserved .....pounds..	21,190	5,838	7,199	1,610	3,171	599
Sausage, bologna.....do....	72	43	157	74	57	25
Fresh—						
Beef and veal.....do....	38,462	6,408	50,182	8,057	32,378	3,945
Mutton and lamb.....do....	8,209	1,547	101,168	12,645	25,395	2,991
Pork.....do....	2,779	601	1,541	415	816	178
Other, including meat extracts .....pounds..	8,596	1,838	7,448	2,009	5,643	1,984
Total meat.....	.....	17,063	.....	25,045	67,626	9,773
Oleo stearin.....pounds..	2,358	475	963	181	419	33
Rennets.....do....	103	147	250	141	55	20
Sausage casings.....do....	11,234	5,629	12,138	7,049	9,930	5,358
Tallow.....do....	12,096	1,813	14,875	1,842	1,870	106
Total packing-house products....	.....	345,361	.....	300,939	.....	93,905
Total animal matter.....	.....	995,303	.....	810,521	.....	458,023
VEGETABLE MATTER.						
Argols or wine lees.....pounds..	25,736	4,287	35,577	4,465	16,088	1,177
Breadstuffs. (*See* Grain and grain products.)						
Broom corn.....long tons..	(2)	2	1	77	(2)	4
Chicory root, prepared.....pounds..	(2)	(2)	9	620	924	34
Cocoa and chocolate:						
Cocoa, crude, leaves and shells of.do....	391,397	57,999	343,667	54,308	304,817	23,125
Cocoa and chocolate, prepared...do....	967	342	1,319	503	1,751	441
Total cocoa and chocolate.do....	392,364	58,341	344,986	54,811	306,568	23,566

[1] Except sheepskins with the wool on.

[2] Less than 500.

TABLE 514.—*Agricultural imports of the United States during the 3 years ending Dec. 31, 1921*—Continued.

Article imported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
VEGETABLE MATTER—continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Coffee.....pounds..	1,337,564	$261,270	1,297,439	$252,451	1,340,980	$142,809
Fibers, vegetable:						
Cotton.....do....	175,358	71,886	299,994	138,744	138,949	32,902
Flax.....long tons..	4	3,997	7	3,849	4	2,229
Hemp.....do....	2	954	8	3,226	7	1,684
Istle.....do....	21	2,523	24	3,335	10	825
Jute and jute butts.....do....	62	8,384	96	9,693	62	5,810
Kapoc.....do....	11	3,673	10	3,848	8	2,557
Manila.....do....	69	19,255	67	20,515	32	5,819
New Zealand flax.....do....	7	1,641	6	1,034	1	151
Sisal grass.....do....	145	39,554	181	33,535	116	13,656
Other.....do....	7	1,797	7	1,342	6	876
Total vegetable fibers.....	.....	153,664	.....	219,121	.....	66,509
Forest products:						
Cinchona bark.....pounds..	5,981	1,076	4,068	1,526	1,033	333
Cork, wood, and bark.....do....	28,287	1,803	63,972	2,725	22,148	960
Dyewood extracts.....do....	1,157	210	1,156	170	1,043	85
Dyewoods—						
Logwood.....long tons..	29	550	73	2,187	27	637
Other.....do....	2	38	4	70	5	98
Total dyewoods.....do....	31	588	77	2,257	32	735
Gums—						
Arabic or Senegal.....pounds..	5,943	819	6,498	764	7,556	625
Camphor—						
Crude.....do....	2,694	2,506	3,833	5,207	1,079	637
Refined.....do....	2,125	3,830	1,144	2,246	480	373
Chicle.....do....	9,446	6,217	9,860	6,749	6,964	3,562
Copal, kauri, and damar....do....	20,326	2,083	69,334	9,596	17,628	2,039
Gambier, or terra japonica..do....	4,745	432	10,095	807	7,023	270
India rubber, gutta-percha, etc.—						
Balata.....pounds..	1,628	937	2,384	1,260	1,822	1,078
Guayule gum.....do....	3,204	761	1,699	346	130	27
Gutta joolatong or East Indian gum.....pounds..	18,663	2,214	12,706	2,069	3,908	352
Gutta-percha.....do....	6,496	1,069	7,129	1,520	2,206	334
India rubber.....do....	535,940	215,820	566,546	242,796	415,283	73,773
Total India rubber, etc.do...	565,931	220,801	590,464	247,991	423,349	75,564
Shellac.....do....	24,426	11,869	28,587	23,089	27,841	13,618
Other.....do....	11,291	3,387	12,990	3,756	12,938	1,442
Total gums.....do....	646,927	251,944	732,805	300,205	504,858	98,160
Ivory, vegetable.....do....	31,779	1,172	49,690	2,551	28,383	908
Tanning materials—						
Mangrove bark.....long tons..	3	88	7	316	2	120
Quebracho, extract.....pounds..	144,497	6,903	108,897	6,700	144,399	6,449
Quebracho wood.....long tons..	4	54	56	850	7	108
Sumac, ground or unground .....pounds..	14,725	558	12,997	429	9,856	216
Other.....	.....	1,824	.....	3,016	.....	1,298
Total tanning materials.....	.....	9,427	.....	11,311	.....	8,191
Wood—						
Brier root or brierwood and ivory or laurel root.....	.....	1,288	.....	1,006	.....	136
Chair cane or reed.....	.....	236	.....	1,286	.....	459

TABLE 514.—*Agricultural imports of the United States during the 3 years ending Dec. 31, 1921*—Continued.

Article imported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
VEGETABLE MATTER—continued.						
Forest products—Continued.						
Wood—Continued.						
Cabinet woods, unsawed—	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Cedar.....M feet..	9	$592	8	$730	8	$521
Mahogany.....do....	43	3,973	53	7,193	43	4,556
Other.....do....	8	706	14	1,330	6	636
Total cabinet woods..do....	.....	5,271	75	9,253	57	5,713
Logs and round timber.....do....	93	1,691	76	2,060	132	2,392
Lumber—						
Boards and other sawed lumber.....M feet..	1,149	37,261	1,351	57,724	839	29,623
Laths.....M..	803	3,037	442	4,173	896	5,181
Shingles.....M..	1,987	8,720	1,964	11,260	2,164	7,402
Other.....	.....	1,389	.....	2,901	.....	2,287
Total lumber.....	.....	50,407	.....	76,058	.....	44,493
Pulp wood, peeled, rossed, and rough.....cords..	1,047	10,459	1,241	16,903	1,082	15,387
Rattan and reeds.....	.....	872	.....	2,467	.....	1,075
Timber, ship and other.....	.....	297	.....	563	.....	146
All other wood.....	.....	667	.....	1,579	.....	831
Total wood.....	.....	71,188	.....	111,175	.....	70,632
Wood pulp.....long tons..	568	37,048	809	89,418	622	39,396
Total forest products.....	.....	374,456	.....	521,338	.....	219,400
Fruits:						
Fresh or dried—						
Bananas.....bunches..	36,993	15,935	39,320	19,088	43,366	19,385
Currants.....pounds..	14,852	2,296	55,832	6,076	57,037	4,482
Dates.....do....	36,921	1,891	32,347	2,088	48,504	2,321
Figs.....do....	25,359	4,518	31,437	3,483	38,706	3,251
Grapefruit.....	.....	611	.....	627	.....	609
Grapes.....cubic feet..	535	845	992	1,485	752	1,137
Lemons.....	.....	2,438	.....	2,905	.....	1,236
Olives.....gallons..	3,754	2,339	4,778	4,925	(1)	2,273
Oranges.....	.....	53	.....	58	.....	42
Pineapples.....	.....	1,046	.....	1,423	.....	1,572
Raisins.....pounds..	1,567	443	46,039	7,564	17,015	2,444
Other.....	.....	4,609	.....	4,136	.....	4,314
Total fresh or dried.....	.....	37,024	.....	53,858	.....	43,060
Prepared or preserved.....	.....	1,291	.....	2,706	.....	1,326
Total fruits.....	.....	38,315	.....	56,564	.....	44,386
Grain and grain products:						
Grain—						
Corn.....bushels..	11,213	10,967	7,784	9,297	164	199
Oats.....do....	699	470	6,728	6,549	3,565	1,539
Wheat.....do....	7,911	14,906	35,809	75,359	23,286	35,913
Total grain.....do....	19,733	26,343	50,321	91,205	27,015	37,651
Grain products—						
Bread and biscuit.....pounds..	993	206	1,469	368	1,534	319
Macaroni, vermicelli, etc....do....	903	102	805	107	1,587	166
Meal and flour, wheat flour .....barrels..	17	171	801	8,669	966	7,725
Total grain products.....	.....	479	.....	9,144	.....	8,210
Other.....	.....	6,534	.....	4,982	.....	2,797
Total grain and grain products..	.....	33,356	.....	105,331	.....	48,658

[1] Not stated.

TABLE 514.—*Agricultural imports of the United States during the 3 years ending Dec. 31, 1921*—Continued.

Article Imported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
VEGETABLE MATTER—continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Hay ..... long tons..	203	$3,082	209	$4,482	39	$788
Hops ..... pounds..	467	238	5,949	2,933	1,629	668
Indigo, natural and synthetic ..... do....	1,051	692	919	787	461	287
Licorice root ..... do....	49,892	3,865	56,226	3,455	53,550	2,516
Liquors, alcoholic	.....	525	.....	3,269	.....	4,714
Nursery stock, mainly flowering bulbs	.....	4,421	.....	5,080	.....	5,221
Nuts:						
Almonds—						
Shelled ..... pounds..	28,008	10,582	18,151	6,733	20,874	6,341
Unshelled ..... do....	7,483	1,305	6,703	1,063	4,402	528
Coconuts ..... number..	85,082	4,053	91,165	4,230	79,991	2,284
Coconut meat—						
Not prepared ..... pounds..	258,916	16,545	215,188	14,187	189,321	7,382
Prepared ..... do....	29,638	4,141	32,921	5,167	35,392	2,927
Cream and Brazil ..... do....	43,076	3,136	13,998	1,862	40,540	1,929
Filberts—						
Shelled ..... do....	3,779	1,194	5,034	1,326	3,854	645
Unshelled ..... do....	16,747	3,396	14,096	1,863	14,729	1,279
Marrons, crude ..... do....	5,012	394	29,480	1,716	23,341	1,106
Palm and palm-nut kernels ..... do....	5,610	289	8,329	485	730	19
Peanuts—						
Shelled ..... do....	24,180	1,934	110,810	10,571	35,640	1,522
Unshelled ..... do....	5,667	394	8,703	772	4,524	203
Walnuts—						
Shelled ..... do....	10,261	5,317	15,818	6,032	13,331	4,972
Unshelled ..... do....	21,235	3,985	16,073	2,466	33,414	4,472
Other	.....	846	.....	1,186	.....	892
Total nuts	.....	57,511	.....	59,659	.....	36,501
Oil cake ..... pounds..	112,406	2,371	228,853	4,415	88,406	1,755
Oils, vegetable:						
Fixed or expressed—						
Chinese nut ..... gallons..	7,180	8,121	9,062	11,077	3,633	2,470
Cocoa butter or butterine ..... pounds..	1	1	72	25	2,373	519
Coconut oil ..... do....	281,063	35,380	216,327	33,080	189,717	15,324
Cottonseed ..... do....	27,806	3,673	9,458	1,305	669	58
Linseed ..... gallons..	2,152	3,040	4,693	6,489	8,012	4,016
Olive, edible ..... do....	9,024	18,014	4,079	12,169	6,628	11,151
Olive, other ..... do....	282	435	66	132	556	436
Palm oil ..... pounds..	41,818	4,317	41,948	5,430	23,155	1,422
Palm kernel ..... do....	1,929	143	1,694	238	2,383	195
Peanut ..... gallons..	20,540	22,010	12,683	16,990	403	314
Rapeseed ..... do....	1,117	1,306	1,721	1,922	954	789
Soya bean ..... pounds..	195,808	24,019	112,214	13,721	17,283	701
Other	.....	2,558	.....	1,865	.....	294
Total, fixed or expressed	.....	123,017	.....	104,443	.....	37,689
Volatile or essential—						
Birch and cajaput ..... pounds..	17	13	22	10	8	2
Lemon ..... do....	607	612	751	1,063	618	448
Other	.....	6,358	.....	7,973	.....	3,385
Total, volatile or essential	.....	6,983	.....	9,046	.....	3,835
Total vegetable oils	.....	130,600	.....	113,489	.....	41,524
Opium, crude ..... pounds..	730	8,280	211	1,312	102	345
Rice, rice meal, etc.:						
Rice—						
Cleaned ..... pounds..	144,090	9,905	111,694	11,475	63,100	2,139
Uncleaned, including paddy .. do..	29,495	2,250	29,536	2,485	20,006	1,059
Rice flour, rice meal, and broken rice ..... pounds..	1,010	87	1,721	126	787	54
Total rice, etc. ..... do....	174,595	12,242	142,951	14,086	83,893	3,252
Sago, tapioca, etc ..... do....	99,275	5,208	104,843	5,929	54,612	1,772

TABLE 514.—*Agricultural imports of the United States during the 3 years ending Dec. 31, 1921*—Continued.

Article imported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
VEGETABLE MATTER—continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Seeds:						
Castor bean.....bushels..	1,209	$3,674	1,239	$2,842	731	$907
Clover—						
Red.....pounds..	7,026	2,410	12,693	4,627	16,528	2,358
Other.....do....	18,016	4,992	12,794	2,908	22,614	2,747
Flaxseed.....bushels..	14,036	44,360	24,641	74,623	12,326	20,439
Grass seed, n. e. s.....pounds..	15,610	2,605	21,113	4,485	19,039	2,085
Mustard.....do....	14,226	1,260	9,063	952	7,564	303
Sugar beet.....do....	9,830	2,137	23,446	5,213	7,726	1,515
Other.....	.....	7,757	.....	6,816	.....	4,142
Total seeds.....	.....	69,195	.....	102,466	.....	34,496
Spices:						
Unground—						
Capsicum.....pound..	1,161	154	3,660	559	2,128	268
Cassia.....do....	8,710	878	6,750	707	5,426	286
Cloves.....do....	6,150	1,523	6,250	2,257	4,363	717
Ginger root, not preserved..do....	4,374	521	8,125	1,146	4,010	370
Nutmegs.....do....	4,099	754	4,218	816	2,978	313
Pepper, black or white.....do....	22,826	3,703	13,828	2,418	33,849	2,635
Total unground.....do....	47,320	7,533	42,831	7,903	52,754	4,589
Ground—						
Capsicum.....do....	1,561	501	2,934	1,178	2,975	429
Mustard.....do....	1,500	797	1,593	790	1,175	645
Total ground.....do....	3,061	1,298	4,527	1,968	4,150	1,074
Other spices.....do....	6,060	972	13,560	1,771	7,487	539
Total spices.....do....	56,441	9,803	60,918	11,642	64,391	6,202
Starch.....do....	2,612	243	19,139	1,017	5,984	248
Sugar and molasses:						
Molasses.....gallons..	120,156	4,177	160,208	5,119	78,110	1,884
Sugar—						
Beet.....pounds.	1	(1)	36,754	6,402	14	1
Cane.....do....	7,019,690	393,171	8,028,668	1,008,786	5,967,486	235,286
Maple sugar and sirup.....do....	3,928	1,110	8,338	1,975	1,906	207
Total sugar.....do....	7,023,619	394,281	8,073,760	1,017,163	5,969,406	235,494
Total sugar and molasses.....	.....	398,458	.....	1,022,282	.....	237,378
Tea.....pounds..	80,963	20,146	90,247	24,392	76,487	14,234
Tobacco:						
Wrapper.....do....	7,775	10,158	11,768	18,272	5,914	10,462
Filler.....do....	78,210	64,987	70,454	63,358	47,080	43,710
Total tobacco.....do....	85,985	75,145	82,222	81,630	52,994	54,172
Vanilla beans.....do....	1,150	2,407	1,240	2,406	984	1,380
Vegetables:						
Fresh and dried—						
Beans.....bushels..	4,972	17,527	2,095	7,510	274	648
Garlic.....pounds..	9,961	1,335	7,705	872	7,031	379
Onions.....bushels..	741	1,018	1,819	2,364	1,976	2,248
Peas, dried.....do....	2,141	7,489	1,803	7,643	513	1,175
Potatoes—						
Irish.....do....	5,544	5,907	6,062	12,527	2,018	1,752
Sweet and dessicated or prepared.....	.....	480	.....	348	.....	153
Other.....	.....	2,157	.....	2,720	.....	2,766
Total fresh and dried.....	.....	35,913	.....	33,984	.....	9,121

[1] Less than 500.

TABLE 514.—*Agricultural imports of the United States during the 3 years ending Dec. 31, 1921*—Continued.

Article imported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
VEGETABLE MATTER—continued.						
Vegetables—Continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Prepared or preserved—						
Mushrooms.....pounds..	2,093	$1,356	3,220	$1,565	4,954	$1,635
Pickles and sauces.....	.....	1,195	.....	1,554	.....	2,053
Other.....	.....	2,182	.....	3,319	.....	3,141
Total prepared or preserved.....	.....	4,733	.....	6,438	.....	6,829
Total vegetables.....	.....	40,646	.....	40,422	.....	15,950
Vinegar.....gallons...	99	59	193	90	142	73
Wax, vegetable.....pounds..	10,814	3,810	6,554	2,168	6,701	1,126
Total vegetable matter, including forest products.....	.....	1,772,033	.....	2,722,186	.....	1,011,145
Total vegetable matter, excluding forest products.....	.....	1,397,578	.....	2,200,851	.....	791,745
Total agricultural imports, including forest products.....	.....	2,767,335	.....	3,532,707	.....	1,469,168
Total agricultural imports, excluding forest products.....	.....	2,392,879	.....	3,011,372	.....	1,249,768

TABLE 515.—*Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921.*

[The figures are in round thousands, i. e., 000 omitted.]

Article exported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
ANIMAL MATTER.						
Animals, live:	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Cattle.....number..	70	$6,440	85	$10,753	197	$11,741
Horses.....do....	20	2,856	14	2,716	17	2,063
Mules.....do....	7	1,189	9	1,866	9	715
Sheep.....do....	35	370	49	572	117	605
Swine.....do....	25	684	55	1,724	123	1,804
Other (including fowls).....	.....	465	.....	702	.....	939
Total live animals.....	.....	12,004	.....	18,333	.....	17,867
Beeswax.....pounds..	210	92	633	295	98	30
Dairy products:						
Butter.....do....	34,556	17,504	17,488	10,142	8,015	3,270
Cheese.....do....	14,160	5,350	16,292	5,054	11,772	2,716
Milk—						
Condensed, evaporated, and powdered.....pounds..	852,865	121,893	414,250	65,239	299,168	37,680
Other, including cream.....	.....	1,730	.....	382	.....	480
Total dairy products.....	.....	146,477	.....	80,817	.....	44,146
Eggs.....dozen..	38,789	18,812	26,842	13,569	33,291	10,811
Egg yolks, canned eggs, etc.....	.....	132	.....	310	.....	156
Feathers.....	.....	863	.....	679	.....	303
Fibers, animal, wool.....pounds..	2,840	2,231	8,845	4,937	1,927	528
Glue.....do....	8,486	1,481	13,565	2,415	2,012	383
Honey.....do....	9,076	1,955	1,540	265	1,881	225

TABLE 515.—*Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921*—Continued.

Article exported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
ANIMAL MATTER—continued.						
Packing-house products:	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Beef—						
Canned ..... pounds..	53,867	$20,673	23,766	$5,790	6,077	$1,276
Cured or pickled ..... do....	42,805	8,739	25,771	3,660	24,591	2,584
Fresh ..... do....	174,427	40,281	89,649	17,565	10,341	1,799
Oils, oleo oil ..... do....	75,585	22,025	74,368	16,585	127,978	14,618
Oleomargarine ..... do....	22,940	6,577	16,558	4,567	3,329	672
Stearin ..... do....	20,855	4,171	17,513	3,488	32,696	3,264
Tallow ..... do....	38,954	6,370	20,692	2,951	13,798	1,017
Total beef ..... do....	429,433	108,836	268,317	54,606	218,810	25,230
Bones, hoofs, and horns	.....	371	.....	270	.....	101
Grease, and soap stock—						
Lubricating	.....	6,040	.....	7,372	.....	4,480
Soap stock	.....	6,656	.....	6,698	.....	4,481
Hair	.....	1,551	.....	1,328	.....	585
Hides and skins other than furs—						
Calfskins ..... pounds..	4,654	3,218	1,140	680	5,349	1,152
Cattle ..... do....	16,996	6,290	11,485	3,761	20,693	2,170
Horse ..... do....	467	135	655	143	222	21
Other ..... do....	2,806	1,252	4,122	1,619	4,313	724
Total ..... do....	24,923	10,895	17,402	6,203	30,577	4,067
Lard compounds ..... do....	124,963	31,606	32,051	7,219	48,207	5,549
Meat, canned, n. e. s	.....	12,951	.....	6,480	.....	5,008
Mutton ..... pounds..	3,009	633	3,575	759	7,515	1,255
Oils, animal, n. e. s ..... gallons..	1,950	2,955	517	774	368	323
Pork—						
Canned ..... pounds..	5,792	2,422	1,802	752	1,150	345
Cured—						
Bacon ..... do....	1,190,297	373,913	636,676	156,297	415,356	68,180
Hams and shoulders ..... do....	596,796	189,429	185,247	50,888	232,324	47,750
Salted or pickled ..... do....	34,114	8,633	38,709	7,670	32,843	4,216
Total cured ..... do....	1,821,207	571,975	860,632	214,855	680,523	120,146
Fresh ..... do....	26,777	8,348	38,305	9,090	56,083	9,337
Lard ..... do....	760,902	237,983	612,250	143,371	868,942	112,533
Lard, neutral ..... do....	22,957	7,726	23,238	5,806	28,951	3,438
Oils, lard oil[1] ..... do....	1,087	220	667	128	589	59
Total pork ..... do....	2,638,721	828,674	1,536,894	374,002	1,631,238	245,858
Sausage—						
Canned ..... pounds..	8,198	2,762	7,158	2,345	2,556	875
Other ..... do....	13,889	5,912	10,509	4,188	6,352	2,116
Sausage casings ..... do....	25,477	6,810	25,238	5,861	31,521	6,244
All other	.....	11,643	.....	7,170	.....	5,081
Total packing-house products ...	.....	1,038,295	.....	485,275	.....	311,252
Poultry and game	.....	4,560	.....	757	.....	1,057
Total animal matter	.....	1,226,901	.....	607,648	.....	386,756
VEGETABLE MATTER.						
Broom corn ..... long tons..	4	900	4	777	3	404
Cocoa and chocolate	.....	21,381	.....	9,048	.....	1,162
Coffee:						
Green ..... pounds..	28,289	7,296	34,786	9,224	33,390	5,591
Roasted ..... do....	6,062	1,521	1,972	580	1,183	305
Total coffee ..... do....	34,351	8,817	36,758	9,804	34,573	5,896

[1] One gallon is estimated to weigh 7.5 pounds.

TABLE 515.—*Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921*—Continued.

Article exported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
VEGETABLE MATTER—continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Cotton:						
Sea Island.....pounds..	2,492	$1,543	975	$919	84	$48
Upland.....do....	3,352,494	1,134,817	3,154,296	1,133,871	3,293,995	532,781
Linters.....do....	12,692	1,011	24,043	1,619	45,034	1,413
Total cotton.....do....	3,367,678	1,137,371	3,179,314	1,136,409	3,339,113	534,242
Flavoring extracts and fruit juices.....	.....	1,342	.....	1,428	.....	848
Flowers, cut.....	.....	171	.....	181	.....	153
Forest products:						
Barks, and extracts of, for tanning—						
Bark.....long tons..	1	48	(1)	18	(1)	17
Bark, extracts of.....	.....	5,598	.....	3,678	.....	1,168
Total bark, etc.....	.....	5,646	.....	3,696	.....	1,185
Logwood extracts.....	.....	1,356	.....	2,605	.....	590
Moss.....	.....	91	.....	115	.....	58
Naval stores—						
Rosin.....barrels..	1,210	20,434	1,164	19,469	1,002	5,262
Tar, turpentine, and pitch..do....	67	552	51	448	27	215
Turpentine, spirits of.....gallons..	10,672	10,448	9,458	14,586	9,268	6,032
Total naval stores.....	.....	31,434	.....	34,503	.....	11,449
Wood—						
Logs and round timber—						
Fir.....M feet..	5	115	15	455	12	258
Pine, yellow.....do....	8	137	10	307	4	193
Other logs—						
Hardwood.....do....	7	251	8	640	11	794
Softwood.....do....	18	461	50	1,583	54	2,084
Total.....do....	38	964	83	2,985	81	3,329
Lumber—						
Boards, deals, and planks—						
Cypress.....M feet..	15	925	11	908	5	437
Fir.....do....	301	9,722	451	17,641	455	10,316
Gum.....do....	72	4,034	27	2,748	28	1,478
Oak.....do....	158	11,747	105	12,459	69	5,167
Pine, white.....do....	24	1,353	39	2,693	15	1,043
Pine, yellow—						
Pitch.....do....	438	17,734	637	37,695	433	16,626
Short-leaf.....do....	20	829	16	888	4	162
Other.....do....	70	2,573	105	5,276	77	2,511
Poplar.....do....	36	2,695	19	2,314	10	986
Redwood.....do....	34	1,418	45	3,159	16	1,021
Spruce.....do....	22	1,919	22	1,781	7	336
Other—						
Hardwood.....do....	102	9,113	60	7,906	35	3,727
Softwood.....do....	19	798	14	913	51	1,889
Total.....do....	1,311	64,860	1,551	96,381	1,205	45,699
Railroad ties.....number..	4,700	4,179	4,246	5,566	3,150	4,390
Shingles.....M..	16	89	34	197	21	128
Shooks—						
Box.....	.....	2,821	.....	4,249	.....	2,535
Cooperage.....number..	2,857	8,489	1,747	6,916	462	2,109
Other.....do....	480	546	180	159	183	90
Total shooks.....	.....	11,856	.....	11,324	.....	4,734
Staves and heading—						
Heading.....	.....	591	.....	1,028	.....	195
Staves.....number..	81,658	13,160	82,584	15,408	34,691	3,601
Total staves and heading.	.....	13,751	.....	16,436	.....	3,796
Other.....	.....	3,790	.....	5,093	.....	2,569
Total lumber.....	.....	98,525	.....	134,997	.....	61,316

[1] Less than 500.

TABLE 515.—*Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921*—Continued.

Article exported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
VEGETABLE MATTER—continued.						
Forest products—Continued.						
Timber—						
Hewn—						
Hardwood.....M feet..	*Thousands.* 4	*Thousands.* $269	*Thousands.* 3	*Thousands.* $212	*Thousands.* 2	*Thousands.* $144
Softwood.....do....	5	146	7	228	1	44
Sawed—						
Pitch pine.....do....	154	6,960	135	6,862	87	2,692
Other—						
Hardwood.....do....	5	330	4	282	4	241
Softwood.....do....	15	439	22	757	41	1,015
Total timber.....do....	183	8,144	171	8,341	135	4,136
All other, including firewood.....	.....	365	.....	413	.....	329
Total wood.....	.....	107,998	.....	146,736	.....	69,110
Wood alcohol.....gallons..	718	750	703	1,244	412	455
Wood pulp.....long tons..	36	3,048	29	2,947	25	1,755
Total forest products.....	.....	150,324	.....	191,847	.....	84,602
Fruits:						
Fresh or dried—						
Apples, dried.....pounds..	24,704	4,110	8,828	1,509	19,962	2,207
Apples, fresh.....barrels..	1,712	14,471	1,798	14,089	1,936	13,982
Apricots, dried.....pounds..	37,144	8,505	9,881	2,582	21,575	4,110
Berries.....	.....	1,182	.....	792	.....	775
Lemons.....boxes..	307	1,372	293	1,188	304	1,296
Oranges.....do....	1,777	7,638	1,518	7,519	2,221	8,375
Peaches, dried.....pounds..	9,022	1,560	7,925	1,466	6,893	785
Pears, fresh.....	.....	1,765	.....	2,202	.....	1,781
Prunes.....pounds..	108,208	15,722	75,139	11,738	117,934	9,280
Raisins.....do....	110,183	13,089	53,312	9,505	32,969	5,517
Other—						
Dried.....	.....	2,557	.....	2,168	.....	1,150
Fresh.....	.....	4,713	.....	4,188	.....	3,997
Waste, cannery (pulp, cores, etc.).....pounds..	.....	.....	1,248	77	2,162	73
Total, fresh or dried.....	.....	76,684	.....	59,023	.....	53,328
Preserved—						
Canned—						
Peaches.....	.....	9,490	.....	6,342	.....	4,050
Other.....	.....	31,986	.....	15,172	.....	10,331
Other preserved.....	.....	4,518	.....	1,882	.....	617
Total preserved.....	.....	45,994	.....	23,390	.....	14,998
Total fruits.....	.....	122,678	.....	82,419	.....	68,326
Ginseng.....pounds..	308	3,339	160	1,875	182	1,507
Glucose and grape sugar:						
Glucose.....pounds..	220,381	13,169	144,760	8,994	227,662	6,100
Grape sugar.....do....	35,237	1,971	17,736	1,074	18,111	563
Grain and grain products:						
Grain—						
Barley.....bushels..	37,612	53,832	17,854	27,165	25,834	20,687
Buckwheat.....do....	186	307	300	543	429	544
Corn.....do....	11,193	18,624	17,761	26,454	128,974	92,767
Oats.....do....	55,294	46,435	12,878	12,338	3,224	1,610
Rye.....do....	32,898	61,786	57,070	122,240	29,812	44,215
Wheat.....do....	148,086	356,898	218,287	596,975	280,058	433,053
Total grain.....do....	285,269	537,882	324,150	785,715	468,331	592,876
Grain products—						
Bran and middlings...long tons..	5	233	3	163	12	257
Bread and biscuit.....pounds..	12,827	2,506	18,755	3,732	9,060	1,524
Cereal preparations, for table food.	.....	8,819	.....	7,189	.....	3,945
Distillers' and brewers' grains, ...long tons..	2	126	(1)	24	(1)	6
Malt.....bushels..	10,046	16,695	4,251	7,595	8,834	11,236

[1] Less than 500.

TABLE 515.—*Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921*—Continued.

Article exported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
VEGETABLE MATTER—continued.						
Grain and grain products—Continued.						
Grain products—Continued.						
Meal and flour—	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Barley flour.....barrels..	256	$2,572	(1)	(1)	.....	.....
Cornmeal.....do....	1,202	10,920	867	$7,478	803	$3,695
Oatmeal.....pounds..	220,967	11,999	65,921	3,891	98,839	3,745
Rye flour.....barrels..	1,266	12,425	364	3,638	56	374
Wheat flour.....do....	26,450	293,453	19,854	224,472	16,801	117,698
Total meal and flour.....	.....	331,369	.....	239,479	.....	125,512
Mill feed.....long tons..	12	784	10	580	16	576
Total grain products.....	.....	360,532	.....	258,762	.....	143,056
All other.....	.....	3,804	.....	4,754	.....	2,576
Total grain and grain products.....	.....	902,218	.....	1,049,231	.....	738,508
Hay.....long tons..	32	963	63	1,797	52	1,111
Hops.....pounds..	20,798	8,832	25,624	17,088	18,460	6,323
Liquors, alcoholic.....	.....	19,450	.....	24,471	.....	3,421
Nursery stock.....	.....	405	.....	405	.....	352
Nuts:						
Peanuts.....pounds..	19,778	2,123	9,366	1,115	14,493	953
Other.....	.....	1,462	.....	857	.....	878
Total nuts.....	.....	3,585	.....	1,972	.....	1,831
Oil cake and oil-cake meal:						
Corn.....pounds..	964	27	131	4	4,206	70
Cottonseed—						
Cake.....do....	394,626	12,919	314,018	8,818	423,382	7,858
Meal.....do....	233,507	7,262	26,028	731	162,207	2,993
Flaxseed or linseed—						
Cake.....do....	327,923	11,657	223,286	7,639	542,464	12,268
Meal.....do....	25,829	846	12,339	404	19,803	422
Other.....do....	104,379	3,330	13,761	416	54,422	878
Total oil cake and meal.....do....	1,087,228	36,041	589,563	18,012	1,206,484	24,489
Oils, vegetable:						
Fixed or expressed—						
Cocoa butter.....pounds..	[2] 7,320	[2] 3,032	5,377	1,949	2,855	756
Coconut.....do....	[2] 118,612	[2] 24,601	25,695	4,908	7,498	724
Corn.....do....	6,415	1,551	12,059	2,415	4,400	492
Cottonseed.....do....	193,133	40,890	184,754	34,875	252,549	24,362
Linseed.....gallons..	1,502	2,607	715	1,240	468	406
Peanut.....pounds..	[2] 4,342	[2] 1,043	1,425	291	1,708	183
Soya bean.....do....	[2] 27,715	[2] 6,098	43,512	9,412	1,944	177
Other.....	.....	18,507	.....	1,886	.....	568
Total, fixed or expressed.....	.....	98,329	.....	56,976	.....	27,668
Volatile or essential—						
Peppermint.....pounds..	98	654	62	457	105	265
Other.....	.....	1,367	.....	1,571	.....	532
Total volatile or essential.....	.....	2,021	.....	2,028	.....	797
Total vegetable oils.....	.....	100,350	.....	59,004	.....	28,465
Rice.....pounds..	376,876	34,776	392,613	37,469	600,059	20,727
Roots, herbs, and barks, n. e. s.....	.....	1,632	.....	1,466	.....	607

[1] Less than 500.

[2] July 1 to Dec. 31.

TABLE 515.—*Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921*—Continued.

Article exported.	Year ending Dec. 31—					
	1919		1920		1921	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
VEGETABLE MATTER—continued.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Seeds:						
Cotton.....pounds..	1,919	$89	5,270	$309	2,827	$109
Flaxseed or linseed.....bushels..	17	125	16	112	(1)	2
Grass and clover seed—						
Clover.....pounds..	7,944	3,206	4,986	1,928	5,735	1,146
Timothy.....do....	13,346	1,633	13,522	1,666	19,902	1,385
Other.....do....	4,440	717	4,252	813	5,171	844
Total grass and clover seed .....pounds..	25,730	5,556	22,760	4,407	30,808	3,375
All other seeds.....	.....	2,772	.....	2,187	.....	1,188
Total seeds.....	.....	8,542	.....	7,015	.....	4,674
Spices.....	.....	588	.....	516	.....	194
Starch:						
Corn starch.....pounds..	179,437	10,220	116,463	6,892	228,711	5,200
Other.....do....	89,704	5,342	31,480	2,054	29,085	801
Stearin, vegetable.....do....	4,159	767	1,810	352	2,355	230
Sugar, molasses, and sirup:						
Molasses.....gallons..	6,686	1,311	4,828	1,097	5,552	1,074
Sirup.....do....	16,732	10,299	6,595	4,164	5,945	1,624
Sugar, refined.....pounds..	1,475,408	114,737	924,192	94,877	933,792	48,827
Total sugar, molasses, and sirup.....	.....	126,347	.....	100,138	.....	51,525
Tobacco:						
Leaf.....pounds..	765,913	259,438	467,662	244,897	515,353	204,743
Stems and trimmings.....do....	10,765	547	12,238	635	7,403	390
Total tobacco.....do....	776,678	259,985	479,900	245,532	522,756	205,133
Vegetables:						
Fresh or dried—						
Beans.....bushels..	3,795	19,966	1,765	7,672	1,410	4,852
Onions.....do....	817	2,095	946	2,076	867	1,279
Peas, dried.....do....	476	2,665	296	1,416	125	531
Potatoes.....do....	3,642	6,475	4,154	10,200	3,500	4,720
Total fresh or dried.....do....	8,730	31,201	7,161	21,364	5,902	11,382
Prepared or preserved—						
Canned.....	.....	11,355	.....	6,340	.....	3,428
Pickles and sauces.....	.....	2,040	.....	2,273	.....	1,921
Total prepared or preserved.....	.....	13,395	.....	8,613	.....	5,349
All other vegetables.....	.....	3,237	.....	2,807	.....	2,721
Total vegetables.....	.....	47,833	.....	32,784	.....	19,452
Vinegar.....gallons..	469	136	291	113	186	59
Yeast.....	.....	1,100	.....	646	.....	690
Total vegetable matter, including forest products.....	.....	3,030,582	.....	3,050,820	.....	1,817,596
Total vegetable matter, excluding forest products.....	.....	2,880,258	.....	2,858,972	.....	1,732,994
Total agricultural exports, including forest products.....	.....	4,257,483	.....	3,658,467	.....	2,204,352
Total agricultural exports, excluding forest products.....	.....	4,107,159	.....	3,466,620	.....	2,119,750

[1] Less than 500.

TABLE 516.—*Value of principal groups of farm and forest products exported from and imported into the United States, 1919–1921.*

[Compiled from reports of Foreign Commerce and Navigation of the United States.]

Article.	Exports (domestic merchandise).			Imports.		
	Years ending December 31—			Years ending December 31—		
	1919	1920	1921	1919	1920	1921
FARM PRODUCTS.						
ANIMAL MATTER.	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Animals, live	$12,004	$18,333	$17,867	$58,037	$31,552	$9,081
Dairy products	146,477	80,817	44,146	12,863	30,337	20,480
Eggs, fresh, canned, etc	18,944	13,879	10,967	14,926	12,445	5,250
Feathers, crude	863	679	303	3,551	2,597	2,089
Packing house products	1,038,295	485,275	311,252	345,361	300,939	93,905
Silk				341,887	301,038	264,723
Wool	2,231	4,937	528	216,765	126,971	60,481
Other animal matter	8,087	3,728	1,693	1,913	4,641	2,014
Total animal matter	1,226,901	607,648	386,756	995,303	810,520	458,023
VEGETABLE MATTER.						
Argols or wine lees				4,287	4,465	1,177
Cocoa and chocolate	21,381	9,048	1,162	58,341	54,811	23,566
Coffee	8,817	9,804	5,896	261,270	252,451	142,809
Cotton	1,137,371	1,136,409	534,242	71,886	138,744	32,902
Fibers, vegetable, other				81,778	80,377	33,607
Fruits	122,678	82,419	68,326	38,315	56,564	44,386
Ginseng	3,339	1,875	1,507			
Glucose and grape sugar	15,140	10,068	6,663			
Grain and grain products	902,218	1,049,231	738,508	33,356	105,331	48,658
Hay	963	1,797	1,111	3,082	4,482	788
Hops	8,832	17,088	6,323	238	2,933	668
Indigo				692	787	287
Licorice root				3,865	3,455	2,516
Liquors, alcoholic	19,450	24,471	3,421	525	3,269	4,714
Nursery stock	405	405	352	4,421	5,080	5,221
Nuts	3,585	1,972	1,831	57,511	59,659	36,501
Oil cake and meal	36,041	18,012	24,489	2,371	4,415	1,755
Opium, crude				8,280	1,312	345
Oil, vegetable	100,350	59,004	28,465	130,000	113,489	41,524
Rice, including flour, meal, etc	34,776	37,469	20,727	12,242	14,086	3,252
Sago, tapioca, etc				5,208	5,929	1,772
Seeds	8,542	7,015	4,674	69,195	102,466	34,496
Spices	588	516	194	9,803	11,642	6,202
Starch	15,562	8,946	6,001	243	1,017	248
Sugar, molasses and sirup	126,347	100,138	51,525	398,458	1,022,282	237,378
Tea				20,146	24,392	14,234
Tobacco	259,985	245,532	205,133	75,145	81,630	54,172
Vanilla beans				2,407	2,406	1,380
Vegetables	47,833	32,784	19,452	40,646	40,422	15,950
Wax, vegetable				3,810	2,168	1,126
Other vegetable matter	6,055	4,969	2,992	55	787	111
Total vegetable matter	2,880,258	2,858,972	1,732,994	1,397,576	2,200,851	791,745
Total farm products	4,107,159	3,466,620	2,119,750	2,392,879	3,011,371	1,249,768
FOREST PRODUCTS.						
Cork wood or cork bark				1,803	2,725	960
Dyewoods and extracts of	1,356	2,605	590	798	2,427	820
Gums				251,944	300,204	98,160
Naval stores	31,434	34,503	11,449			
Tanning materials n. e. s	5,646	3,696	1,185	9,427	11,311	8,191
Wood	107,998	146,736	69,110	71,188	111,172	70,632
Wood pulp	3,048	2,947	1,755	37,048	89,418	39,396
Other forest products	842	1,360	513	2,248	4,081	1,241
Total forest products	150,324	191,847	84,602	374,456	521,338	219,400
Total farm and forest products	4,257,483	3,658,467	2,204,352	2,767,335	3,532,709	1,469,168

TABLE 517.—*Exports of selected domestic agricultural products, 1852–1921.*

[Compiled from reports of Foreign Commerce and Navigation of the United States. 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.]

Year ending June 30—	Cattle.	Cheese.	Packing-house products.							
			Beef, cured—salted or pickled.	Beef, fresh.	Beef oils—oleo oil.	Beef tallow.	Beef and its products—total, as far as ascertainable.[1]	Pork, cured—bacon.	Pork, cured—hams and shoulders.	Pork, cured—salted or pickled.
	Thousands.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Average:										
1852–1856	1	6,200	25,981	.....	.....	7,469	33,449	30,005	.....	40,543
1857–1861	20	13,906	26,986	.....	.....	13,215	40,200	30,583	.....	34,854
1862–1866	7	42,683	27,663	.....	.....	43,203	70,865	10,797	.....	52,551
1867–1871	.....	52,881	26,955	.....	.....	27,578	54,532	45,790	.....	28,879
1872–1876	46	87,174	35,827	.....	.....	78,994	114,821	313,402	.....	60,429
1877–1881	127	129,670	40,175	69,601	.....	96,823	218,710	643,634	.....	85,968
1882–1886	132	108,790	47,401	97,328	30,276	48,745	225,626	355,905	47,635	72,355
1887–1891	244	86,355	65,614	136,448	50,482	91,608	411,798	419,935	60,697	73,985
1892–1896	349	66,906	64,899	207,373	102,039	56,977	507,177	438,848	96,107	64,827
1897–1901	415	46,109	52,242	305,626	139,373	86,082	637,268	536,287	200,853	112,788
1902–1906	508	19,244	59,208	272,148	156,925	59,893	622,843	292,722	206,902	116,823
1907–1911	254	9,152	46,187	144,800	170,530	66,356	448,024	209,005	189,603	90,810
1912–1916	35	22,224	31,440	86,135	99,892	24,476	281,576	306,012	203,076	52,946
1901	459	39,814	55,313	351,748	161,651	77,167	705,105	456,123	216,572	138,644
1902	393	27,203	48,633	301,824	138,546	34,066	596,255	383,151	227,653	115,896
1903	402	18,987	52,801	254,796	126,010	27,369	546,055	207,336	214,183	95,287
1904	593	23,335	57,585	299,580	165,184	76,924	663,147	249,666	194,949	112,225
1905	568	10,134	55,935	236,487	145,228	63,537	575,875	262,247	203,459	118,887
1906	584	16,562	81,088	268,054	209,658	97,567	732,885	361,211	194,211	141,821
1907	423	17,285	62,645	281,652	195,337	127,858	689,752	250,419	209,481	166,427
1908	349	8,439	46,958	201,154	212,541	91,398	579,303	241,190	221,770	149,506
1909	208	6,823	44,494	122,953	179,985	53,333	418,844	244,579	212,170	52,355
1910	139	2,847	36,554	75,730	126,092	29,380	286,296	152,163	146,885	40,032
1911	150	10,367	40,284	42,511	138,697	29,813	265,924	156,675	157,709	45,729
1912	106	6,338	38,088	15,264	126,467	39,451	233,925	208,574	204,044	56,321
1913	25	2,599	25,857	7,362	92,850	30,586	170,208	200,994	159,545	53,749
1914	18	2,428	23,266	6,394	97,017	15,813	151,212	193,964	165,882	45,543
1915	5	55,363	31,875	170,441	80,482	20,240	394,981	346,718	203,701	45,656
1916	21	44,394	38,115	231,214	102,646	16,289	457,556	579,809	282,209	63,461
1917	13	66,050	58,054	197,177	67,110	15,209	423,674	667,152	266,657	46,993
1918	18	44,303	54,468	370,033	56,603	5,015	600,132	815,294	419,572	33,222
Calendar year:										
1918	17	48,405	44,206	514,342	69,106	4,223	792,793	1,104,788	537,213	36,672
1919	70	14,160	42,805	174,427	75,585	38,954	429,432	1,190,297	596,796	34,114
1920	85	16,292	25,771	89,649	74,368	20,692	268,317	636,676	185,247	38,709
1921	197	11,772	24,591	10,341	127,978	13,798	218,810	415,356	232,324	32,843

[1] Includes canned, cured, and fresh beef, oleo oil, oleomargarine, tallow, and stearin from animal fats.

TABLE 517.—*Exports of selected domestic agricultural products, 1852–1921*—Continued.

Year ending June 30—	Packing-house products.			Apples, fresh.	Corn and corn meal (in terms of grain).	Cotton.	Glucose and grape sugar.	Corn-oil cake and oil-cake meal.	Cotton-seed oil-cake and oil-cake meal.
	Pork—lard.	Pork and its products—total, as far as ascertainable.[1]	Lard compounds.						
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 barrels.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Average:									
1852–1856	33,355	103,903	.....	37	7,123	1,110,498	.....	.....	.....
1857–1861	37,966	103,404	.....	57	6,558	1,125,715	.....	.....	.....
1862–1866	89,138	252,486	.....	119	12,060	137,582	.....	.....	.....
1867–1871	53,579	128,249	.....	.....	9,924	902,410	.....	.....	.....
1872–1876	194,198	568,029	.....	133	38,561	1,248,805	.....	.....	.....
1877–1881	331,458	1,075,793	.....	510	88,190	1,738,892	.....	.....	.....
1882–1886	263,425	739,456	.....	402	49,992	1,968,178	4,474	.....	.....
1887–1891	381,389	936,248	.....	523	54,606	2,439,650	27,686	.....	.....
1892–1896	451,547	1,052,134	.....	521	63,980	2,736,655	125,574	.....	.....
1897–1901	652,418	1,528,139	21,792	780	192,531	3,447,910	209,280	.....	1,005,100
1902–1906	592,131	1,242,137	52,954	1,369	74,615	3,632,268	154,867	21,888	1,066,790
1907–1911	519,746	1,028,997	75,765	1,226	56,568	4,004,770	145,065	61,733	989,738
1912–1916	487,056	1,109,488	62,221	1,786	38,774	4,469,202	183,141	54,361	1,151,609
1901	611,358	1,462,370	23,360	884	181,405	3,359,062	204,210	12,703	1,258,687
1902	556,840	1,337,316	36,202	460	28,029	3,528,975	130,420	14,740	1,050,466
1903	490,756	1,042,120	46,130	1,656	76,639	3,569,142	126,240	8,093	1,100,393
1904	561,303	1,146,255	53,604	2,018	58,222	3,089,856	152,769	14,015	820,349
1905	610,239	1,220,032	61,215	1,500	90,293	4,339,322	175,251	24,171	1,251,908
1906	741,517	1,464,960	67,621	1,209	119,894	3,634,045	189,656	48,421	1,110,835
1907	627,560	1,268,065	80,149	1,539	86,368	4,518,217	151,629	56,809	1,340,967
1908	603,414	1,237,211	75,183	1,050	55,064	3,816,999	129,687	66,128	929,287
1909	528,723	1,053,142	75,183	896	37,665	4,447,985	112,225	53,234	1,233,750
1910	362,928	707,110	74,557	922	38,128	3,206,708	149,820	49,109	640,089
1911	476,108	879,455	73,754	1,721	65,615	4,033,941	181,963	83,385	804,597
1912	532,256	1,071,952	62,523	1,456	41,797	5,535,125	171,156	72,490	1,293,690
1913	519,025	984,697	67,457	2,150	50,780	4,562,296	200,149	76,263	1,128,092
1914	481,458	921,913	58,304	1,507	10,726	4,760,941	199,531	59,031	799,974
1915	475,532	1,106,180	69,981	2,352	50,668	4,403,578	158,463	45,026	1,479,065
1916	427,011	1,462,697	52,843	1,466	39,897	3,084,070	186,406	18,996	1,057,222
1917	444,770	1,501,948	56,359	1,740	66,753	3,088,081	214,973	15,758	1,150,160
1918	392,506	1,692,124	31,278	635	49,073	2,320,512	97,858	458	44,681
Calendar year:									
1918	548,818	2,251,033	43,977	580	47,059	2,118,175	57,332	69	11,667
1919	760,902	2,638,721	124,963	1,712	16,002	3,367,678	255,618	964	628,133
1920	612,250	1,536,894	32,051	1,798	21,230	3,179,313	162,496	131	340,046
1921	868,942	1,631,238	48,207	1,936	132,186	3,339,113	245,773	4,206	585,589

[1] Includes canned, fresh, salted or pickled pork, lard, neutral lard, lard oil, bacon, and hams.

TABLE 517.—*Exports of selected domestic agricultural products, 1852–1921*—Continued.

Year ending June 30—	Prunes.	Tobacco.	Hops.	Oils, vegetable—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 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 gallons.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 bushels.*	*1,000 barrels.*	*1,000 bushels.*
Average:									
1852–1856	.....	140,184	1,163	.....	56,515	7,730	4,715	2,892	19,173
1857–1861	.....	167,711	2,216	.....	65,732	6,015	12,378	3,318	28,970
1862–1866	.....	140,208	4,719	.....	2,258	3,008	22,530	3,531	40,184
1867–1871	.....	194,754	6,487	.....	1,857	4,357	22,107	2,585	35,032
1872–1876	.....	241,848	3,446	547	391	20,142	48,958	3,416	66,037
1877–1881	.....	266,315	10,446	4,498	602	41,718	107,781	5,376	133,263
1882–1886	.....	237,942	9,584	3,468	561	107,130	82,884	8,620	121,675
1887–1891	.....	259,248	7,184	7,121	3,210	75,074	64,739	11,287	115,529
1892–1896	.....	281,746	15,147	15,783	10,278	13,999	99,914	15,713	170,624
1897–1901	.....	304,402	15,467	42,863	18,407	11,214	120,247	17,151	197,427
1902–1906	48,551	325,539	11,476	38,606	45,978	14,807	70,527	15,444	140,026
1907–1911	47,039	334,396	14,774	38,784	27,195	61,430	62,855	11,841	116,138
1912–1916	72,599	408,006	18,533	39,801	60,043	470,729	129,415	13,185	188,748
1901	10,022	315,788	14,964	49,357	25,528	8,875	132,061	18,651	215,990
1902	23,359	301,007	10,715	33,043	29,591	7,572	154,856	17,759	234,773
1903	66,385	368,184	7,795	35,643	19,750	10,520	114,181	19,716	202,906
1904	73,146	311,972	10,986	29,014	29,122	15,419	44,230	16,999	120,728
1905	54,994	334,302	14,859	51,536	113,283	18,348	4,394	8,826	44,113
1906	24,870	312,227	13,027	43,794	38,142	22,176	34,973	13,919	97,609
1907	44,400	340,743	16,810	41,880	30,174	21,238	76,569	15,585	146,700
1908	28,148	330,813	22,920	41,020	28,444	25,511	100,371	13,927	163,044
1909	22,602	287,901	10,447	51,087	20,511	79,946	66,923	10,521	114,268
1910	89,015	357,196	10,589	29,861	26,779	125,507	46,680	9,041	87,364
1911	51,031	355,327	13,105	30,069	30,063	54,947	23,729	10,129	69,312
1912	74,328	379,845	12,191	53,263	39,447	79,594	30,160	11,006	79,689
1913	117,951	418,797	17,591	42,031	38,908	43,995	91,603	11,395	142,880
1914	69,814	449,750	24,263	25,728	22,414	50,896	92,394	11,821	145,590
1915	43,479	348,346	16,210	42,449	77,480	549,007	259,643	16,183	332,465
1916	57,423	443,293	22,410	35,535	121,967	1,630,151	173,274	15,521	243,117
1917	59,645	411,599	4,825	21,188	181,372	1,248,908	149,831	11,943	203,574
1918	32,927	289,171	3,495	13,437	196,363	576,483	34,119	21,880	132,579
Calendar year:									
1918	22,888	406,827	3,670	15,876	167,933	407,296	111,177	21,707	208,857
1919	108,208	776,678	20,798	25,751	376,876	1,475,408	148,086	26,450	267,111
1920	75,139	479,900	25,624	24,634	392,613	924,192	218,287	19,854	307,630
1921	117,934	522,756	18,460	33,673	600,059	933,792	280,058	16,801	355,662

TABLE 518.—*Imports of selected agricultural products, 1852–1921.*

[Compiled from reports of Foreign Commerce and Navigation of the United States. 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 goat" in 1895–1897. Olive oil for table use includes in 1862–1864 and 1885–1905 all olive oil. Sisal grass includes in 1884–1890 "Other vegetable substances." Hemp includes in 1885–1888 all substitutes for hemp.]

Year ending June 30—	Cheese.	Silk.	Wool.	Almonds.	Argols or wine lees.	Cocoa and chocolate, total.	Coffee.	Corn.	Oats, including oatmeal.	Wheat.
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Average:										
1852–1856	1,054	.....	19,067	3,461	.....	2,487	196,583	.....	.....	2,122
1857–1861	1,378	.....	.....	3,251	.....	3,064	216,235	.....	.....	2,617
1862–1866	.....	.....	.....	2,482	1,355	2,453	124,552	.....	.....	.....
1867–1871	.....	682	.....	.....	2,361	3,503	248,726	75	.....	1,296
1872–1876	.....	1,095	.....	.....	4,951	4,857	307,007	57	[1] 515	1,308
1877–1881	.....	1,922	62,744	.....	12,403	6,315	384,282	42	[1] 126	871
1882–1886	.....	4,673	83,294	.....	17,552	11,568	529,579	24	.....	507
1887–1891	8,335	6,564	117,764	5,861	21,434	18,322	509,368	15	118	339
1892–1896	9,650	8,383	162,640	7,488	26,470	25,475	597,484	8	105	1,629
1897–1901	12,589	10,962	163,979	7,361	24,380	38,209	816,570	4	54	1,274
1902–1906	22,166	17,188	193,656	10,921	27,647	70,901	980,119	20	94	873
1907–1911	37,663	22,143	199,563	15,297	29,351	113,673	934,533	92	[1] 1,650	286
1912–1916	47,988	33,242	295,851	17,130	29,256	182,395	1,013,931	5,686	[1] 5,383	2,321
1901	15,329	10,406	103,584	5,140	28,599	47,620	854,871	5	32	600
1902	17,068	14,235	166,577	9,869	29,276	52,879	1,091,004	18	39	119
1903	20,671	15,271	177,138	8,142	29,967	65,047	915,086	41	150	1,077
1904	22,707	16,723	173,743	9,839	24,572	75,071	995,043	17	184	7
1905	23,096	22,357	249,136	11,745	26,282	77,383	1,047,793	15	56	3,103
1906	27,287	17,352	201,689	15,009	28,141	84,127	851,669	10	40	58
1907	33,849	18,744	203,848	14,234	30,541	97,060	985,321	11	91	375
1908	32,531	16,662	125,981	17,145	26,739	86,605	890,640	20	383	342
1909	35,548	25,188	266,409	11,029	32,116	132,661	1,049,869	258	6,692	41
1910	40,818	23,457	263,928	18,556	28,183	111,071	871,470	118	[1] 1,035	164
1911	45,569	26,666	137,648	15,523	29,175	140,971	875,367	52	[1] 107	509
1912	46,542	26,585	193,401	17,231	23,661	148,786	885,201	53	[1] 2,622	2,699
1913	49,388	32,102	195,293	15,671	29,479	143,510	863,131	903	[1] 724	798
1914	63,784	34,546	247,649	19,038	29,793	179,364	1,001,528	12,367	[1] 22,274	1,979
1915	50,139	31,053	308,083	17,111	28,625	194,734	1,118,691	9,898	[1] 631	426
1916	30,088	41,925	534,828	16,597	34,721	245,579	1,201,104	5,208	[1] 665	5,703
1917	14,482	40,351	372,372	23,424	23,926	340,483	1,319,871	2,267	[1] 762	24,139
1918	9,839	43,681	379,130	23,840	30,267	399,312	1,143,891	3,196	[1] 2,591	28,177
Calendar year:										
1918	7,562	48,721	453,727	27,694	27,687	360,015	1,052,202	1,990	[1] 1,444	17,036
1919	11,332	55,522	445,893	35,490	25,736	392,365	1,333,564	11,213	[1] 609	7,911
1920	15,994	39,660	259,618	24,854	35,577	344,986	1,297,439	7,784	[1] 6,728	35,809
1921	26,866	52,332	320,666	25,276	16,088	306,568	1,340,980	164	3,565	23,286

Year ending June 30—	Wheat flour.	Wheat, including wheat flour.	Flaxseed.	Unmanufactured tobacco.	Flax.	Hemp.	Hops.	Jute and jute butts.	Licorice root.
	1,000 barrels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 long tons.*	*1,000 long tons.*	*1,000 pounds.*	*1,000 long tons.*	*1,000 pounds.*
Average:									
1852–1856	411	4,178	1,133	5,044	1	2	.....	3	.....
1857–1861	.....	2,617	.....	5,154	.....	3	.....	17	1,373
1862–1866	.....	.....	1,037	.....	.....	.....	.....	3	1,888
1867–1871	104	1,818	.....	5,631	.....	.....	.....	15	.....
1872–1876	74	1,680	2,915	8,886	4	23	.....	49	.....
1877–1881	7	906	1,224	7,871	4	22	.....	62	.....
1882–1886	2	517	1,541	13,672	6	31	1,619	91	.....
1887–1891	3	352	1,833	21,640	7	37	7,772	105	59,275
1892–1896	1	1,634	1,181	25,871	7	5	2,386	84	86,445
1897–1901	1	1,280	404	16,958	7	4	2,382	94	87,476
1902–1906	27	993	234	33,805	9	5	5,206	102	99,543
1907–1911	93	706	3,249	42,813	10	6	6,770	100	96,111
1912–1916	150	2,996	9,227	55,556	9	7	5,839	105	80,459

[1] Does not include oatmeal.

TABLE 518.—*Imports of selected agricultural products, 1852–1921*—Continued.

Year ending June 30—	Wheat flour.	Wheat, including wheat flour.	Flaxseed.	Unmanufactured tobacco.	Flax.	Hemp.	Hops.	Jute and jute butts.	Licorice root.
	1,000 barrels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 long tons.*	*1,000 long tons.*	*1,000 pounds.*	*1,000 long tons.*	*1,000 pounds.*
1901	1	603	1,632	26,851	7	4	2,607	103	100,106
1902	(1)	121	477	29,429	8	6	2,805	129	109,077
1903	1	1,080	129	34,017	8	5	6,013	80	88,581
1904	47	218	213	31,163	10	6	2,758	97	89,463
1905	41	3,286	296	33,288	8	4	4,339	98	108,444
1906	45	262	52	41,126	9	5	10,114	104	102,152
1907	48	590	90	40,899	9	9	6,212	104	66,116
1908	40	520	57	35,005	10	6	8,493	108	109,356
1909	92	457	594	43,123	10	5	7,387	157	97,743
1910	145	816	5,002	46,853	13	6	3,201	68	82,207
1911	142	1,147	10,499	48,203	8	5	8,558	65	125,135
1912	159	3,414	6,842	54,740	11	5	2,991	101	74,582
1913	108	1,282	5,294	67,977	12	8	8,494	125	105,116
1914	90	2,384	8,653	61,175	10	9	5,382	106	115,636
1915	64	715	10,666	45,809	5	5	11,651	83	65,959
1916	330	7,188	14,679	48,078	7	7	676	108	41,003
1917	175	24,925	12,394	49,105	8	10	237	113	59,400
1918	675	31,215	13,367	86,991	6	7	121	78	26,983
Calendar year:									
1918	167	17,788	12,974	90,977	8	4	77	71	27,100
1919	17	7,986	14,036	85,986	4	2	467	62	49,892
1920	801	39,412	24,641	82,222	7	8	5,949	96	56,226
1921	966	27,633	12,326	52,994	4	7	1,629	62	53,550

Year ending June 30—	Manila.	Molasses.	Olive oil, for table use.	Opium, crude.	Potatoes.	Rice and rice flour, rice meal, and broken rice.	Sisal grass.	Sugar, raw and refined.	Tea.
	1,000 long tons.	*1,000 gallons.*	*1,000 gallons.*	*1,000 pounds.*	*1,000 bushels.*	*1,000 pounds.*	*1,000 long tons.*	*1,000 pounds.*	*1,000 pounds.*
Average:									
1852–1856	12	28,489	.....	110	407	.....	.....	479,374	24,960
1857–1861	.....	30,191	.....	114	.....	.....	.....	691,324	28,150
1862–1866	16	34,263	178	129	252	70,893	1	672,637	30,869
1867–1871	.....	53,322	153	209	216	52,954	.....	1,138,465	44,053
1872–1876	.....	44,815	175	365	255	72,536	.....	1,614,055	62,436
1877–1881	.....	32,639	219	408	1,850	62,615	.....	1,760,508	67,583
1882–1886	.....	35,020	.....	392	2,835	99,871	.....	2,458,490	74,781
1887–1891	.....	30,543	758	475	3,879	156,859	40	3,003,284	84,275
1892–1896	47	15,475	774	529	1,805	160,808	50	3,827,799	92,782
1897–1901	47	6,321	909	568	495	165,232	70	3,916,434	86,809
1902–1906	61	17,192	1,783	538	2,662	150,914	97	3,721,782	98,678
1907–1911	67	24,147	3,897	490	1,907	215,892	102	3,997,156	96,743
1912–1916	64	54,144	6,042	399	3,638	250,775	180	4,993,125	98,841
1901	44	11,453	983	583	372	117,200	70	3,975,006	89,806
1902	56	14,391	1,339	534	7,656	157,659	90	3,031,916	75,579
1903	62	17,240	1,494	517	359	169,656	87	4,216,108	108,575
1904	66	18,829	1,714	573	3,167	154,222	109	3,700,624	112,906
1905	62	19,478	1,923	585	181	106,484	100	3,680,933	102,707
1906	59	16,021	2,447	469	1,948	166,548	98	3,979,331	93,622
1907	55	24,631	3,450	565	177	209,603	99	4,391,840	86,368
1908	52	18,883	3,799	286	404	212,783	104	3,371,997	94,150
1909	62	22,093	4,129	517	8,384	222,900	91	4,189,421	114,917
1910	93	31,292	3,702	449	353	225,401	100	4,094,546	85,626
1911	74	23,838	4,406	630	219	208,775	118	3,937,978	102,564
1912	69	28,828	4,837	400	13,735	190,063	114	4,104,618	101,407
1913	74	33,927	5,221	508	327	222,104	154	4,740,041	94,813
1914	50	51,410	6,218	455	3,646	300,195	216	5,066,822	91,131
1915	51	70,840	6,711	484	271	277,191	186	5,420,982	96,988
1916	79	85,717	7,224	147	210	264,324	229	5,633,162	109,866
1917	77	110,238	7,533	87	3,079	216,049	143	5,332,746	103,364
1918	86	130,731	2,538	158	1,180	456,059	150	4,903,327	151,315
Calendar year:									
1918	79	141,339	171	160	1,201	558,048	152	5,170,976	134,418
1919	69	120,156	9,024	730	5,544	174,596	145	7,023,620	80,963
1920	67	160,208	4,079	211	6,062	142,951	181	8,073,760	90,247
1921	32	78,110	6,628	102	2,018	83,893	116	5,969,406	76,487

[1] Less than 500.

TABLE 518.—*Imports of selected agricultural products, 1852–1921*—Continued.

Year ending June 30—	Beeswax.	Onions.	Plums and prunes.	Raisins.	Currants.	Dates.	Figs.
	1,000 pounds.	*1,000 bushels.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Average:							
1887–1891	129	.....	60,238	38,546	.....	.....	9,784
1892–1896	280	.....	12,406	17,746	34,398	14,914	10,117
1897–1901	265	628	561	7,670	27,520	15,654	8,920
1902–1906	457	924	564	7,345	35,457	25,649	14,335
1907–1911	846	1,103	.....	5,283	35,259	26,059	19,848
1912–1916	1,406	997	.....	2,845	30,350	29,922	16,564
1901	214	774	746	3,861	16,049	20,014	9,934
1902	409	796	522	6,684	36,239	21,681	11,087
1903	489	926	634	6,716	33,878	43,815	16,482
1904	425	1,171	494	6,868	38,348	21,058	13,178
1905	374	856	672	4,042	31,743	19,257	13,364
1906	588	873	497	12,415	37,078	22,436	17,562
1907	917	1,126	323	3,967	38,393	31,271	24,346
1908	672	1,275	335	9,132	38,653	24,058	18,837
1909	765	575	296	5,794	32,482	21,869	15,236
1910	972	1,024	.....	5,043	33,326	22,694	17,362
1911	903	1,515	.....	2,479	33,440	29,505	23,460
1912	1,077	1,436	.....	3,256	33,151	25,208	18,765
1913	829	789	.....	2,580	30,844	34,305	16,838
1914	1,412	1,115	.....	4,555	32,033	34,074	19,285
1915	1,565	829	.....	2,809	30,351	24,949	20,780
1916	2,146	816	.....	1,024	25,373	31,075	7,153
1917	2,686	1,758	.....	1,850	10,477	25,485	16,480
1918	1,827	1,313	.....	844	5,168	5,573	10,473
Calendar year:							
1918	1,558	261	.....	100	5,091	10,721	11,775
1919	2,384	741	.....	1,567	14,852	36,921	25,359
1920	4,143	1,819	.....	46,039	55,832	32,347	31,437
1921	2,493	1,976	.....	17,015	57,037	48,504	38,706

Year ending June 30—	Hides and skins, other than furs.			Macaroni, vermicelli, and all similar preparations.	Lemons.	Oranges.	Walnuts.
	Cattle.	Goat.	Other than cattle and goat.				
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
Average:							
1897–1901	.....	68,053	91,173	.....	.....	.....	.....
1902–1906	126,995	93,675	115,952	.....	153,161	41,105	.....
1907–1911	178,682	94,330	143,351	99,724	153,343	12,344	30,981
1912–1916	313,508	88,711	188,388	83,838	[1] 148,528	[1] 9,941	34,275
1901	129,175	73,746	77,990	.....	148,515	50,333	.....
1902	148,628	88,039	89,458	.....	164,075	52,742	.....
1903	131,644	85,114	102,340	28,788	152,004	56,872	12,363
1904	85,370	86,339	103,025	40,224	171,923	35,893	23,671
1905	113,177	97,804	126,894	53,441	139,084	28,881	21,684
1906	156,155	111,097	158,045	77,926	138,717	31,134	24,917
1907	134,671	101,202	135,111	87,721	157,860	21,267	32,598
1908	98,353	63,641	120,771	97,234	178,490	18,397	28,887
1909	102,252	104,048	148,254	85,114	135,184	8,436	26,158
1910	318,004	115,845	174,771	113,773	160,215	4,676	33,641
1911	150,128	86,914	137,850	114,779	134,969	7,672	33,619
1912	251,013	95,341	191,415	108,231	145,639	7,629	37,214
1913	268,042	96,250	207,904	106,501	151,416	12,253	26,662
1914	279,963	84,759	196,348	126,129	.....	.....	37,196
1915	334,341	66,547	137,439	56,542	.....	.....	33,446
1916	434,178	100,657	208,835	21,790	.....	.....	36,859
1917	386,600	105,640	207,967	3,473	.....	.....	38,725
1918	267,500	66,933	98,084	670	.....	.....	23,289
Calendar year:							
1918	221,051	62,364	78,476	402	.....	.....	13,011
1919	407,282	133,657	203,897	903	.....	.....	31,496
1920	275,324	80,204	154,711	805	.....	.....	31,891
1921	180,186	63,127	104,736	1,587	.....	.....	46,745

[1] Two years, 1912–13.

TABLE 519.—*Exports and imports of selected forest products, 1852–1921.*

[Compiled from reports of Foreign Commerce and Navigation of the United States. Where figures are lacking, either there were no exports or imports, or they were not separately classified for publication.]

Year ending June 30—	Domestic exports.					Imports.					
	Lumber.							Lumber.			
	Boards, deals, and planks.[1]	Staves.	Rosin.	Spirits of turpentine.	Timber, hewn and sawed.	Camphor, crude.	Rubber gums, total.	Boards, deals, planks, and other sawed.	Shingles.	Shellac.	Wood pulp.
	1,000 M feet.	*1,000 number.*	*1,000 barrels.*	*1,000 gallons.*	*1,000 M feet.*	*1,000 pounds*	*1,000 pounds.*	*1,000 M feet.*	*1,000 M.*	*1,000 pounds.*	*1,000 long tons.*
Average:											
1851–1856	129	.....	552	1,369	.....	214	.....	.....	.....	.....	.....
1857–1861	205	.....	664	2,735	.....	361	.....	.....	.....	.....	.....
1862–1866	138	.....	69	102	.....	387	.....	.....	.....	634	.....
1867–1871	139	.....	492	2,693	.....	.....	[2] 7,390	.....	.....	.....	.....
1872–1876	222	.....	846	.....	210	.....	12,631	565	88	.....	.....
1877–1881	303	.....	.....	7,139	220	1,516	15,611	418	55	.....	.....
1882–1886	434	.....	1,290	9,302	164	1,959	24,481	578	88	.....	.....
1887–1891	532	.....	1,534	10,794	296	2,274	33,227	647	184	5,086	37
1892–1896	616	.....	2,006	14,259	336	1,492	39,672	661	.....	5,848	43
1897–1901	957	.....	2,478	18,349	491	1,858	52,975	566	.....	8,839	47
1902–1906	212	51,234	2,453	16,927	556	2,139	75,909	727	772	11,614	121
1907–1911	1,649	56,182	2,356	16,659	521	2,939	121,504	900	867	19,046	319
1912–1916	1,914	65,431	2,128	15,674	353	3,529	201,759	1,016	1,045	21,470	517
1901	1,102	47,363	2,821	20,241	590	2,176	64,927	491	556	9,609	47
1902	943	46,999	2,536	19,178	477	1,831	67,790	666	708	9,065	67
1903	1,066	55,879	2,396	16,379	570	2,472	69,312	721	724	11,591	117
1904	1,427	47,420	2,585	17,203	604	2,820	74,328	589	770	10,933	145
1905	1,283	48,286	2,310	15,895	533	1,904	87,004	711	759	10,701	168
1906	1,344	57,586	2,439	15,981	595	1,669	81,109	950	901	15,780	157
1907	1,624	51,120	2,561	15,855	640	3,138	106,748	934	881	17,786	213
1908	1,548	61,697	2,713	19,533	522	2,814	85,810	791	988	13,362	238
1909	1,358	52,583	2,170	17,502	419	1,990	114,599	846	1,058	19,185	274
1910	1,684	49,784	2,144	15,588	491	3,007	154,621	1,054	763	29,402	378
1911	2,032	65,726	2,190	14,818	532	3,726	145,744	872	643	15,495	492
1912	2,307	64,163	2,474	19,599	438	2,155	175,966	905	515	18,746	478
1913	2,550	89,006	2,806	21,094	512	3,709	170,747	1,091	560	21,912	503
1914	2,405	77,151	2,418	18,901	441	3,477	161,777	929	895	16,720	508
1915	1,129	39,297	1,372	9,464	174	3,729	196,122	939	1,487	24,153	588
1916	1,177	57,538	1,571	9,310	201	4,574	304,183	1,218	1,769	25,818	507
1917	1,042	61,469	1,639	8,842	184	6,885	364,914	1,175	1,924	32,540	699
1918	1,068	63,207	1,071	5,095	106	3,638	414,984	1,283	1,878	22,913	504
Calendar year:											
1918	1,024	53,374	779	3,717	75	3,474	340,023	1,209	1,798	18,664	516
1919	1,311	81,658	1,210	10,672	183	2,694	565,931	1,149	1,987	24,426	568
1920	1,551	82,584	1,164	9,458	171	3,833	590,464	1,351	1,964	28,587	809
1921	1,205	34,691	1,002	9,268	135	1,079	423,349	839	2,164	27,841	622

[1] Including "Joists and scantling" prior to 1884.
[2] Includes "Gutta-percha" only for 1867.

TABLE 520.—*Trade of the United States with Hawaii and Porto Rico in selected domestic farm products, 1919–1921.*

[These shipments are not included in the domestic exports from or imports into the United States.]

SHIPMENTS FROM THE UNITED STATES.

Article.	Hawaii.			Porto Rico.		
	Year ending December 31—					
	1919	1920	1921	1919	1920	1921
Beans and dried peas.bushels..	10, 558	17, 142	22, 968	363, 738	495, 385	470, 685
Dairy products.....pounds..	5, 054, 231	6, 045, 552	6, 745, 905	5, 392, 805	9, 272, 439	7, 168, 816
Rice.....do....	15, 575, 417	17, 192, 467	32, 803, 035	163, 949, 679	153, 820, 633	173, 650, 845
Sugar, refined.....do....	1, 102, 075	2, 920, 531	9, 723, 524	806, 282	3, 862, 458	6, 842, 370
Tobacco, unmanufactured .....pounds..	.....	.....	.....	803, 638	7, 391, 691	906, 341

SHIPMENTS TO THE UNITED STATES.

Coffee.....pounds..	3, 144, 351	1, 885, 703	4, 183, 046	667, 318	418, 127	211, 531
Grapefruit.....boxes..	.....	.....	.....	401, 174	412, 644	661, 582
Molasses and sirup...gallons..	9, 882, 567	12, 126, 132	6, 789, 942	15, 554, 493	20, 770, 640	16, 833, 247
Oranges.....boxes..	.....	.....	.....	355, 226	256, 387	222, 591
Sugar, raw.....pounds..	1, 158, 904, 433	1, 099, 627, 131	1, 082, 256, 326	728, 391, 059	826, 108, 162	938, 592, 051
Tobacco, unmanufactured .....pounds..	17, 032	.....	5, 640	18, 467, 967	17, 990, 512	15, 299, 358

TABLE 521.—*Destination of principal farm products exported from the United States, 1919–1921.*

Article and country to which consigned.	Quantity.			Per cent of total.		
	Year ending Dec. 31—			Year ending Dec. 31—		
	1919	1920	1921	1919	1920	1921
ANIMAL MATTER.						
Cattle:	*Number.*	*Number.*	*Number.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	9, 067	29, 300	2, 013	13. 0	34. 3	1. 0
Canada	11, 192	4, 624	7, 823	16. 0	5. 4	4. 0
Cuba	13, 943	20, 766	15, 182	20. 0	24. 3	7. 7
Germany	.....	.....	1, 485	.....	.....	.8
Mexico	23, 923	27, 758	138, 239	34. 2	32. 5	70. 3
United Kingdom	.....	100	31, 324	.....	.1	15. 9
Other countries	11, 734	2, 754	467	16. 8	3. 4	.3
Total	69, 859	85, 302	196, 533	100. 0	100. 0	100. 0
Horses:						
Belgium	1, 069	103	72	5. 4	.7	.4
Canada	9, 848	7, 062	3, 785	50. 0	49. 2	21. 9
Cuba	737	2, 200	939	3. 7	15. 3	5. 4
Germany	38	188	579	.2	1. 3	3. 3
Mexico	5, 438	3, 285	10, 330	27. 6	22. 9	59. 6
Spain	.....	.....	548	.....	.....	3. 2
United Kingdom	98	356	346	.5	2. 5	2. 0
Other countries	2, 463	1, 144	722	12. 6	8. 1	4. 2
Total	19, 691	14, 338	17, 321	100. 0	100. 0	100. 0
Butter:	*Pounds.*	*Pounds.*	*Pounds.*			
Belgium	2, 856, 293	5, 214, 778	.....	8. 3	29. 8	.....
British Guiana	197, 588	505, 574	314, 340	.6	2. 9	3. 9
Canada	274, 893	855, 150	1, 907, 184	.8	4. 9	23. 8
Central American States and British Honduras	666, 713	861, 781	1, 034, 089	1. 9	4. 9	12. 9
China	90, 905	70, 311	199, 994	.3	.4	2. 5
Mexico	429, 608	798, 596	1, 121, 874	1. 2	4. 6	14. 0
Philippine Islands	255, 070	328, 831	256, 349	.7	1. 9	3. 2

TABLE 521.—*Destination of principal farm products exported from the United States, 1919–1921*—Continued.

Article and country to which consigned.	Quantity. Year ending Dec. 31— 1919	1920	1921	Per cent of total. Year ending Dec. 31— 1919	1920	1921
ANIMAL MATTER—continued.						
Butter—Continued.	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
United Kingdom	21,817,613	3,898,845	65,168	63.1	22.3	.8
Venezuela	35,563	25,170	9,655	.1	.1	.1
West Indies and Bermuda	2,249,201	2,878,808	2,784,961	6.5	16.5	34.8
Other countries	5,683,038	2,049,891	321,123	16.5	11.7	4.0
Total	34,556,485	17,487,735	8,014,737	100.0	100.0	100.0
Beef, canned:						
Canada	352,721	358,151	258,191	.7	1.5	4.3
Danzig and Poland	.....	16,722,800	98	.....	70.4	(1)
Germany	2,128,219	144,133	802,875	4.0	.6	13.2
Mexico	114,993	162,091	281,612	.2	.7	4.6
United Kingdom	13,947,951	1,795,554	3,711,787	25.9	7.6	61.1
Other countries	37,323,443	4,583,271	1,022,685	69.2	19.2	16.8
Total	53,867,327	23,766,000	6,077,248	100.0	100.0	100.0
Beef, fresh:						
Belgium	23,469,602	35,205,492	4,897,473	13.5	39.3	47.4
Bermuda	823,486	1,185,243	1,165,789	.5	1.3	11.3
Canada	2,621,011	2,330,963	228,624	1.5	2.6	2.2
Cuba	256,780	450,025	346,554	.1	.5	3.3
Germany	31,083,572	26,159,680	431,665	17.8	29.2	4.2
Italy	21,375,475	211,447	.....	12.3	.2	.....
Mexico	407,181	811,877	660,354	.2	.9	6.4
Netherlands	13,708,452	15,922,196	14,615	7.9	17.8	.1
Panama	51,950	86,537	317,522	(1)	.1	3.1
United Kingdom	73,073,602	5,699,488	2,129,119	41.9	6.4	20.6
Other countries	7,555,888	1,586,200	149,292	4.3	1.7	1.4
Total	174,426,999	89,649,148	10,341,007	100.0	100.0	100.0
Beef, pickled and other cured:						
Canada	1,373,553	2,016,022	1,357,975	3.2	7.8	5.5
Dutch Guiana	404,200	1,227,584	1,135,038	.9	4.8	4.6
Germany	2,567,542	1,604,050	904,562	6.0	6.2	3.7
Netherlands	2,325,748	1,700,784	223,753	5.4	6.6	.9
Newfoundland and Labrador	5,676,761	5,596,298	6,407,860	13.3	21.7	26.0
Norway	4,312,960	876,505	3,293,172	10.1	3.4	13.4
United Kingdom	5,569,743	4,210,631	3,950,930	13.0	16.3	16.1
West Indies and Bermuda	1,404,620	3,764,361	4,121,879	3.3	14.6	16.8
Other countries	19,169,597	4,774,941	3,195,413	44.8	18.6	13.0
Total	42,804,724	25,771,176	24,590,582	100.0	100.0	100.0
Oleo oil:						
Belgium	8,461,473	1,030,628	1,512,145	11.2	1.4	1.2
Denmark	8,025,918	1,531,297	3,172,458	10.6	2.1	2.5
France	4,589,290	437,918	5,345,185	6.1	.6	4.2
Germany	2,126,704	3,428,958	20,700,512	2.8	4.6	16.2
Greece	3,479,879	2,706,173	2,349,273	4.6	3.6	1.8
Netherlands	4,811,612	20,107,202	46,607,711	6.4	27.0	36.4
Newfoundland and Labrador	1,890,493	1,475,586	1,626,440	2.5	2.0	1.3
Norway	8,656,192	10,566,827	18,040,180	11.5	14.2	14.1
Sweden	3,494,255	3,320,805	3,783,541	4.6	4.5	3.0
Turkey in Europe	2,635,801	6,801,573	9,235,697	3.5	9.1	7.2
United Kingdom	20,791,549	17,593,177	11,543,163	27.5	23.7	9.0
Other countries	6,621,998	5,368,200	3,998,408	8.7	7.2	3.1
Total	75,585,164	74,368,344	127,977,713	100.0	100.0	100.0
Lard compounds:						
Cuba	8,611,137	6,918,040	8,115,534	6.9	21.6	16.8
Germany	1,228,943	1,746,998	5,029,116	1.0	5.5	10.4
Haiti	1,603,608	2,126,471	2,412,364	1.3	6.6	5.0
Mexico	4,620,050	6,217,160	10,212,860	3.7	19.4	21.2
Norway	2,703,928	1,484,598	1,671,376	2.1	4.6	3.5
Poland and Danzig	.....	180,258	3,816,530	.....	.6	7.9
Trinidad and Tobago	2,100,664	2,064,513	2,366,453	1.7	6.4	4.9
United Kingdom	62,739,201	4,008,562	7,375,760	50.2	12.5	15.3
Other countries	41,355,419	7,304,858	7,206,590	33.1	22.8	15.0
Total	124,962,950	32,051,458	48,206,583	100.0	100.0	100.0

[1] Less than 0.05 of 1 per cent.

TABLE 521.—*Destination of principal farm products exported from the United States, 1919–1921.*—Continued.

Article and country to which consigned.	Quantity.			Per cent of total.		
	Year ending Dec. 31—			Year ending Dec. 31—		
	1919	1920	1921	1919	1920	1921
ANIMAL MATTER—continued:						
Bacon:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	90,823,427	35,086,345	20,772,504	7.6	5.5	5.0
Canada	34,253,197	12,473,768	13,980,969	2.9	2.0	3.4
Cuba	15,956,981	21,190,518	27,241,037	1.3	3.3	6.6
Denmark	39,039,883	6,642,344	4,609,561	3.3	1.1	1.1
Finland	13,700,781	582,125	5,113,650	1.1	.1	1.2
France	178,431,224	25,040,866	12,154,685	15.0	3.9	2.9
Germany	53,449,694	76,035,297	54,133,512	4.5	11.9	13.0
Gibraltar	5,529,931	777,175	1,079,789	.5	.1	.3
Italy	48,128,149	18,844,911	9,107,503	4.0	3.0	2.2
Netherlands	112,028,898	61,759,267	28,830,301	9.4	9.7	6.9
Norway	26,152,222	6,760,290	11,109,890	2.2	1.1	2.7
Poland and Danzig	.....	569,924	4,493,211	.....	.1	1.1
Spain	532,677	3,044,951	2,552,729	.1	.5	.6
Sweden	51,891,124	17,410,673	7,261,939	4.4	2.7	1.7
United Kingdom	507,184,219	344,555,982	209,551,963	42.6	54.1	50.5
Other countries	13,195,087	5,901,136	3,362,909	1.1	.9	.8
Total	1,190,297,494	636,675,572	415,356,152	100.0	100.0	100.0
Hams and shoulders, cured:						
Belgium	30,054,740	6,596,959	7,567,604	5.0	3.6	3.3
Canada	7,457,307	6,354,128	9,222,358	1.3	3.4	4.0
Cuba	9,863,103	15,612,342	10,192,526	1.7	8.4	4.4
France	103,201,727	26,209,164	1,398,164	17.3	14.2	.6
Italy	65,245,793	3,236,225	26,563	10.9	1.7	(1)
Netherlands	8,569,661	1,589,470	1,902,602	1.4	.9	.8
Norway	4,358,920	247,502	1,764,723	.7	.1	.7
United Kingdom	338,028,382	116,256,553	194,235,024	56.6	62.8	83.6
Other countries	30,016,030	9,144,412	6,014,203	5.1	4.9	2.6
Total	596,795,663	185,246,755	232,323,767	100.0	100.0	100.0
Lard:						
Belgium	155,802,228	55,021,415	51,564,655	20.5	9.0	5.9
Canada	5,090,459	12,730,298	12,706,087	.7	2.1	1.5
Cuba	44,766,460	65,720,975	72,310,640	5.9	10.7	8.3
Denmark	33,505,333	6,329,275	9,506,063	4.4	1.0	1.1
Dominican Republic	822,086	2,311,519	3,333,100	.1	.4	.4
Ecuador	2,407,180	2,897,992	2,951,759	.3	.5	.3
Finland	2,771,503	462,524	2,773,306	.4	.1	.3
France	96,296,935	48,755,791	40,102,085	12.7	8.0	4.6
Germany	39,495,017	127,836,008	278,044,966	5.2	20.9	32.0
Haiti	1,138,333	1,950,140	1,312,275	.2	.3	.2
Italy	2,463,197	23,153,676	11,744,562	.3	3.8	1.4
Mexico	7,134,448	17,302,006	43,457,727	.9	2.8	5.0
Netherlands	68,596,924	91,297,867	76,964,941	9.0	14.9	8.9
Norway	1,257,190	1,018,106	1,578,772	.2	.2	.2
Peru	944,742	2,413,735	3,323,021	.1	.4	.4
Poland and Danzig	.....	4,482,513	6,346,887	.....	.7	.7
Sweden	24,483,937	5,000,274	5,591,622	3.2	.8	.6
Switzerland	32,247,743	1,912,574	4,614,346	4.2	.3	.5
United Kingdom	219,306,542	128,771,843	232,204,210	28.8	21.0	26.7
Other countries	22,371,354	12,881,420	8,510,545	2.9	2.1	1.0
Total	760,901,611	612,249,951	868,941,569	100.0	100.0	100.0
Lard, neutral:						
Denmark	5,445,681	497,480	1,268,352	23.7	2.1	5.3
Germany	950,837	118,584	2,461,822	4.1	.5	10.3
Netherlands	9,313,883	2,998,410	8,524,085	40.6	12.9	35.6
Norway	1,653,325	1,885,917	3,891,235	7.2	8.1	16.2
United Kingdom	2,000,074	14,255,712	4,808,132	8.7	61.3	20.1
Other countries	3,593,337	3,481,968	2,997,163	15.7	15.1	12.5
Total	22,957,137	23,238,071	23,950,789	100.0	100.0	100.0

[1] Less than 0.05 of 1 per cent.

TABLE 521.—*Destination of principal farm products exported from the United States, 1919–1921*—Continued.

Article and country to which consigned.	Quantity.			Per cent of total.		
	Year ending Dec. 31—			Year ending Dec. 31—		
	1919	1920	1921	1919	1920	1921
ANIMAL MATTER—continued.						
Pork, pickled:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
British Guiana	205,700	901,185	614,975	.6	2.3	1.9
Canada	8,372,796	15,480,971	11,753,367	24.5	40.0	35.3
Cuba	6,560,984	4,775,388	1,375,787	19.2	12.3	4.2
Germany	369,444	558,049	1,646,761	1.1	1.4	5.0
Haiti	464,678	988,996	1,071,404	1.4	2.5	3.3
Newfoundland and Labrador	4,833,214	4,848,954	4,577,400	14.2	12.5	13.9
Norway	3,193,955	616,062	1,087,782	9.4	1.6	3.3
Panama	124,683	240,872	235,256	.4	.6	.7
United Kingdom	3,378,871	1,902,869	4,031,010	9.9	4.9	12.3
Other countries	6,609,550	8,395,495	6,448,865	19.3	21.9	19.6
Total	34,113,875	38,708,841	32,842,607	100.0	100.0	100.0
VEGETABLE MATTER.						
Cotton:						
Austria-Hungary	48,609,352	[1] 2,880,580	[1] 1,473,192	1.5	.1	.1
Belgium	81,894,621	100,905,512	96,883,020	2.4	3.1	2.9
Canada	83,405,725	110,328,914	88,360,293	2.5	3.5	2.6
France	398,168,968	334,460,950	334,228,703	11.8	10.5	10.0
Germany	77,914,351	376,071,268	783,325,674	2.3	11.8	23.5
Italy	280,849,977	282,851,308	278,826,056	8.3	8.9	8.3
Japan	440,520,341	335,934,543	560,611,786	13.1	10.6	16.8
Mexico	345,852	23,970,192	13,798,801	(2)	.8	.4
Netherlands	105,261,030	44,457,873	47,643,771	3.1	1.4	1.4
Spain	126,076,028	145,027,632	139,601,515	3.7	4.6	4.2
Sweden	43,099,176	44,055,629	23,353,367	1.3	1.4	.7
United Kingdom	1,619,088,787	1,303,896,422	847,168,682	48.1	41.0	25.4
Other countries	62,443,777	74,472,513	123,838,629	1.9	2.3	3.7
Total	3,367,677,985	3,179,313,336	3,339,113,489	100.0	100.0	100.0
Fruits:						
Apples, dried—						
Belgium	2,013,180	446,750	1,158,595	8.1	5.1	5.8
Denmark	3,512,038	893,514	1,239,431	14.2	10.1	6.2
France	1,625,439	700,671	1,628,554	6.6	7.9	8.2
Germany	10,759	43,258	3,512,391	(2)	.5	17.6
Netherlands	490,503	1,203,225	7,454,042	2.0	14.5	37.3
Sweden	7,309,782	1,479,766	1,573,454	29.6	16.8	7.9
United Kingdom	5,748,424	2,483,708	2,366,509	23.3	28.1	11.9
Other countries	3,994,234	1,496,914	1,029,330	16.2	17.0	5.1
Total	24,704,359	8,827,806	19,962,306	100.0	100.0	100.0
Apples, fresh—	*Barrels.*	*Barrels.*	*Barrels.*			
Canada	158,859	274,358	166,410	9.3	15.3	8.6
Germany	8	50	1,569	(2)	(2)	(2)
United Kingdom	1,209,855	1,250,033	1,498,839	70.7	69.5	77.4
Other countries	343,645	273,270	269,406	20.0	15.2	14.0
Total	1,712,367	1,797,711	1,936,224	100.0	100.0	100.0
Apricots, dried—	*Pounds.*	*Pounds.*	*Pounds.*			
Belgium	1,921,532	344,828	1,055,243	5.2	3.5	4.9
Canada	724,844	783,068	750,581	1.9	7.9	3.5
Denmark	5,979,190	954,522	1,665,090	16.1	9.7	7.7
France	8,328,363	1,821,002	4,214,366	22.4	18.4	19.5
Germany	30,473	28,465	3,512,321	.1	.3	16.3
Netherlands	1,140,230	150,260	2,423,949	3.1	1.5	11.2
Norway	3,545,690	164,443	1,004,228	9.5	1.7	4.7
Sweden	5,421,832	453,466	1,013,660	14.6	4.6	4.7
United Kingdom	7,633,498	4,256,638	5,048,007	20.6	43.1	23.4
Other countries	2,418,172	924,564	887,704	6.5	9.3	4.1
Total	37,143,824	9,881,256	21,575,149	100.0	100.0	100.0
Oranges—	*Boxes.*	*Boxes.*	*Boxes.*			
Canada	1,633,421	1,417,001	2,023,833	91.9	93.3	91.1
Other countries	144,047	100,993	197,242	8.1	6.7	8.9
Total	1,777,468	1,517,994	2,221,075	100.0	100.0	100.0

[1] Austria only.

[2] Less than 0.05 of 1 per cent.

TABLE 521.—*Destination of principal farm products exported from the United States, 1919–1921*—Continued.

Article and country to which consigned.	Quantity.			Per cent of total.		
	Year ending Dec. 31—			Year ending Dec. 31—		
	1919	1920	1921	1919	1920	1921
VEGETABLE MATTER—continued.						
Fruits—Continued.						
Prunes—	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct*	*P. ct.*
Belgium	3,172,934	2,095,419	4,034,697	2.9	2.8	3.4
Canada	14,519,219	14,903,218	11,151,370	13.4	19.8	9.5
Denmark	12,206,192	1,456,849	3,752,743	11.3	1.9	3.2
France	10,498,370	16,184,922	21,248,291	9.7	21.5	18.0
Germany	15,758	323,156	28,988,026	(1)	.4	24.6
Netherlands	567,668	2,271,370	3,981,144	.5	3.0	3.4
New Zealand	365,925	749,682	1,033,545	.3	10.0	.9
Sweden	15,552,738	1,921,919	5,948,505	14.4	2.6	5.0
United Kingdom	29,445,779	27,828,591	33,337,854	27.2	37.0	28.3
Other countries	21,863,674	7,403,653	4,457,565	20.3	10.0	3.7
Total	108,208,257	75,138,779	117,933,740	100.0	100.0	100.0
Fruits, canned—	*Dollars.*	*Dollars.*	*Dollars.*			
United Kingdom	34,359,305	10,915,959	10,586,182	82.8	50.7	73.6
Other countries	7,116,317	10,598,314	3,795,239	17.2	49.3	26.4
Total	41,475,622	21,514,273	14,381,421	100.0	100.0	100.0
Glucose and grape sugar:	*Pounds.*	*Pounds.*	*Pounds.*			
Argentina	6,341,204	2,837,928	3,520,163	2.5	1.7	1.4
British Oceania	1,246,848	1,869,237	2,591,417	.5	1.2	1.1
France	52,042,071	25,420	7,157,160	20.4	(1)	2.9
Germany	.....	818,922	35,076,171	.....	.3	14.3
Italy	5,909,980	9,049,194	1,436,762	2.3	5.6	.6
Netherlands	2,700,980	2,300,060	12,033,811	1.1	1.4	4.9
United Kingdom	159,033,298	113,643,769	135,541,959	62.2	69.9	55.1
Other countries	28,343,328	31,951,638	48,415,041	11.0	19.9	19.7
Total	255,617,709	162,496,168	245,772,484	100.0	100.0	100.0
Grain and grain products:						
Corn—	*Bushels.*	*Bushels.*	*Bushels.*			
Belgium	1,009,969	71,787	1,559,756	9.0	.4	1.2
Canada	6,542,025	10,064,668	58,582,806	58.4	56.7	45.4
Cuba	1,964,540	1,893,793	2,308,746	17.6	10.7	1.8
Denmark	334,711	173,357	5,965,298	3.0	1.0	4.6
Germany	.....	1,323,770	12,729,289	.....	7.5	9.9
Mexico	133,887	770,814	11,871,546	1.2	4.3	9.2
Netherlands	100,168	423,604	17,843,464	.9	2.4	13.8
United Kingdom	948,493	2,706,805	15,811,050	8.5	15.2	12.3
Other countries	158,740	332,822	2,302,550	1.4	1.8	1.8
Total	11,192,533	17,761,420	128,974,505	100.0	100.0	100.0
Wheat—						
Belgium	24,476,490	20,665,729	22,469,757	16.5	9.5	8.0
Canada	1,421,613	14,811,672	25,990,974	1.0	6.8	9.3
France	27,590,718	26,444,984	8,988,242	18.6	12.1	3.2
Germany	.....	8,246,213	36,931,189	.....	3.8	13.2
Gibraltar	1,510,909	4,181,694	4,565,276	1.0	1.9	1.6
Greece	96,225	1,415,360	4,116,067	.1	.6	1.5
Italy	38,264,883	32,110,050	60,842,457	25.8	14.7	21.7
Japan	.....	10,141	8,224,764	.....	(1)	2.9
Mexico	134,003	299,211	2,661,109	.1	.1	1.0
Netherlands	1,962,249	11,912,662	25,228,449	1.3	5.5	9.0
Spain	138,133	7,099,430	4,346,426	.1	3.3	1.6
United Kingdom	44,818,552	77,368,545	63,672,052	30.3	35.4	22.7
Other countries	7,672,695	13,721,643	12,020,839	5.2	6.3	4.3
Total	148,086,470	218,287,334	280,057,601	100.0	100.0	100.0

[1] Less than 0.05 of 1 per cent.

TABLE 521.—*Destination of principal farm products exported from the United States, 1919–1921*—Continued.

Article and country to which consigned.	Quantity.			Per cent of total.		
	Year ending Dec. 31—			Year ending Dec. 31—		
	1919	1920	1921	1919	1920	1921
VEGETABLE MATTER—continued.						
Grain and grain products—Con.						
Wheat flour—	*Barrels.*	*Barrels.*	*Barrels.*	*P. ct.*	*P. ct.*	*P. ct.*
Brazil	279,564	623,198	260,718	1.1	3.2	1.6
British West Indies (including Bermuda)	222,288	355,636	278,258	.8	1.8	1.7
Canada	7,316	25,250	72,521	(1)	.1	.4
Cuba	1,408,698	1,389,990	1,065,581	5.3	7.0	6.3
Finland	41,729	369,165	444,730	.2	1.9	2.6
Germany	42,324	1,077,675	1,725,877	.2	5.4	10.3
Haiti	268,243	361,321	139,290	1.0	1.8	.8
Hongkong	10,597	192,936	737,727	(1)	1.0	4.4
Italy	3,006,825	1,410,243	56,122	11.4	7.1	.3
Netherlands	1,082,207	730,943	1,204,137	4.1	3.7	7.2
Norway	45,715	160,935	413,039	.2	.8	2.5
Philippine Islands	54,904	143,469	254,755	.2	.7	1.5
United Kingdom	10,440,148	3,435,239	3,997,691	39.5	17.3	23.8
Other countries	9,539,323	9,577,992	6,150,359	36.0	48.2	36.6
Total	26,449,881	19,853,992	16,800,805	100.0	100.0	100.0
Hops:	*Pounds.*	*Pounds.*	*Pounds.*			
British Oceania	244,487	823,665	459,238	1.2	3.2	2.5
Canada	2,493,098	1,968,821	2,960,359	12.0	7.7	16.0
United Kingdom	12,523,653	21,421,599	13,375,667	60.2	83.6	72.5
Other countries	5,536,266	1,409,970	1,664,336	26.6	5.5	9.0
Total	20,797,504	25,624,055	18,459,600	100.0	100.0	100.0
Oil cake and oil-cake meal:						
Cottonseed—						
Belgium	7,824,573	1,138,800	6,067,677	1.2	.3	1.0
Denmark	200,605,481	247,767,183	296,920,633	31.9	72.9	50.7
Germany	.....	20,118,977	103,923,321	.....	5.9	17.8
Netherlands	1,826,445	.....	901,851	.3	.....	.2
Norway	35,412,218	9,616,175	25,853,354	5.6	2.8	4.4
Sweden	103,780,415	41,266,275	12,234,562	16.5	12.1	2.1
United Kingdom	249,540,669	6,080,536	120,206,903	39.7	1.8	20.5
Other countries	29,143,365	14,058,036	19,480,691	4.8	4.2	3.3
Total	628,133,166	340,045,982	585,588,992	100.0	100.0	100.0
Linseed or flaxseed—						
Belgium	80,622,811	25,904,744	120,571,354	22.8	11.0	21.4
Denmark	46,023,678	42,135,337	.....	13.0	17.9	.....
France	263,503	.....	4,945,889	.1	.....	.9
Netherlands	104,614,268	98,188,316	336,577,625	29.6	41.7	59.9
United Kingdom	84,678,808	42,425,875	58,250,194	23.9	18.0	10.4
Other countries	37,548,415	26,970,705	41,921,978	10.6	11.4	7.4
Total	353,751,483	235,624,977	562,267,040	100.0	100.0	100.0
Oils, vegetable:						
Cottonseed—						
Argentina	231,314	2,734,813	2,228,772	.1	1.5	.9
Austria-Hungary	.....	[2] 1,940,019	.....	.....	1.1	.....
Belgium	1,613,034	3,161,251	1,481,473	.8	1.7	.6
Canada	39,662,192	45,053,545	45,029,589	20.5	24.4	17.8
Chile	491,621	1,143,985	602,890	.3	.6	.2
Cuba	5,102,662	4,358,816	3,914,594	2.6	2.4	1.6
Denmark	7,352,315	4,088,712	12,741,010	3.8	2.2	5.0
France	7,211,541	8,720,868	8,781,490	3.7	4.7	3.5
Germany	11,563	3,257,311	7,240,834	(1)	1.8	2.9
Italy	9,551,748	22,976,091	23,285,760	4.9	12.4	9.2
Mexico	495,049	2,802,789	6,877,311	.3	1.5	2.7
Netherlands	30,377,990	34,622,804	92,119,927	15.7	18.7	36.5
Norway	15,626,944	13,530,457	12,626,846	8.1	7.3	5.0
Rumania	25,020	562,750	208,504	(1)	.3	.1
Sweden	13,112,629	1,077,366	1,791,186	6.8	.6	.7
Turkey, European	1,274,043	6,156,506	2,628,604	.7	3.3	1.0
United Kingdom	37,814,421	12,917,081	15,530,494	19.6	7.0	6.2
Uruguay	63,450	2,058,925	2,063,523	(1)	1.1	.8
Other countries	23,115,665	13,589,735	13,395,859	12.1	7.4	5.3
Total	193,133,201	184,753,824	252,548,666	100.0	100.0	100.0

[1] Less than 0.05 of 1 per cent.

[2] Austria only.

TABLE 521.—*Destination of principal farm products exported from the United States, 1919–1921*—Continued.

Article and country to which consigned.	Quantity.			Per cent of total.		
	Year ending Dec. 31—			Year ending Dec. 31—		
	1919	1920	1921	1919	1920	1921
VEGETABLE MATTER—continued.						
Tobacco, leaf, stem, and trimmings:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Belgium	51,031,229	29,106,072	24,517,081	6.6	6.1	4.7
British Africa	14,287,892	12,780,858	4,482,084	1.8	2.7	.9
British Oceania	12,996,852	18,931,000	23,948,242	1.7	3.9	4.5
Canada	19,855,703	16,683,784	16,112,993	2.6	3.5	3.1
China	14,558,402	18,224,923	19,388,289	1.9	3.8	3.7
France	81,739,541	60,396,643	52,972,640	10.5	12.6	10.1
French Africa	8,914,872	4,368,751	2,438,024	1.1	.9	.5
Germany	4,893,832	18,442,558	31,598,323	.6	3.8	6.0
Italy	43,623,888	44,187,828	50,589,889	5.6	9.2	9.7
Japan	4,230,513	7,130,428	1,511,359	.5	1.5	.3
Netherlands	68,584,267	29,143,130	26,789,806	8.8	6.1	5.1
Spain	24,291,993	3,248,403	13,862,245	3.1	.7	2.7
Sweden	13,757,783	14,551,474	6,148,932	1.8	3.0	1.2
Switzerland	14,443,161	3,719,659	3,021,308	1.9	.8	.6
United Kingdom	338,872,440	162,768,974	215,027,232	43.6	33.9	41.1
Other countries	60,595,767	36,215,547	30,347,579	7.9	7.5	5.8
Total	776,678,135	479,900,032	522,756,026	100.0	100.0	100.0
FOREST PRODUCTS.						
Naval stores:						
Rosin—	*Barrels.*	*Barrels.*	*Barrels.*			
Argentina	116,708	136,345	158,330	9.6	11.7	15.8
Austria-Hungary	2,989	[2] 179	.....	.2	(1)	.....
Belgium	14,623	31,065	26,581	1.2	2.7	2.7
Brazil	154,513	146,965	98,843	12.8	12.6	9.9
Canada	71,316	102,633	70,413	5.9	8.8	7.0
Germany	98	31,310	137,868	(1)	2.7	13.8
Italy	18,470	32,797	18,668	1.5	2.8	1.9
Netherlands	24,554	11,463	14,383	2.0	1.0	1.4
Russia, European	45	.....	40	(1)	.....	(1)
United Kingdom	504,489	299,891	212,692	41.7	25.8	21.2
Other countries	301,822	371,680	263,724	25.1	31.9	26.3
Total	1,209,627	1,164,328	1,001,542	100.0	100.0	100.0
Turpentine, spirits of—	*Gallons.*	*Gallons.*	*Gallons.*			
Argentina	528,391	636,682	273,305	5.0	6.7	3.0
Belgium	304,811	293,337	806,528	2.9	3.1	8.7
British Oceania	137,611	780,368	384,435	1.3	8.3	4.2
Canada	969,776	864,297	952,456	9.1	9.1	10.3
Germany	10,716	71,590	1,032,746	.1	.8	11.1
Netherlands	673,653	459,330	863,436	6.3	4.9	9.3
United Kingdom	6,220,048	5,238,621	4,423,954	58.3	55.4	47.7
Other countries	1,827,096	1,114,198	531,099	17.0	11.7	5.7
Total	10,672,102	9,458,423	9,267,959	100.0	100.0	100.0
Lumber:						
Fir—	*M feet.*	*M feet.*	*M feet.*			
Australia	37,650	72,144	32,364	12.5	16.0	7.1
Canada	27,846	10,151	3,220	9.2	2.2	.7
Chile	6,068	23,088	4,575	2.0	5.1	1.0
China	49,544	88,567	94,957	16.5	19.6	20.9
Japan	27,810	63,165	244,556	9.2	14.0	53.7
Mexico	7,879	8,101	7,094	2.6	1.7	1.6
New Zealand	3,873	5,055	2,689	1.3	1.1	.6
Panama	18,231	8,372	187	6.1	1.8	(1)
Peru	33,358	57,086	44,788	11.1	12.7	9.8
United Kingdom	40,522	41,032	4,477	13.5	9.1	1.0
Other countries	48,363	74,462	16,326	16.0	16.7	3.6
Total	301,144	451,223	455,233	100.0	100.0	100.0

[1] Less than 0.05 of 1 per cent. [2] Austria only.

TABLE 521.—*Destination of principal farm products exported from the United States, 1919–1921.*—Continued.

Article and country to which consigned.	Quantity.			Per cent of total.		
	Year ending Dec. 31—			Year ending Dec. 31—		
	1919	1920	1921	1919	1920	1921
FOREST PRODUCTS—continued.						
Lumber—Continued.						
Oak—	*M feet.*	*M feet.*	*M feet.*	*P. ct.*	*P. ct.*	*P. ct.*
Argentina	13,105	4,540	6,058	8.3	4.3	8.8
Canada	42,799	42,487	23,124	27.1	40.4	33.7
France	2,520	385	236	1.6	.4	.3
United Kingdom	70,915	33,615	30,282	44.9	32.0	44.2
Other countries	28,598	24,114	8,900	18.1	22.9	13.0
Total	157,937	105,141	68,600	100.0	100.0	100.0
Pine, yellow, long leaf—						
Argentina	73,978	92,596	103,982	16.9	14.5	24.0
Brazil	1,024	9,902	74	.2	1.6	(1)
Canada	1,106	753	1,707	.3	.1	.4
Cuba	154,843	254,959	59,870	35.4	40.0	13.8
France	9,408	2,129	3,278	2.1	.3	.8
Italy	2,621	2,019	7,959	.6	.3	1.9
Mexico	34,896	73,865	111,355	8.0	11.6	25.7
Panama	7,369	10,511	6,195	1.7	1.6	1.4
Spain	7,797	18,971	8,267	1.8	3.0	1.9
United Kingdom	66,108	43,589	37,861	15.1	6.8	8.8
Uruguay	16,394	18,956	4,897	3.7	3.0	1.1
Other countries	62,229	108,902	87,291	14.2	17.2	20.2
Total	437,773	637,152	432,736	100.0	100.0	100.0
Railroad ties:	*Number.*	*Number.*	*Number.*			
Canada	1,573,937	922,547	1,423,915	33.5	21.7	45.2
Cuba	319,224	758,039	51,209	6.8	17.9	1.6
France	62,543	.....	.....	1.3	.....	.....
Honduras	54,463	282,027	222,828	1.2	6.6	7.1
Mexico	476,970	516,754	350,009	10.1	12.2	11.1
United Kingdom	2,001,994	1,229,570	610,318	42.6	29.0	19.4
Other countries	210,771	537,301	491,509	4.5	12.6	15.6
Total	4,699,902	4,246,238	3,149,788	100.0	100.0	100.0
Timber, sawed:						
Pitch pine, long leaf—	*M feet.*	*M feet.*	*M feet.*			
Canada	393	786	668	.3	.6	.8
France	8,433	5,950	4,651	5.5	4.4	5.4
Italy	17,551	5,380	8,725	11.4	4.0	10.1
United Kingdom	100,133	74,017	42,107	64.9	54.9	48.5
Other countries	27,676	48,806	30,588	17.9	36.1	35.2
Total	154,186	134,939	86,739	100.0	100.0	100.0

[1] Less than 0.05 of 1 per cent.

TABLE 522.—*Origin of principal farm products imported into the United States, 1919–1921.*

Article and country of origin.	Quantity. Year ending Dec. 31— 1919	1920	1921	Per cent of total. Year ending Dec. 31— 1919	1920	1921
ANIMAL MATTER.						
Cattle:	*Number.*	*Number.*	*Number.*	*P. ct.*	*P. ct.*	*P. ct.*
Canada	550,004	316,559	179,408	85.6	83.5	92.1
Mexico	90,541	58,926	13,874	14.1	15.5	7.1
Other countries	1,850	3,629	1,589	.3	1.0	.8
Total	642,395	379,114	194,871	100.0	100.0	100.0
Horses:						
Canada	4,495	4,084	3,199	90.0	91.2	89.0
France	11	25	59	.2	.6	1.7
Mexico	412	178	92	8.2	4.0	2.6
Other countries	76	189	243	1.6	4.2	6.7
Total	4,994	4,476	3,593	100.0	100.0	100.0
Cheese, including substitutes:	*Pounds.*	*Pounds.*	*Pounds.*			
Argentina	5,043,010	9,871,815	8,088,775	44.5	61.7	30.1
Canada	4,731,529	813,001	2,497,978	41.8	5.1	9.3
France	680,867	1,583,119	2,080,874	6.0	9.9	7.7
Italy	373,807	985,197	9,099,697	3.3	6.2	33.9
Netherlands	4,947	863,405	1,183,232	(1)	5.4	4.4
Switzerland	12,354	801,902	2,358,883	.1	5.0	8.8
Other countries	485,690	1,075,286	1,556,965	4.3	6.7	5.8
Total	11,332,204	15,993,725	26,866,404	100.0	100.0	100.0
Fibers, animal:						
Silk, raw—						
China	9,099,492	5,931,863	9,586,608	20.3	19.7	21.1
Italy	1,865,807	1,111,132	3,085,041	4.2	3.7	6.8
Japan	33,726,581	22,903,609	31,704,332	75.3	76.2	69.9
Other countries	125,038	111,770	979,114	.2	.4	2.2
Total	44,816,918	30,058,374	45,355,095	100.0	100.0	100.0
Wool, class 1—						
Argentina	118,854,446	71,910,150	68,197,712	35.6	33.9	32.8
Australia	46,034,615	37,371,888	42,409,967	13.8	17.6	20.4
Belgium	204,210	1,249,998	542,564	.1	.6	.3
British South Africa	51,466,180	17,296,456	15,694,054	15.4	8.1	7.6
Canada	12,066,657	7,628,812	3,088,555	3.6	3.6	1.5
Chile	11,959,417	14,514,334	8,106,726	3.6	6.8	3.9
China	8,528,802	525,409	8,455,482	2.6	.2	4.1
New Zealand	14,234,386	25,531	8,341,863	4.3	(1)	4.0
United Kingdom	14,704,025	28,967,677	21,406,205	4.4	13.6	10.3
Uruguay	49,931,366	29,767,584	29,172,620	14.9	14.0	14.0
Other countries	6,115,434	3,134,401	2,450,867	1.7	1.6	1.1
Total	334,099,538	212,392,240	207,866,615	100.0	100.0	100.0
Wool, class 2—						
Argentina	2,087,101	1,347,067	5,570,027	14.0	11.9	37.4
Canada	650,924	199,247	114,502	4.4	1.8	.8
China	642,970	2,863,800	913,946	4.3	25.2	6.1
United Kingdom	3,382,806	3,063,162	4,715,441	22.8	27.0	31.7
Other countries	8,081,171	3,881,918	3,584,724	54.5	34.1	24.0
Total	14,844,972	11,355,194	14,898,640	100.0	100.0	100.0
Wool, class 3—						
Argentina	14,045,112	1,764,692	10,181,420	14.5	4.9	10.4
British India	66,218	365,900	1,373,857	.1	1.0	1.4
British South Africa	2,386,257	674,041	1,516,947	2.5	1.9	1.5
Chile	13,274,457	3,715,570	85,750	13.7	10.4	.1
China	29,813,744	11,762,921	37,182,717	30.8	32.8	38.0
Russia (Asiatic and European)	1,539,889	2,650,565	10,460	1.6	7.4	(1)
Turkey, Asiatic	1,353,398	2,810,036	400,490	1.4	7.8	.4
Turkey, European	2,931,914	2,349,343	113,126	3.0	6.5	.1
United Kingdom	19,044,860	6,380,016	37,838,591	19.6	17.8	38.6
Other countries	12,492,475	3,397,123	9,197,138	12.8	9.5	9.5
Total	96,948,324	35,870,207	97,900,496	100.0	100.0	100.0

[1] Less than 0.05 of 1 per cent.

TABLE 522.—*Origin of principal farm products imported into the United States, 1919–1921*—Continued.

Article and country of origin.	Quantity. Year ending Dec. 31— 1919	1920	1921	Per cent of total. Year ending Dec. 31— 1919	1920	1921
ANIMAL MATTER—continued.						
Hides and skins other than furs:						
Calfskins—	*Number.*	*Number.*	*Number.*	*P. ct.*	*P. ct.*	*P. ct*
Argentina	4, 467, 257	2, 872, 754	4, 856, 813	6. 9	8. 2	10. 1
Belgium	721, 686	753, 992	1, 907, 656	1. 1	2. 1	4. 0
Canada	5, 280, 116	2, 719, 149	5, 771, 368	8. 2	7. 7	12. 0
Denmark	4, 086, 657	2, 230, 908	3, 473, 690	6. 3	6. 4	7. 2
East Indies	24, 045, 701	7, 708, 506	271, 212	37. 2	21. 9	. 6
France	4, 590, 533	8, 201, 685	11, 847, 886	7. 1	23. 3	24. 7
Germany	.....	7, 063	310, 494	.....	(1)	. 6
Netherlands	7, 737, 059	3, 108, 868	4, 605, 972	12. 0	8. 8	9. 6
Norway	2, 012, 338	1, 361, 112	1, 598, 701	3. 1	3. 9	3. 3
United Kingdom	1, 664, 878	811, 420	2, 843, 472	2. 6	2. 3	5. 9
Other countries	9, 949, 296	5, 356, 829	10, 450, 247	15. 5	15. 4	22. 0
Total	64, 555, 521	35, 132, 286	47, 937, 511	100. 0	100. 0	100. 0
Cattle hides—						
Argentina	146, 103, 225	113, 117, 368	68, 012, 162	35. 9	41. 1	37. 7
Belgium	174, 056	139, 018	445, 238	(1)	. 1	. 2
Brazil	29, 517, 585	19, 488, 355	22, 919, 382	7. 0	7. 1	12. 7
Canada	43, 062, 218	27, 587, 282	25, 537, 190	10. 6	10. 0	14. 2
China	7, 748, 834	4, 755, 174	1, 320, 426	1. 9	1. 7	. 7
Colombia	14, 979, 377	9, 977, 059	4, 252, 836	3. 7	3. 6	2. 4
Cuba	12, 500, 062	6, 549, 229	10, 819, 754	3. 1	2. 4	6. 0
East Indies	14, 350, 871	9, 046, 283	1, 370, 870	3. 5	3. 3	. 8
France	7, 701, 942	7, 132, 294	3, 599, 498	1. 9	2. 6	2. 0
Italy	93, 351	1, 999, 432	1, 167, 715	(1)	. 7	. 6
Mexico	26, 288, 312	7, 064, 935	226, 489	6. 5	2. 6	. 1
Netherlands	4, 031, 983	2, 422, 620	94, 213	1. 0	. 9	. 1
United Kingdom	5, 370, 120	1, 907, 200	288, 332	1. 3	. 7	. 2
Uruguay	48, 294, 455	25, 905, 130	28, 363, 510	11. 9	9. 4	15. 7
Venezuela	7, 922, 391	4, 733, 757	1, 293, 427	1. 9	1. 7	. 7
Other countries	39, 143, 489	33, 519, 371	10, 475, 407	9. 6	12. 1	5. 9
Total	407, 282, 271	275, 324, 507	180, 186, 449	100. 0	100. 0	100. 0
Goatskins—						
Aden	6, 726, 235	4, 301, 269	2, 631, 926	5. 0	5. 4	4. 2
Africa n. e. s.	2, 385, 158	2, 355, 373	1, 265, 263	1. 8	2. 9	2. 0
Argentina	7, 474, 336	2, 898, 427	4, 655, 799	5. 6	3. 6	7. 4
Brazil	6, 606, 837	4, 894, 496	3, 535, 720	4. 9	6. 1	5. 6
British Africa	7, 931, 326	3, 938, 275	1, 718, 355	5. 9	4. 9	2. 7
China	15, 217, 301	19, 061, 548	10, 585, 514	11. 4	23. 8	16. 8
East Indies	62, 772, 369	29, 295, 295	27, 145, 852	47. 0	36. 5	43. 0
France	1, 848, 224	816, 267	462, 195	1. 4	1. 0	. 7
Mexico	3, 315, 986	1, 633, 663	1, 488, 099	2. 5	2. 0	2. 4
United Kingdom	4, 432, 373	1, 865, 025	1, 273, 810	3. 3	2. 3	2. 0
Venezuela	2, 813, 980	1, 650, 788	1, 770, 236	2. 1	2. 1	2. 8
Other countries	12, 132, 689	7, 494, 211	6, 593, 458	9. 1	9. 4	10. 4
Total	133, 656, 814	80, 204, 637	63, 126, 227	100. 0	100. 0	100. 0
Sheepskins—						
Aden	2, 494, 391	1, 352, 834	494, 187	2. 9	1. 6	1. 1
Argentina	15, 674, 103	13, 679, 809	9, 979, 987	18. 4	16. 5	21. 8
Brazil	3, 175, 161	2, 420, 531	1, 483, 089	3. 7	2. 9	3. 2
British India	4, 694, 998	4, 981, 618	680, 682	5. 5	6. 0	1. 5
British Oceania	16, 933, 622	23, 880, 470	15, 028, 446	19. 9	28. 9	32. 8
British South Africa	7, 415, 027	4, 678, 403	1, 969, 474	8. 7	5. 7	4. 3
Canada	5, 341, 467	3, 111, 231	2, 854, 250	6. 3	3. 8	6. 2
China	2, 072, 754	600, 878	84, 681	2. 4	. 7	. 2
France	370, 094	653, 980	584, 241	. 4	. 8	1. 3
Russia, European	76, 423	40, 240	5, 127	. 1	(1)	(1)
United Kingdom	9, 971, 075	11, 950, 393	8, 635, 945	11. 7	14. 4	18. 8
Uruguay	2, 491, 237	830, 733	512, 322	2. 9	1. 0	1. 1
Other countries	14, 321, 467	14, 567, 861	3, 542, 026	17. 1	17. 7	7. 7
Total	85, 031, 819	82, 748, 981	45, 854, 457	100. 0	100. 0	100. 0

[1] Less than 0.05 of 1 per cent.

TABLE 522.—*Origin of principal farm products imported into the United States, 1919–1921*—Continued.

Article and country of origin.	Quantity. Year ending Dec. 31—			Per cent of total. Year ending Dec. 31—		
	1919	1920	1921	1919	1920	1921
VEGETABLE MATTER.						
Cocoa, crude:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Brazil	69,990,057	60,577,524	45,000,802	17.9	17.6	14.8
British West Africa	158,713,898	82,053,130	52,695,436	40.6	23.9	17.3
British West Indies	30,199,700	34,642,516	53,384,639	7.7	10.1	17.5
Dominican Republic	44,665,321	42,998,532	54,872,511	11.4	12.5	18.0
Ecuador	46,404,529	61,178,384	40,213,802	11.9	17.8	13.2
Portugal	1,087,271	12,190,057	4,475,315	.3	3.5	1.5
United Kingdom	7,257,064	13,464,802	11,946,895	1.9	3.9	3.9
Venezuela	10,726,250	16,381,647	19,460,033	2.7	4.8	6.4
Other countries	22,353,219	20,180,220	22,767,692	5.6	5.9	7.4
Total	391,397,309	343,666,812	304,817,125	100.0	100.0	100.0
Coffee:						
Brazil	787,312,293	785,810,689	839,212,388	59.0	60.6	62.6
Central American States and British Honduras	131,638,695	159,200,281	118,607,382	9.9	12.3	8.8
Colombia	150,483,853	194,682,616	249,123,356	11.3	15.0	18.6
East Indies	56,919,126	28,674,951	12,612,578	4.3	2.2	.9
Mexico	29,567,469	19,519,865	26,895,034	2.2	1.5	2.0
Netherlands	1,335	1,126,546	899,813	(1)	.1	.1
Venezuela	109,777,831	65,970,954	59,783,303	8.2	5.1	4.5
West Indies and Bermuda	42,013,841	29,204,734	15,398,073	3.2	2.3	1.1
Other countries	25,849,624	13,248,674	18,447,849	1.9	.9	1.4
Total	1,333,564,067	1,297,439,310	1,340,979,776	100.0	100.0	100.0
Fibers, vegetable:						
Cotton—						
British India	4,927,097	7,044,100	1,908,493	2.8	2.3	1.4
Egypt	86,485,327	179,894,406	72,893,710	49.3	60.0	52.5
Mexico	30,890,061	38,084,625	39,214,400	17.6	12.7	28.2
Peru	20,213,172	25,456,455	12,980,626	11.5	8.5	9.3
United Kingdom	18,545,720	14,006,601	7,139,425	10.6	4.7	5.1
Other countries	14,296,991	35,508,191	4,811,958	8.2	11.8	3.5
Total	175,358,368	299,994,378	138,948,612	100.0	100.0	100.0
Flax—	*Long tons.*	*Long tons.*	*Long tons.*			
Belgium	18	52	531	.4	.8	13.5
Canada	1,370	3,872	856	31.0	57.0	21.8
Russia, European	21	385	27	.5	5.7	.7
United Kingdom	1,510	319	1,101	34.2	4.7	28.0
Other countries	1,501	2,163	1,417	33.9	31.8	36.0
Total	4,420	6,791	3,932	100.0	100.0	100.0
Jute and jute butts—						
British East Indies	61,906	94,688	60,850	99.4	98.6	97.5
Other countries	366	1,351	1,566	.6	1.4	2.5
Total	62,332	96,039	62,416	100.0	100.0	100.0
Manila fiber—						
Philippine Islands	68,044	66,675	30,904	99.3	98.8	98.1
Other countries	492	791	599	.7	1.2	1.9
Total	68,536	67,466	31,503	100.0	100.0	100.0
Sisal grass—						
Mexico	133,591	164,187	104,702	92.4	90.8	90.5
Other countries	10,951	16,572	11,020	7.6	9.2	9.5
Total	144,542	180,759	115,722	100.0	100.0	100.0
Bananas:	*Bunches.*	*Bunches.*	*Bunches.*			
British West Indies	6,912,779	7,143,128	8,687,005	18.7	18.2	20.0
Central American States and British Honduras	24,293,461	27,006,605	27,922,031	65.7	68.7	64.4
Cuba	1,515,832	1,697,020	1,774,161	4.1	4.3	4.1
South America	4,094,940	2,679,154	3,515,226	11.1	6.8	8.1
Other countries	176,083	793,655	1,467,330	.4	2.0	3.4
Total	36,993,095	39,319,562	43,365,763	100.0	100.0	100.0

[1] Less than 0.05 of 1 per cent.

TABLE 522.—*Origin of principal farm products imported into the United States, 1919–1921*—Continued.

Article and country of origin.	Quantity.			Per cent of total.		
	Year ending Dec. 31—			Year ending Dec. 31—		
	1919	1920	1921	1919	1920	1921
VEGETABLE MATTER—continued.						
Walnuts:	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct*	*P. ct.*
China	7,080,192	6,701,431	6,644,442	22.5	21.0	14.2
France	8,519,292	14,718,220	19,018,175	27.0	46.2	40.7
Italy	6,360,433	5,411,393	12,690,408	20.2	17.0	27.1
Turkey, Asiatic	.....	151,685	43,633	.....	.5	.1
Other countries	9,536,060	4,908,103	8,348,060	30.3	15.3	17.9
Total	31,495,977	31,890,832	46,744,718	100.0	100.0	100.0
Oils, vegetable:						
Olive, edible—	*Gallons.*	*Gallons.*	*Gallons.*			
France	183,124	382,040	626,570	2.0	9.4	9.5
Italy	251,902	1,124,041	3,108,749	2.8	27.6	46.9
Spain	8,557,416	2,420,592	1,230,942	94.8	59.3	18.6
Other countries	31,694	152,138	1,661,838	.4	3.7	25.0
Total	9,024,136	4,078,811	6,628,099	100.0	100.0	100.0
Soya bean oil—	*Pounds.*	*Pounds.*	*Pounds.*			
China	11,230,292	2,484,191	1,943,916	5.7	2.2	11.2
Japanese-China	99,042,642	57,426,720	14,291,593	50.6	51.2	82.7
Japan	84,218,232	52,301,232	1,003,695	43.0	46.6	5.8
Other countries	1,317,255	1,607	43,763	.7	(1)	.3
Total	195,808,421	112,213,750	17,282,967	100.0	100.0	100.0
Opium:						
Turkey, Asiatic and European	641,187	187,978	57,908	87.8	89.0	57.0
United Kingdom	40,207	4,753	.....	5.5	2.2	.....
Other countries	48,878	18,546	43,760	6.7	8.8	43.0
Total	730,272	211,277	101,668	100.0	100.0	100.0
Seeds:						
Flaxseed or linseed—	*Bushels.*	*Bushels.*	*Bushels.*			
Argentina	12,353,932	22,778,359	8,885,411	88.0	92.4	72.1
Canada	1,279,132	1,637,813	3,094,627	9.1	6.6	25.1
Other countries	403,120	225,018	346,206	2.9	1.0	2.8
Total	14,036,184	24,641,190	12,326,244	100.0	100.0	100.0
Grass seed—clover—	*Pounds.*	*Pounds.*	*Pounds.*			
Canada	10,870,385	4,379,656	13,144,346	43.4	17.2	33.6
France	8,530,878	12,198,012	18,871,802	34.1	47.9	48.2
Germany	27,517	1,505,692	5,277,938	.1	5.9	13.5
Italy	4,639,318	5,095,882	131,279	18.5	20.0	(1)
Other countries	973,900	2,307,840	1,716,845	3.9	9.0	4.7
Total	25,041,998	25,487,082	39,142,210	100.0	100.0	100.0
Sugar, raw cane:						
Cuba	6,686,141,983	5,762,152,794	5,180,145,099	95.2	71.8	86.8
Dominican Republic	7,989,541	184,071,693	258,268,548	.1	2.3	4.3
Dutch East Indies	30,963,112	546,193,950	34,062,342	.4	6.8	.6
Philippine Islands	175,872,529	291,716,240	329,754,769	2.5	3.6	5.5
South America	35,040,367	522,999,268	48,123,404	.5	6.5	.8
Other countries	83,682,943	721,534,130	117,131,712	1.3	9.0	2.0
Total	7,019,690,475	8,028,668,075	5,967,485,874	100.0	100.0	100.0
Tea:						
Canada	2,257,012	1,644,840	755,572	2.8	1.8	1.0
China	10,557,985	10,624,821	14,639,907	13.0	11.8	19.1
East Indies	26,987,615	31,384,537	28,313,956	33.3	34.8	37.0
Japan	39,959,916	29,749,891	21,407,284	49.4	33.0	28.0
United Kingdom	534,647	13,931,177	9,224,055	.7	15.4	12.1
Other countries	665,745	2,911,349	2,145,992	.8	3.2	2.8
Total	80,962,920	90,246,615	76,486,766	100.0	100.0	100.0

[1] Less than 0.05 of 1 per cent.

TABLE 522.—*Origin of principal farm products imported into the United States, 1919–1921*—Continued.

Article and country of origin.	Quantity. Year ending Dec. 31— 1919	1920	1921	Per cent of total. Year ending Dec. 31— 1919	1920	1921
VEGETABLE MATTER—continued.						
Tobacco leaf:						
Wrapper—	*Pounds.*	*Pounds.*	*Pounds.*	*P. ct.*	*P. ct.*	*P. ct.*
Dutch East Indies	6,504,615	2,102,664	601,492	83.7	17.9	10.2
Netherlands	109,723	7,720,255	4,409,889	1.4	65.6	74.6
Other countries	1,161,143	1,944,719	902,825	14.9	16.5	15.2
Total	7,775,481	11,767,638	5,914,206	100.0	100.0	100.0
Other leaf—						
Cuba	21,969,643	23,616,999	17,465,507	28.1	33.5	37.1
Dominican Republic	6,433,478	4,054,261	415,430	8.2	5.8	.9
Germany	.....	99,818	1,053,816	.....	.1	2.2
Greece	20,702,622	9,023,777	12,014,375	26.5	12.8	25.5
Turkey, Asiatic	11,878,239	18,856,091	5,016,794	15.2	26.8	10.7
Turkey, European	3,094,792	2,960,815	2,305,039	4.0	4.2	4.9
Other countries	14,131,362	11,841,997	8,809,236	18.0	16.8	18.7
Total	78,210,136	70,453,758	47,080,197	100.00	100.0	100.0
FOREST PRODUCTS.						
India rubber, crude:						
Belgium	665,001	1,437,642	1,343,789	.1	.3	.3
Brazil	58,845,384	36,981,973	23,274,281	11.0	6.5	5.6
Canada	5,320,540	371,334	279,331	1.0	.1	.1
Central American States and British Honduras	448,827	200,583	34,457	.1	(1)	(1)
East Indies	390,884,566	424,301,608	321,056,907	72.9	74.9	77.3
France	2,410,319	3,588,662	585,375	.4	.6	.1
Mexico	963,242	990,411	.....	.2	.2	.....
Other South America	6,965,752	6,215,157	1,233,806	1.3	1.1	.3
Portugal	87,422	2,188,747	1,248,472	(1)	.4	.3
United Kingdom	60,251,894	75,297,018	41,520,535	11.2	13.3	10.0
Other countries	9,097,474	15,063,001	24,706,351	1.8	2.6	6.0
Total	535,940,421	566,546,136	415,283,304	100.0	100.0	100.0
Wood:						
Cabinet wood, mahogany—	*M feet.*	*M feet.*	*M feet.*			
British Africa	13,849	9,521	15,291	32.4	18.1	35.2
Central American States and British Honduras	18,556	26,534	18,426	43.5	50.4	42.4
Mexico	5,610	6,350	3,004	13.1	12.1	6.9
United Kingdom	656	5,088	1,235	1.5	9.7	2.8
Other countries	4,007	5,114	5,487	9.5	9.7	12.7
Total	42,678	52,607	43,443	100.0	100.0	100.0
Boards, deals, planks, and other sawed lumber—						
Canada	1,119,244	1,309,260	816,854	97.8	97.8	98.4
Other countries	24,943	29,270	13,679	2.2	2.2	1.6
Total	1,144,187	1,338,530	830,533	100.0	100.0	100.0
Wood pulp:	*Long tons.*	*Long tons.*	*Long tons.*			
Canada	461,392	584,534	359,684	81.2	72.2	57.8
Germany	.....	7,924	18,055	.....	1.0	2.9
Norway	11,168	30,590	35,646	2.0	3.8	5.7
Sweden	76,410	139,748	150,430	13.5	17.3	24.2
Other countries	18,902	46,398	58,596	3.3	5.7	9.4
Total	567,872	809,194	622,411	100.0	100.0	100.0

[1] Less than 0.05 of 1 per cent.

TABLE 523.—*Foreign trade of the United States in agricultural products 1852–1921.*

[Compiled from reports of Foreign Commerce and Navigation of the United States. All values are gold.]

Year ending June 30—	Agricultural exports.[1]			Agricultural imports.[1]		Excess of agricultural exports (+) or of imports (−).	Forest products.			
	Domestic.		Foreign.	Total.	Percentage of all imports.		Exports.		Imports.	Excess of exports (+) or of imports (−).
	Total.	Percentage of all exports.					Domestic.	Foreign.		
	Thousands.	*Per cent.*	*Thousands.*	*Thousands.*	*Per cent.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*	*Thousands.*
Average:										
1852–1856	$164,895	80.9	$8,060	$77,847	29.1	+$95,108	$6,819	$694	$3,256	+$4,257
1857–1861	215,709	81.1	10,174	121,018	38.2	+104,865	9,995	962	6,942	+4,015
1862–1866	148,866	75.7	9,288	122,222	43.0	+35,932	7,366	798	8,511	−347
1867–1871	250,713	76.9	8,538	179,774	42.3	+79,477	11,775	691	14,813	−2,347
1872–1876	396,666	78.5	8,853	263,156	46.5	+142,364	17,907	960	19,728	−862
1877–1881	591,351	80.4	8,632	266,384	50.4	+333,599	17,579	553	22,006	−3,874
1882–1886	557,473	76.3	9,340	311,708	46.8	+255,106	24,705	1,417	34,253	−8,131
1887–1891	573,287	74.7	6,982	366,950	43.3	+213,319	26,061	1,443	39,647	−12,144
1892–1896	638,748	73.0	8,446	398,332	51.6	+248,863	29,276	1,707	45,091	−14,107
1897–1901	827,566	65.9	10,962	376,550	50.2	+461,978	45,961	3,283	52,327	−3,083
1902–1906	879,541	59.5	11,922	487,881	46.3	+403,583	63,585	3,850	79,885	−12,451
1907–1911	975,399	53.9	12,126	634,571	45.2	+352,954	88,764	6,488	137,051	−41,799
1912–1916	1,256,452	45.1	24,275	924,699	50.1	+356,028	92,129	5,563	185,390	−87,698
1901	951,628	65.2	11,293	391,931	47.6	+570,990	55,369	3,599	57,144	+1,825
1902	857,114	63.2	10,308	413,745	45.8	+453,677	48,929	3,609	59,187	−6,649
1903	878,481	63.1	13,505	456,199	44.5	+435,787	58,734	2,865	71,478	−9,879
1904	859,160	59.5	12,625	461,435	46.6	+410,350	70,086	4,177	79,619	−5,356
1905	826,905	55.4	12,317	553,851	49.6	+285,370	63,199	3,790	92,681	−25,691
1906	976,047	56.7	10,856	554,175	45.2	+432,728	76,975	4,809	96,462	−14,678
1907	1,054,405	56.9	11,614	626,837	43.7	+439,182	92,949	5,500	122,421	−23,972
1908	1,017,396	55.5	10,299	539,690	45.2	+488,005	90,362	4,570	97,733	−2,801
1909	903,238	55.1	9,585	638,613	48.7	+274,210	72,442	4,983	123,920	−46,495
1910	871,158	50.9	14,470	687,509	44.2	+198,119	85,030	9,802	178,872	−84,040
1911	1,030,794	51.2	14,665	680,205	44.5	+365,254	103,039	7,587	162,312	−51,686
1912	1,050,627	48.4	12,108	783,457	47.4	+279,277	108,122	6,413	172,523	−57,988
1913	1,123,652	46.3	15,029	815,301	45.0	+323,381	124,836	7,432	180,502	−48,235
1914	1,113,974	47.8	17,729	924,247	48.8	+207,456	106,979	4,518	155,261	−43,765
1915	1,475,938	54.3	34,420	910,786	54.4	+599,571	52,554	5,089	165,849	−108,207
1916	1,518,071	35.5	42,088	1,189,705	54.1	+370,454	68,155	4,364	252,851	−180,331
1917	1,968,253	31.6	37,640	1,404,972	52.8	+600,921	68,919	11,172	322,699	−242,609
1918	2,280,466	39.1	39,553	1,618,874	55.0	+701,144	87,181	6,066	335,033	−241,787
Calendar year:										
1918	2,756,665	45.6	73,959	1,671,196	55.1	+1,159,428	88,022	5,891	279,605	−185,692
1919	4,107,159	53.0	122,561	2,392,879	61.3	+1,836,841	150,324	6,899	374,455	−217,233
1920	3,466,620	42.9	105,817	3,011,372	57.0	+561,065	191,847	10,350	521,338	−319,141
1921	2,119,750	48.4	67,231	1,249,768	49.8	+937,213	84,602	5,419	219,400	−129,379

[1] Not including forest products.

MISCELLANEOUS AGRICULTURAL STATISTICS.

CROP SUMMARY.

The December estimates of the Crop Reporting Board of the Bureau of Agricultural Economics of the acreage, production, and value (based on prices paid to farmers on Dec. 1) of important farm crops of the United States in 1920, 1921, and 1922, based on the reports of the correspondents and agents of the Bureau, are as follows (1921 figures revised, 1922 subject to revision in December):

TABLE 524.—*Crop summary, 1920, 1921, and 1922.*

Crop and year.	Acreage.	Production.			Farm value Dec. 1.	
		Unit.	Per acre.	Total.	Per unit.	Total.
					Dollars.	*Dollars.*
Corn:						
1920	101,699,000	Bushels.	31.5	3,208,584,000	0.670	2,150,332,000
1921	103,740,000	...do....	29.6	3,068,569,000	.423	1,297,213,000
1922	102,428,000	...do....	28.2	2,890,712,000	.657	1,900,287,000
Winter wheat:						
1920	40,016,000	...do....	15.3	610,597,000	1.486	907,291,000
1921	43,414,000	...do....	13.8	600,316,000	.951	571,044,000
1922	42,127,000	...do....	13.9	586,204,000	1.048	614,561,000
Spring wheat:						
1920	21,127,000	...do....	10.5	222,430,000	1.304	289,972,000
1921	20,282,000	...do....	10.6	214,589,000	.856	183,790,000
1922	19,103,000	...do....	14.1	270,007,000	.924	249,578,000
All wheat:						
1920	61,143,000	...do....	13.6	833,027,000	1.437	1,197,263,000
1921	63,696,000	...do....	12.8	814,905,000	.926	754,834,000
1922	61,230,000	...do....	14.0	856,211,000	1.009	864,139,000
Oats:						
1920	42,491,000	...do....	35.2	1,496,281,000	.460	688,311,000
1921	45,495,000	...do....	23.7	1,078,341,000	.302	325,954,000
1922	40,693,000	...do....	29.9	1,215,496,000	.394	478,548,000
Barley:						
1920	7,600,000	...do....	24.9	189,332,000	.713	135,083,000
1921	7,414,000	...do....	20.9	154,946,000	.419	64,934,000
1922	7,390,000	...do....	25.2	186,118,000	.525	97,751,000
Rye:						
1920	4,409,000	...do....	13.7	60,490,000	1.258	76,693,000
1921	4,528,000	...do....	13.6	61,675,000	.697	43,014,000
1922	6,210,000	...do....	15.4	95,497,000	.692	66,085,000
Buckwheat:						
1920	701,000	...do....	18.7	13,142,000	1.283	16,863,000
1921	680,000	...do....	20.9	14,207,000	.812	11,540,000
1922	785,000	...do....	19.2	15,050,000	.885	13,312,000
Flaxseed:						
1920	1,757,000	...do....	6.1	10,774,000	1.767	19,039,000
1921	1,108,000	...do....	7.2	8,029,000	1.451	11,648,000
1922	1,308,000	...do....	9.4	12,238,000	2.114	25,869,000
Rice:						
1920	1,336,000	...do....	39.0	52,066,000	1.191	62,036,000
1921	921,000	...do....	40.8	37,612,000	.952	35,802,000
1922	1,055,000	...do....	39.8	41,965,000	.934	39,178,000
Potatoes:						
1920	3,657,000	...do....	110.3	403,296,000	1.145	461,778,000
1921	3,941,000	...do....	91.8	361,659,000	1.101	398,362,000
1922	4,331,000	...do....	104.2	451,185,000	.582	262,608,000
Sweet potatoes:						
1920	992,000	...do....	104.8	103,925,000	1.134	117,834,000
1921	1,066,000	...do....	92.5	98,654,000	.881	86,894,000
1922	1,116,000	...do....	98.1	109,534,000	.771	84,492,000
Hay, tame:						
1920	58,101,000	Tons....	1.51	87,855,000	17.76	1,560,235,000
1921	58,769,000	...do....	1.40	82,379,000	12.11	997,527,000
1922	61,208,000	...do....	1.58	96,687,000	12.59	1,217,044,000
Hay, wild:						
1920	15,787,000	...do....	1.11	17,460,000	11.35	198,115,000
1921	15,632,000	...do....	.98	15,391,000	6.63	101,991,000
1922	15,842,000	...do....	1.02	16,104,000	7.12	114,635,000
All hay:						
1920	73,888,000	...do....	1.43	105,315,000	16.70	1,758,350,000
1921	74,401,000	...do....	1.31	97,770,000	11.25	1,099,518,000
1922	77,050,000	...do....	1.46	112,791,000	11.81	1,331,679,000
Tobacco:						
1920	1,960,000	Pounds.	807.3	1,582,225,000	.212	335,675,000
1921	1,427,000	...do....	749.6	1,069,693,000	.199	212,728,000
1922	1,725,000	...do....	768.0	1,324,840,000	.231	306,179,000
Cotton:						
1920	35,878,000	Bales....	[1] 178.4	13,439,603	[2] .139	933,658,000
1921	30,509,000	...do....	[1] 124.5	7,953,641	[2] .162	643,933,000
1922	33,742,000	...do....	[1] 141.6	9,964,000	[2] .238	1,192,461,000

[1] Pounds per acre. [2] Cents per pound.

CROP SUMMARY—Continued.

TABLE 524.—*Crop summary, 1920, 1921, and 1922*—Continued.

Crop and year.	Acreage.	Production.			Farm value Dec. 1.	
		Unit.	Per acre.	Total.	Per unit.	Total.
					Dollars.	*Dollars.*
Cottonseed:						
1920	.....	Tons	.....	5,971,000	26.00	155,256,000
1921	.....	...do	.....	3,531,000	29.15	102,929,000
1922	.....	...do	.....	4,424,000	40.18	177,756,000
Clover seed:						
1920	1,082,000	Bushels	1.8	1,944,000	11.95	23,227,000
1921	889,000	...do	1.7	1,538,000	10.75	16,529,000
1922	1,126,000	...do	1.7	1,875,000	10.08	18,905,000
Sugar beets: [3]						
1921	815,000	Tons	9.55	7,782,000	6.38	49,626,000
1922	537,000	...do	9.76	5,243,000	5.65	29,605,000
Beet sugar: [3]						
1921	815,000	Short tons.	1.25	1,020,000	.....	.....
1922	537,000	...do	1.29	691,000	.....	.....
Cane sugar (La.):						
1921	226,400	...do	1.43	324,400	.....	.....
1922	217,000	...do	1.11	241,400	.....	.....
Maple sugar and sirup (as sugar):						
1921	[4] 15,219,000	Pounds	[5] 1.59	24,178,000	[6] .257	6,214,000
1922	[4] 16,385,000	...do	[5] 2.12	34,806,000	[6] .219	7,623,000
Sorghum sirup:						
1920	536,000	Gallons	92.4	49,505,000	1.069	52,943,000
1921	518,000	...do	88.0	45,566,000	.629	28,681,000
1922	448,000	...do	81.5	36,532,000	.710	25,946,000
Peanuts:						
1920	1,181,000	Pounds	712.5	841,474,000	.053	44,256,000
1921	1,214,000	...do	683.1	829,307,000	.040	33,097,000
1922	986,000	...do	632.4	623,507,000	.047	29,222,000
Beans: [7]						
1920	847,000	Bushels	10.8	9,185,000	2.95	27,134,000
1921	777,000	...do	11.8	9,150,000	2.67	24,399,000
1922	1,043,000	...do	11.4	11,893,000	3.74	44,429,000
Grain sorghums: [7]						
1920	5,120,000	...do	26.8	137,408,000	.929	127,629,000
1921	4,635,000	...do	24.6	113,990,000	.391	44,575,000
1922	5,051,000	...do	17.9	90,381,000	.878	79,389,000
Broom corn: [7]						
1920	275,500	Tons	[8] 265.0	36,500	126.16	4,605,000
1921	222,000	...do	[8] 344.2	38,200	72.20	2,758,000
1922	253,000	...do	[8] 272.7	34,500	220.70	7,614,000
Onions: [7 9]						
1921	57,900	Bushels	249	14,406,000	[10] 1.31	18,856,000
1922	64,200	...do	279	17,940,000	[10] .92	16,471,000
Cabbage: [7 9]						
1921	103,300	Tons	6.5	673,900	[10] 24.66	16,612,000
1922	134,600	...do	8.2	1,097,600	[10] 13.03	14,301,000
Hops: [7]						
1920	28,000	Pounds	1,224.3	34,280,000	.357	12,236,000
1921	27,000	...do	1,086.7	29,340,000	.241	7,080,000
1922	22,000	...do	1,177.7	25,910,000	.085	2,200,000
Cranberries: [7]						
1920	25,000	Barrels	18.0	449,000	12.28	5,514,000
1921	25,000	...do	15.4	384,000	16.99	6,526,000
1922	25,000	...do	22.5	562,000	10.18	5,720,000
Apples, total:						
1920	.....	Bushels	.....	223,677,000	1.148	256,699,000
1921	.....	...do	.....	99,002,000	1.680	166,343,000
1922	.....	...do	.....	203,628,000	.993	202,102,000
Apples, commercial:						
1920	.....	Barrels	.....	33,905,000	3.74	126,800,000
1921	.....	...do	.....	21,557,000	4.60	99,131,000
1922	.....	...do	.....	31,090,000	2.94	91,534,000
Peaches:						
1920	.....	Bushels	.....	45,620,000	2.104	95,970,000
1921	.....	...do	.....	32,602,000	1.587	51,739,000
1922	.....	...do	.....	56,705,000	1.333	75,613,000
Pears:						
1920	.....	...do	.....	16,805,000	1.658	27,865,000
1921	.....	...do	.....	11,297,000	1.706	19,268,000
1922	.....	...do	.....	18,661,000	1.060	19,789,000

[3] Including beets grown in Canada for United States factories.
[4] Trees tapped.
[5] Per tree.
[6] Price Mar. 15.
[7] Principal producing States.
[8] Pounds.
[9] Commercial crop.
[10] Price for season.

CROP SUMMARY—Continued.

TABLE 524.—*Crop summary, 1920, 1921, and 1922*—Continued.

Crop and year.	Acreage.	Production.			Farm value Dec. 1.	
		Unit.	Per acre.	Total.	Per unit.	Total.
Oranges (2 States):					*Dollars.*	*Dollars.*
1920		Boxes		29,700,000	2.19	64,908,000
1921		do		20,300,000	2.42	49,175,000
1922		do		24,900,000	2.47	61,395,000
Total:						
1920	347,847,300					8,998,820,000
1921	348,435,600					5,630,781,000
1922	348,969,800					7,480,668,000

VALUE OF FARM PRODUCTS.

TABLE 525.—*Estimated value of farm products, 1879–1922, based on prices at the farm.*

Year.	Total, gross (to be read as index numbers).	Crops.		Animals and animal products.	
		Value.	Percentage of total.	Value.	Percentage of total.
1879 (census)	*$2,213,000,000*				
1889 (census)	*2,460,000,000*				
1897	3,961,000,000	$2,519,000,000	63.6	$1,442,000,000	36.4
1898	4,339,000,000	2,760,000,000	63.6	1,579,000,000	36.4
1899 (census)	*4,738,000,000*	*3,020,000,000*	*63.6*	*1,718,000,000*	*36.4*
1900	5,010,000,000	3,192,000,000	63.7	1,818,000,000	36.3
1901	5,302,000,000	3,385,000,000	63.8	1,917,000,000	36.2
1902	5,595,000,000	3,578,000,000	64.0	2,016,000,000	36.0
1903	5,887,000,000	3,772,000,000	64.1	2,116,000,000	35.9
1904	6,122,000,000	3,982,000,000	65.0	2,140,000,000	35.0
1905	6,274,000,000	4,013,000,000	64.0	2,261,000,000	36.0
1906	6,764,000,000	4,263,000,000	63.0	2,501,000,000	37.0
1907	7,488,000,000	4,761,000,000	63.6	2,727,000,000	36.4
1908	7,891,000,000	5,098,000,000	64.6	2,792,000,000	35.4
1909 (census)	*8,558,000,000*	*5,487,000,000*	*64.1*	*3,071,000,000*	*35.9*
1910	9,037,000,000	5,486,000,000	60.7	3,551,000,000	39.3
1911	8,819,000,000	5,562,000,000	63.1	3,257,000,000	36.9
1912	9,343,000,000	5,842,000,000	62.5	3,501,000,000	37.5
1913	9,850,000,000	6,133,000,000	62.3	3,717,000,000	37.7
1914	9,895,000,000	6,112,000,000	61.8	3,783,000,000	38.2
1915	10,775,000,000	6,907,000,000	64.1	3,868,000,000	35.9
1916	13,406,000,000	9,054,000,000	67.5	4,352,000,000	32.5
1917	19,331,000,000	13,479,000,000	69.7	5,852,000,000	30.3
1918	22,480,000,000	14,331,000,000	63.8	8,149,000,000	36.2
1919	23,787,000,000	15,423,000,000	64.8	8,364,000,000	35.2
1920	18,328,000,000	10,909,000,000	59.5	7,419,000,000	40.5
1921	12,402,000,000	6,934,000,000	55.9	5,468,000,000	44.1
1922	14,310,000,000	8,961,000,000	62.6	5,349,000,000	37.4

CROP VALUE PER ACRE.

TABLE 526.—*Yearly value per acre of 10 crops combined.*

[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.]

1866	$14.17	1881	13.10	1896	$7.94	1911	$15.36
1867	15.09	1882	12.93	1897	9.07	1912	16.09
1868	14.17	1883	10.93	1898	9.00	1913	16.49
1869	14.67	1884	9.95	1899	9.13	1914	16.44
1870	15.40	1885	9.72	1900	10.31	1915	17.18
1871	15.74	1886	9.41	1901	11.43	1916	22.58
1872	14.86	1887	10.14	1902	12.07	1917	33.27
1873	14.19	1888	10.30	1903	12.62	1918	33.73
1874	13.25	1889	8.99	1904	13.26	1919	35.74
1875	12.20	1890	11.03	1905	13.28	1920	23.26
1876	10.80	1891	11.76	1906	13.46	1921	14.45
1877	12.00	1892	10.10	1907	14.74	1922	19.41
1878	10.37	1893	9.50	1908	15.32		
1879	13.26	1894	9.06	1909	16.00		
1880	13.01	1895	8.12	1910	15.53		

TABLE 527.—*Aggregate crop acreages, by States, 1920–1922.*

[The following tabulation gives the 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.]

State.	Acreage of crops named in heading.			Per cent of total acreage in specified crops.[1]	Total acreage of all crops (theoretical).		
	1920	1921	1922		1920	1921	1922
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*Per cent.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Maine	1,536	1,571	1,573	96	1,600	1,636	1,639
New Hampshire	520	520	520	94	553	553	553
Vermont	1,142	1,122	1,139	93	1,228	1,206	1,225
Massachusetts	563	564	576	86	655	656	670
Rhode Island	64	64	64	84	76	76	76
Connecticut	475	475	479	88	540	540	544
New York	8,091	8,073	8,116	91	8,891	8,871	8,920
New Jersey	882	904	907	86	1,026	1,051	1,055
Pennsylvania	7,819	7,973	8,031	97	8,061	8,220	8,279
Delaware	402	408	409	89	452	458	460
Maryland	1,832	1,803	1,807	91	2,013	1,981	1,986
Virginia	4,535	4,467	4,549	93	4,876	4,803	4,891
West Virginia	1,885	1,888	1,927	95	1,984	1,987	2,028
North Carolina	6,477	6,240	6,632	94	6,890	6,638	7,055
South Carolina	5,821	5,692	5,429	92	6,327	6,187	5,901
Georgia	10,855	10,499	9,631	94	11,548	11,169	10,246
Florida	1,162	1,147	1,179	89	1,306	1,289	1,325
Ohio	11,453	11,350	11,581	97	11,807	11,701	11,939
Indiana	11,474	11,491	11,249	96	11,952	11,970	11,718
Illinois	20,069	20,256	20,183	97	20,690	20,882	20,807
Michigan	8,637	8,604	9,036	93	9,287	9,252	9,716
Wisconsin	9,530	9,644	9,679	90	10,589	10,716	10,754
Minnesota	15,713	16,665	16,980	96	16,368	17,359	17,688
Iowa	20,755	21,058	21,055	97	21,397	21,709	21,706
Missouri	15,194	15,034	14,385	96	15,827	15,661	14,984
North Dakota	18,130	18,537	18,667	96	18,885	19,309	19,445
South Dakota	14,918	15,516	15,631	98	15,222	15,833	15,950
Nebraska	18,041	18,263	18,234	97	18,599	18,828	18,798
Kansas	21,373	21,076	21,154	93	22,982	22,662	22,746
Kentucky	5,942	5,706	5,868	95	6,255	6,006	6,177
Tennessee	6,673	6,458	6,678	91	7,333	7,097	7,338
Alabama	7,989	7,964	7,929	93	8,590	8,563	8,526
Mississippi	6,438	6,564	6,784	96	6,706	6,838	7,067
Louisiana	4,135	3,856	3,865	91	4,544	4,237	4,247
Texas	23,824	24,324	24,025	92	25,896	26,439	26,114
Oklahoma	13,738	13,849	14,285	93	14,772	14,891	15,360
Arkansas	6,782	6,392	6,517	93	7,292	6,873	7,008
Montana	5,831	5,567	5,631	87	6,702	6,399	6,472
Wyoming	1,347	1,442	1,468	90	1,497	1,602	1,631
Colorado	5,196	5,332	5,318	85	6,113	6,273	6,256
New Mexico	1,066	1,089	769	78	1,367	1,396	986
Arizona	495	430	453	85	582	506	533
Utah	993	1,018	1,078	88	1,128	1,157	1,225
Nevada	380	391	396	98	388	399	404
Idaho	2,675	2,691	2,706	91	2,940	2,957	2,974
Washington	3,897	4,026	3,868	86	4,531	4,681	4,498
Oregon	2,785	2,812	2,800	80	3,481	3,515	3,500
California [2]	5,555	5,078	5,289	75	7,407	6,771	7,052
United States	345,089	345,893	346,529	93.8	369,155	369,803	370,472

[1] Based upon census proportions in 1919.

[2] Includes cotton acreage in Lower California (125,000 acres in 1920, 85,000 acres in 1921, and 122,000 acres in 1922).

AGGREGATE CROP-VALUE COMPARISONS.

TABLE 528.—*Value of 22 crops and hypothetical value of all crops, with rank.*

The following tabulation gives the 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, clover seed, peanuts, cranberries, and apples—in the United States, by States, in 1919 (census) 1921 and 1922; the value of all crops in 1919 (census); and the hypothetical value of all crops in several years, based upon ratio of the 22 crops to all crops in census year; also rank of States. The slight differences in the total value of crops in the United States between Tables 525 and 528 are due to different methods of estimating. In Table 528, where each State is shown separately, a more detailed method is used than is practicable in Table 525.

State.	Value all crops, 1919 census.[1]	Ratio value 22 crops to all crops in census 1919.	Value 22 crops.			Hypothetical value all crops.			Rank.	
			1919 (census).	1921	1922	1916–1920 average.	1921	1922	1922	
									22 crops.	All crops.
	1,000 dols.	*P. ct.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*	*1,000 dols.*		
Me.	100,152	92	91,982	61,788	36,021	69,400	67,161	39,153	37	39
N.H.	23,510	79	18,479	17,808	15,310	23,028	22,542	19,380	44	44
Vt.	48,000	77	36,835	31,474	32,282	47,727	40,875	41,925	38	38
Mass.	53,701	68	36,601	33,705	30,019	54,894	49,566	44,146	39	37
R.I.	5,340	69	3,680	2,802	2,603	5,949	4,061	3,772	48	48
Conn.	44,473	81	36,006	38,691	29,578	47,883	47,767	36,516	40	40
N.Y.	417,047	77	321,598	209,804	213,180	397,338	272,473	276,857	13	9
N.J.	87,484	70	61,273	37,234	39,031	83,693	53,191	55,759	36	36
Pa.	409,969	86	350,991	195,516	217,329	375,210	227,344	252,708	12	13
Del.	23,059	72	16,516	7,787	10,579	23,867	10,815	14,693	46	46
Md.	110,166	80	88,066	38,737	51,670	102,342	48,421	64,588	34	35
Va.	292,824	85	247,463	113,267	145,818	259,267	133,255	171,551	25	25
W. Va.	96,537	81	78,143	46,999	53,747	105,164	58,023	66,354	33	34
N.C.	503,229	87	438,892	219,567	298,094	402,171	252,376	342,637	4	5
S.C.	437,122	82	360,025	118,049	133,437	337,088	143,962	162,728	26	26
Ga.	540,614	80	430,270	137,997	169,787	476,605	172,496	212,234	23	23
Fla.	80,257	62	49,521	31,225	43,531	82,906	50,363	70,211	35	33
Ohio	607,038	87	526,943	184,682	244,594	469,699	212,278	281,143	9	8
Ind.	497,230	90	449,079	149,417	203,370	418,969	166,019	225,967	16	19
Ill.	864,738	92	797,893	272,909	386,017	714,189	296,640	419,584	3	3
Mich.	404,015	82	329,651	150,622	175,596	327,529	183,685	214,141	22	22
Wis.	445,348	81	360,404	178,625	218,104	392,954	220,525	269,264	11	11
Minn.	506,020	89	450,327	186,775	253,460	440,270	209,860	284,787	6	7
Iowa	890,391	92	820,126	235,130	418,404	694,689	255,576	454,787	2	2
Mo.	559,048	89	496,261	172,813	245,855	433,892	194,172	276,242	8	10
N.Dak.	301,783	92	278,315	135,273	208,064	279,734	147,036	226,157	14	18
S.Dak.	311,007	93	288,376	106,581	168,711	314,711	114,603	181,410	24	24
Nebr.	519,730	95	491,338	166,977	246,866	433,214	175,765	259,859	7	12
Kans.	588,923	91	536,408	206,302	263,623	466,071	226,705	289,696	5	6
Ky.	347,339	89	310,224	133,759	195,204	324,894	150,291	219,330	17	20
Tenn.	318,285	83	263,797	128,612	180,399	268,635	154,954	217,348	21	21
Ala.	304,349	81	246,271	119,307	186,650	263,784	147,293	230,432	20	16
Miss.	336,207	83	278,539	121,170	187,836	271,324	145,988	226,308	19	17
La.	206,182	71	147,290	72,826	98,808	207,494	102,572	139,166	28	27
Tex.	1,071,542	83	885,955	352,564	594,619	856,663	424,776	716,408	1	1
Okla.	550,085	87	479,314	145,315	207,668	370,436	167,029	238,699	15	14
Ark.	340,813	83	283,175	125,524	193,450	288,790	151,234	233,072	18	15
Mont.	69,975	86	60,058	64,509	75,421	106,280	75,010	87,699	30	31
Wyo.	30,271	88	26,528	18,759	20,935	44,940	21,317	23,790	43	43
Colo.	181,065	76	137,660	65,852	80,518	157,249	86,647	105,945	29	29
N.Mex.	40,620	77	31,093	21,577	13,916	40,791	28,022	18,073	45	45
Ariz.	42,481	84	35,478	17,299	22,668	35,298	20,594	26,986	42	42
Utah	58,067	70	40,901	18,473	23,110	53,110	26,390	33,014	41	41
Nev.	13,980	96	13,439	7,731	10,269	15,847	8,053	10,697	47	47
Idaho	126,495	88	111,940	61,520	64,810	107,974	69,909	73,648	32	32
Wash.	227,212	82	185,667	131,627	110,613	185,739	160,521	134,894	27	28
Oreg.	131,885	75	99,095	66,013	66,603	122,127	88,017	88,804	31	30
Calif.	589,757	54	315,091	174,991	226,170	520,411	324,057	418,833	10	4
United States.	14,755,365	84.3	12,442,977	5,335,984	7,114,347	12,522,239	6,410,229	8,501,395	.....	.....

[1] Does not include nursery or greenhouse products or forest products of the farm.

WHEN CROPS ARE HARVESTED.

The tabulation below shows when crops are harvested in the United States by showing what proportion of the crop is usually harvested each month. Two factors tend to modify these percentages in any given year. In some years harvests come somewhat earlier or later than normal. Also, if the crop is larger than usual in its northern section and smaller than usual in its southern section, or vice versa, the effect is to modify the percentage of the total crop which is harvested in a particular month. However, it is not likely that such changes from normal are often so marked throughout the United States as to alter greatly the averages here given.

TABLE 529.—*Percentage of crops of United States harvested monthly.*

Crop.	January-April.	May.	June.	July.	August.	September.	October.	November.	December.
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Barley	.....	1.2	8.2	51.6	33.9	4.9	0.2	.....	.....
Buckwheat	.....	.....	.....	.8	6.7	64.9	26.7	0.9	.....
Corn	.....	.....	.1	.1	1.5	15.8	28.3	43.3	10.9
Oats	.....	1.0	7.9	52.9	34.2	3.8	.2	.....	.....
Rice	.....	.....	.....	.9	15.3	33.0	33.8	14.6	2.4
Rye	.....	.2	11.3	71.5	16.3	.7	.....	.....	.....
Wheat	.....	.5	22.0	42.3	28.4	6.5	.3	.....	.....
Apples	.....	.1	2.5	7.2	12.5	27.7	45.5	4.5	.....
Blackberries	0.1	1.8	15.4	47.6	27.1	6.2	1.7	.1	.....
Cantaloupes	.3	1.8	8.7	20.9	36.7	28.6	3.0	.....	.....
Cranberries	.....	.....	.....	.....	7.3	67.1	25.6	.....	.....
Grapes	.....	.....	.1	3.5	15.2	48.0	29.8	3.4	.....
Peaches	.....	1.6	7.9	23.4	34.3	26.9	5.9	.....	.....
Pears	.....	.1	.4	7.5	25.1	44.4	21.5	1.0	.....
Raspberries	.....	.5	16.5	58.4	21.7	2.8	.1	.....	.....
Strawberries	4.8	23.6	49.4	18.3	3.1	.6	.1	.1	.....
Watermelons	.....	.4	5.2	27.3	39.8	24.1	3.2	.....	.....
Beans (dry)	.....	.....	.....	.8	13.8	54.9	26.9	3.6	.....
Beans (lima)	.1	.7	3.4	8.4	22.1	43.4	20.4	1.5	.....
Cabbage	4.2	2.3	4.7	6.8	9.1	18.1	40.4	14.0	.4
Onions	1.7	4.4	8.7	12.6	17.2	32.5	21.9	1.0	.....
Potatoes	.2	1.3	3.3	6.8	12.1	33.7	39.2	3.3	.1
Sweet potatoes	.1	.....	.1	1.7	6.2	21.5	49.1	20.6	.7
Tomatoes	3.1	1.3	3.8	11.4	29.2	39.7	9.7	1.5	.3
Hay, all	.2	2.2	15.3	47.8	21.8	10.7	1.9	.1	.....
Alfalfa	.9	5.3	24.1	28.0	21.5	16.4	3.7	.1	.....
Alfalfa seed	.....	.....	.6	10.7	30.5	45.1	13.0	.1	.....
Bluegrass seed	.....	5.1	43.0	23.6	16.4	11.4	.5	.....	.....
Clover seed	.....	.....	.2	3.4	21.2	54.4	20.0	.8	.....
Millet	.....	.2	1.7	16.4	40.5	37.2	4.0	.....	.....
Timothy hay	.....	.....	7.1	73.6	17.8	1.5	.....	.....	.....
Timothy seed	.....	.....	.8	36.1	54.0	9.1	.....	.....	.....
Wild hay	.2	.6	4.1	28.9	36.5	26.4	3.3	.....	.....
Broom corn	.....	.....	2.8	9.7	29.0	43.1	14.4	1.0	.....
Cotton	.4	.....	.....	1.4	11.5	31.6	34.4	16.0	4.7
Flaxseed	.....	.....	.1	3.0	31.5	56.5	8.9	.....	.....
Hops	.....	.....	.....	1.1	27.6	63.6	7.7	.....	.....
Peanuts	.....	.....	.1	2.1	12.5	39.3	37.7	8.0	.3
Sorghum (sirup)	.....	.....	.1	1.4	13 3	51.9	30.9	2.4	.....
Sugar beets	.....	.....	.....	1.0	3.8	18.5	56.3	20.2	.2
Tobacco	.....	.....	.6	7.5	27.1	52.7	12.1	.....	.....

PLANTING DATES.

TABLE 530.—*Mean dates when planting of specified crops begins, becomes general, and ends.*

State.	Corn.			Oats.			Spring wheat.		
	Beginning.	General.	Ending.	Beginning.	General.	Ending.	Beginning.	General.	Ending.
Me	May 17	May 26	June 6	May 2	May 13	June 1	.....	.....	.....
N. H	May 14	May 24	June 4	May 4	May 12	May 27	.....	.....	.....
Vt	May 17	May 25	...do....	Apr. 29	May 9	May 22	Apr. 28	May 8	May 18
Mass	May 10	May 20	May 31	Apr. 10	Apr. 27	May 6	.....	.....	.....
R. I	...do....	May 19	June 11	Apr. 13	Apr. 25	May 8	.....	.....	.....
Conn	...do....	May 22	June 4	Apr. 9	Apr. 22	...do....	.....	.....	.....
N. Y	May 12	May 21	June 3	Apr. 19	Apr. 30	May 18	Apr. 14	Apr. 28	May 12
N. J	May 6	May 14	May 31	Apr. 1	Apr. 12	Apr. 24	.....	.....	.....
Pa	May 4	May 15	May 29	Apr. 6	Apr. 9	May 2	Apr. 3	Apr. 17	May 2
Del	Apr. 28	May 6	May 20	.....	.....	.....	.....	.....	.....
Md	Apr. 26	May 8	May 31	Mar. 20	Apr. 1	Apr. 21	.....	.....	.....
Va	Apr. 20	May 2	May 21	Mar. 15	Mar. 28	Apr. 13	.....	.....	.....
W. Va	Apr. 26	May 10	May 27	Mar. 26	Apr. 8	Apr. 22	.....	.....	.....
N. C	Mar. 30	Apr. 19	May 24	Feb. 21	Mar. 7	Mar. 23	.....	.....	.....
S. C	Mar. 18	Apr. 5	May 15	.....	.....	.....	Jan. 29	Feb. 21	Mar. 12
Ga	Mar. 16	Apr. 4	May 7	Feb. 6	Feb. 27	Mar. 16	.....	.....	.....
Fla	Feb. 21	Mar. 11	Apr. 2	.....	.....	.....	.....	.....	.....
Ohio	May 1	May 14	May 27	Mar. 27	Apr. 9	Apr. 22	.....	.....	.....
Ind	...do....	...do....	May 31	Mar. 20	Apr. 4	Apr. 18	.....	.....	.....
Ill	Apr. 30	May 13	June 2	Mar. 19	Mar. 31	Apr. 14	Mar. 22	Apr. 1	Apr. 9
Mich	May 15	May 22	...do....	Apr. 20	Apr. 30	May 10	Apr. 23	May 3	May 14
Wis	May 11	May 18	May 28	Apr. 16	Apr. 24	May 7	Apr. 10	Apr. 20	Apr. 27
Minn	May 13	May 19	May 30	Apr. 19	Apr. 29	May 9	Apr. 13	Apr. 23	May 5
Iowa	May 4	May 13	May 26	Apr. 3	Apr. 11	Apr. 22	Mar. 29	Apr. 6	Apr. 14
Mo	Apr. 14	May 1	May 22	Mar. 10	Mar. 25	Apr. 10	.....	.....	.....
N. Dak	May 14	May 21	May 31	Apr. 24	May 5	May 19	Apr. 8	Apr. 21	May 9
S. Dak	May 9	May 19	June 1	Apr. 8	Apr. 18	Apr. 30	Apr. 1	Apr. 14	Apr. 28
Nebr	May 3	May 13	May 29	Apr. 2	Apr. 12	Apr. 23	Mar. 22	Apr. 2	Apr. 13
Kans	Apr. 14	Apr. 29	May 18	Mar. 7	Mar. 21	Apr. 3	Feb. 27	Mar. 13	Mar. 27
Ky	Apr. 15	May 5	May 26	Mar. 8	Mar. 23	Apr. 11	.....	.....	.....
Tenn	Mar. 31	Apr. 21	May 25	Feb. 22	Mar. 11	Apr. 1	.....	.....	.....
Ala	Mar. 12	Apr. 5	May 18	Jan. 31	Feb. 20	Mar. 9	.....	.....	.....
Miss	...do....	Apr. 1	May 10	Feb. 1	Feb. 19	...do....	.....	.....	.....
La	Feb. 27	Mar. 22	Apr. 24	.....	.....	.....	.....	.....	.....
Tex	...do....	Mar. 13	Apr. 4	Jan. 27	Feb. 10	Feb. 25	Jan. 25	Feb. 13	Feb. 23
Okla	Mar. 24	Apr. 7	Apr. 30	Feb. 17	Mar. 4	Mar. 21	.....	.....	.....
Ark	Mar. 18	Apr. 6	May 6	Feb. 15	Mar. 1	Mar. 18	.....	.....	.....

State.	Barley.			Tobacco.			Cotton.		
	Beginning.	General.	Ending.	Beginning.	General.	Ending.	Beginning.	General.	Ending.
Me	May 12	May 26	June 11	.....	.....	.....	.....	.....	.....
N. H	May 16	May 21	June 4	.....	.....	.....	.....	.....	.....
Vt	May 12	May 22	June 8	.....	.....	.....	.....	.....	.....
Mass	May 11	...do....	June 4	May 28	June 12	June 26	.....	.....	.....
Conn	.....	.....	.....	May 26	June 10	June 24	.....	.....	.....
N. Y	Apr. 23	Apr. 30	May 16	June 1	June 15	June 30	.....	.....	.....
Pa	Apr. 8	Apr. 20	May 2	May 30	June 12	June 27	.....	.....	.....
Md	.....	.....	.....	May 23	June 8	June 23	.....	.....	.....
Va	.....	.....	.....	May 16	June 5	June 20	.....	.....	.....
W. Va	.....	.....	.....	May 23	...do....	June 22	.....	.....	.....
N. C	.....	.....	.....	Apr. 29	May 14	May 31	Apr. 19	May 1	May 16
S. C	.....	.....	.....	Apr. 10	Apr. 23	May 3	Apr. 5	Apr. 22	May 12
Ga	.....	.....	.....	Apr. 19	May 4	May 23	...do....	Apr. 21	...do...
Fla	.....	.....	.....	Mar. 25	Apr. 20	May 15	Mar. 16	Mar. 28	Apr. 20
Ohio	Mar. 28	Apr. 8	Apr. 21	May 28	June 11	June 25	.....	.....	.....
Ind	Mar. 27	Apr. 7	Apr. 19	May 25	June 9	June 26	.....	.....	.....
Ill	.....	.....	.....	May 23	May 28	June 14	.....	.....	.....
Mich	Apr. 25	May 4	May 15	.....	.....	.....	.....	.....	.....
Wis	Apr. 23	Apr. 30	May 9	June 4	June 16	June 30	.....	.....	.....

PLANTING DATES—Continued.

TABLE 530.—*Mean dates when planting of specified crops begins, becomes general, and ends*—Continued.

State.	Barley.			Tobacco.			Cotton.		
	Beginning.	General.	Ending.	Beginning.	General.	Ending.	Beginning.	General.	Ending.
Minn	May 1	May 10	May 20						
Iowa	Apr. 8	Apr. 14	Apr. 22						
Mo	Mar. 15	Apr. 3	Apr. 15	May 27	June 7	June 20	Apr. 25	May 4	May 14
N. Dak	May 4	May 14	May 29						
S. Dak	Apr. 14	Apr. 26	May 10						
Nebr	Apr. 8	Apr. 17	Apr. 28						
Kans	Mar. 18	Mar. 30	Apr. 13						
Ky				May 18	June 1	June 17			
Tenn				May 10	May 22	June 5	Apr. 21	May 2	May 16
Ala							Apr. 8	Apr. 20	May 11
Miss							Apr. 5	Apr. 21	do
La							Mar. 29	do	May 7
Tex							do	Apr. 13	May 9
Okla	Feb. 26	Mar. 17	Mar. 31				Apr. 18	May 2	May 24
Ark				May 12	May 24	June 4	Apr. 15	Apr. 28	May 13

SEED USED PER ACRE.

In consideration of supplies and distribution of crops, as well as for other purposes, the average quantity per acre used for seed is frequently a question of interest. A year ago county crop correspondents of the Bureau of Statistics were requested to report the quantity of various seeds usually sown or planted per acre; the returns were tabulated and show the following averages for the United States; more or less variation from the average prevails in different States, and, therefore, in addition to the averages of returns, an estimate of the range of the bulk of these seedings (not the extreme range) is also given.

TABLE 531.—*Seed used per acre, approximate averages for the United States.*

Crop.		Average of reports.	Estimated range of bulk of plantings.
Alfalfa, broadcast	pounds	18.3	15 to 20
Alfalfa, drilled	do	14.8	12 to 18
Barley	bushels	1.84	1.5 to 2.0
Beans, field, small	do	.76	.5 to 1.0
Beans, field, large	do	1.29	1.0 to 1.5
Beets, common (not sugar)	pounds	6.3	5.5 to 7.5
Blue grass	bushels	1.07	.75 to 1.25
Broom corn	pounds	6.0	3 to 7
Buckwheat	bushels	.98	.75 to 1.25
Cabbage plants	number	5,658.0	5,000 to 7,000
Clover, alsike	pounds	8.7	8 to 12
Clover, Japan	do	9.9	9 to 15
Clover, mammoth	do	10.4	8 to 12
Clover, red, alone	do	10.7	8 to 12
Clover, red, on grain	do	9.8	8 to 12
Clover, crimson	do	12.1	10 to 15
Corn, for grain	do	9.5	6 to 12
Corn, fodder, for silage	do	26.0	15 to 35
Cotton	bushels	.96	.9 to 1.1
Cowpeas, for forage	do	1.31	1.0 to 1.5
Cowpeas, in drill with corn	do	.63	.40 to .65
Cowpeas, for seed	do	.70	.50 to .75
Field peas, small	do	.93	.75 to 1.25
Field peas, large	do	1.17	1.0 to 1.5
Flaxseed	pounds	29.2	25 to 30
Oats	bushels	2.37	2.0 to 2.5
Orchard grass	pounds	12.6	10 to 15
Peanuts	bushels	1.02	1.0 to 1.1
Potatoes	do	8.6	7 to 12
Rice	do	1.98	1.5 to 2.5
Rye, for grain	do	1.44	1.25 to 1.75
Rye, for forage	do	1.82	1.5 to 2.0
Soy beans, drilled	do	.79	.50 to 1.00
Soy beans, broadcast	do	1.37	1.00 to 1.50
Sugar beets	pounds	13.1	12 to 18
Sweet potato plants	number	6,605.0	6,000 to 7,000
Timothy	pounds	9.4	8 to 12
Tobacco plants	number	4,762.0	
Wheat	bushels	1.38	1.25 to 1.75

COMPOSITE CROP YIELDS.

TABLE 532.—*Composite numbers of all crop yields.*

The figures below are obtained in the following manner: For each State the average yield per acre of each crop (as corn, wheat, cotton, etc.) is reduced to its 10-year average yield per acre; these percentages are combined into a composite or general average, viz, the figures shown. The relative importance of each crop is taken into consideration in making the composite averages.

State and division.	1918	1919	1920	1921	1922
Maine	100	106	90	95	84
New Hampshire	106	105	104	94	104
Vermont	97	104	104	87	98
Massachusetts	98	103	107	93	93
Rhode Island	103	101	98	95	88
Connecticut	98	100	104	102	92
New York	102	107	110	84	109
New Jersey	100	97	121	92	118
Pennsylvania	102	105	109	94	105
North Atlantic	101.2	104.8	107.9	90.3	104.1
Delaware	91	91	111	88	107
Maryland	100	98	112	90	105
Virginia	105	102	109	86	105
West Virginia	99	102	109	91	101
North Carolina	106	92	107	85	93
South Carolina	98	94	99	74	68
Georgia	97	85	88	73	67
Florida	99	92	96	90	110
South Atlantic	100.3	93.1	100.4	80.8	84.4
Ohio	102	105	107	89	97
Indiana	110	96	106	88	98
Illinois	111	97	101	94	102
Michigan	90	100	109	85	107
Wisconsin	114	107	112	89	110
N. C. east of Mississippi River	106.0	100.6	106.2	89.8	102.4
Minnesota	123	89	97	84	98
Iowa	104	107	113	99	110
Missouri	84	106	114	102	101
North Dakota	108	69	91	82	127
South Dakota	139	89	104	87	103
Nebraska	78	114	137	104	89
Kansas	82	111	129	102	101
N. C. west of Mississippi River	101.1	100.2	113.0	95.6	103.3
Kentucky	100	95	106	93	100
Tennessee	96	96	105	97	92
Alabama	101	82	87	82	93
Mississippi	102	92	90	86	96
Louisiana	85	87	97	95	97
Texas	65	124	114	92	86
Oklahoma	66	139	140	105	77
Arkansas	76	98	107	92	92
South Central	83.6	105.5	107.4	92.9	89.9
Montana	69	40	83	84	100
Wyoming	105	65	113	86	94
Colorado	96	90	105	99	87
New Mexico	96	104	107	96	59
Arizona	94	112	97	110	94
Utah	94	78	103	108	99
Nevada	92	88	90	100	108
Idaho	89	82	98	98	95
Washington	75	94	92	108	79
Oregon	80	98	103	104	88
California	88	99	96	95	105
Far Western	85.3	88.5	96.9	98.3	95.5
United States	97.6	99.8	106.9	91.7	96.7

COMPOSITE CROP CONDITIONS, MONTHLY.

The character of seasons in past years for crops in the United States is indicated in the accompanying table of the composite condition of all important crops, monthly, during the growing period, 100 representing an average condition.

TABLE 533.—*Composite condition of growing crops, monthly, 1910–1921.*

Year.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.
1910	.....	.....	93.5	97.2	99.6	99.3
1911	97.2	89.3	85.4	84.8	86.7	90.6
1912	99.1	98.8	100.3	104.1	110.0	107.7
1913	98.9	98.2	95.5	89.9	90.3	93.3
1914	102.2	101.5	98.0	97.9	99.4	102.3
1915	102.3	102.3	103.9	105.5	106.9	108.0
1916	97.7	101.6	97.4	94.6	94.5	95.1
1917	94.2	97.8	99.8	102.5	102.4	102.0
1918	102.9	101.6	98.9	94.1	96.6	97.6
1919	104.7	102.3	97.8	98.8	98.7	99.8
1920	94.8	99.7	105.4	107.0	106.9	106.9
1921	93.2	96.4	93.0	92.9	91.1	91.7
1922	99.2	97.9	101.2	98.8	98.7	96.7

WEIGHTS PER BUSHEL.

A bushel is regarded as a definite weight rather than a cubic measure in the estimates of production and prices made by the Bureau of Markets and Crop Estimates. The weights which are regarded as a bushel for various products are as follows: Wheat, 60 pounds; corn, 56 pounds if shelled, 70 pounds if in ear; oats, 32 pounds; barley, 48 pounds; rye, 56 pounds; buckwheat, 48 pounds; white (Irish) potatoes, 60 pounds; sweet potatoes, 55 pounds; apples, 48 pounds; pears, 48 pounds; peaches, 48 pounds; walnuts and hickory nuts, 50 pounds; beans (dry), 60 pounds; onions, 57 pounds; turnips, 55 pounds; clover seed, 60 pounds; alfalfa seed, 60 pounds; timothy seed, 45 pounds; kafir corn, 56 pounds. Estimates of yields and prices in tons are always on the basis of 2,000 pounds.

TABLE 534.—*Estimated average weight in pounds per measured bushel of wheat, oats, and barley, of the yearly crops of the United States.*

Year.	Wheat.	Oats.	Barley.	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	.....	1917	58.5	33.4	46.6
1907	58.2	29.4	.....	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	57.4	33.1	46.0
1910	58.5	32.7	46.9	1921	56.6	28.3	44.4
1911	57.8	31.1	46.0	1922	57.7	32.0	46.2
1912	58.3	33.0	46.8				

MONTHLY SALES FROM FARMS.

For every $100 worth of product sold from the farm, about $12.60 are sold in October, the month of heaviest total sales; $11.70 in November, $10.50 in December, and $10.10 in September—in the four months, $44.90. Smallest sales are in May and June, when the amount in each month is $6.10 of the year's $100.

Sales of crops alone are more concentrated in the fall months; for every $100 worth of crops sold in a year, $15.50 worth are sold in October, $15.70 in November, $12.60 in December, and $12.40 in September; in the four months, $56.20. Smallest sales ($3.10) are in June.

Sales of live-stock products are fairly evenly distributed through the year. For every $100 worth of live-stock products sold in a year $9.60 are sold in June, the highest proportion in any month, and $7.50 in January, the lowest.

These estimates are based upon reports made by crop correspondents of the Bureau of Crop Estimates of their actual sales in 1914, modified when necessary to make the figures typical of sales in recent years. More than 5,000 reports were tabulated. As the correspondents are representative farmers, the averages of their reports in the United States and in the larger States are probably nearly the same as the averages for all the farmers in the States. Details of monthly sales are given in tabulation below.

TABLE 535.—*Monthly percentages of year's receipts from sales by farmers.*

[Monthly rate of sales from farms, averages for recent years, estimates based upon reports of actual monthly sales made by crop correspondents of Bureau of Crop Estimates.]

FROM SALES OF ALL KINDS.

Division.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North Atlantic	7.0	6.3	7.6	7.9	7.8	6.9	7.4	8.6	10.1	11.1	10.8	8.5	100.0
South Atlantic	8.4	5.8	5.8	5.8	4.7	4.8	5.9	5.6	9.0	15.6	14.1	14.5	100.0
North Central east of Miss. R.	8.4	7.0	9.2	7.7	7.6	8.3	7.7	8.3	9.0	8.1	8.9	9.8	100.0
North Central west of Miss. R.	10.0	8.5	8.1	8.0	6.0	5.7	6.2	6.8	10.7	10.7	10.1	10.2	100.0
South Central	8.6	6.0	5.9	5.0	4.8	4.0	5.6	5.1	11.9	16.0	14.9	12.2	100.0
Far Western	6.4	4.2	5.5	7.4	5.0	6.8	4.9	6.1	9.3	20.0	16.0	8.4	100.0
United States	8.5	6.8	7.4	6.9	6.1	6.1	6.4	6.9	10.1	12.6	11.7	10.5	100.0

FROM SALES OF CROPS.

North Atlantic	5.3	4.5	5.5	5.1	4.8	3.3	5.8	10.4	13.9	15.4	15.7	10.3	100.0
South Atlantic	8.7	5.0	4.3	4.5	2.7	2.7	5.1	5.0	8.5	15.3	19.0	19.2	100.0
North Central east of Miss. R.	6.6	6.9	7.6	6.7	6.5	5.9	9.3	12.9	12.3	8.3	9.3	7.7	100.0
North Central west of Miss. R.	8.1	6.3	5.8	4.6	4.4	2.6	7.1	7.3	15.0	13.6	13.2	12.0	100.0
South Central	7.4	4.2	4.4	3.1	2.1	2.3	5.8	4.8	12.3	19.3	19.1	15.2	100.0
Far Western	7.1	3.2	4.0	4.0	3.0	2.6	5.0	8.2	10.2	22.8	19.7	10.2	100.0
United States	7.4	5.2	5.3	4.6	3.9	3.1	6.5	7.8	12.4	15.5	15.7	12.6	100.0

MONTHLY SALES FROM FARMS—Continued.

TABLE 535.—*Monthly percentages of year's receipts from sales by farmers*—Continued.

FROM SALES OF LIVE STOCK.

Division.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
North Atlantic	7.5	6.4	9.6	10.8	10.6	5.2	5.8	5.6	8.8	9.6	12.7	7.4	100.0
South Atlantic	8.0	5.6	7.7	6.1	5.9	6.3	5.9	5.4	10.4	21.4	8.4	8.9	100.0
North Central east of Miss. R.	9.8	6.8	10.9	7.9	7.0	9.5	6.1	5.0	7.5	7.9	9.4	12.2	100.0
North Central west of Miss. R.	12.6	10.3	10.1	7.9	6.0	6.9	4.9	6.5	7.7	9.3	8.3	9.5	100.0
South Central	9.9	8.6	8.0	7.1	4.2	5.2	5.0	5.4	12.5	13.6	11.1	9.4	100.0
Far Western	5.9	4.5	5.0	11.3	5.3	9.2	4.5	2.4	9.4	21.9	14.6	6.0	100.0
United States	10.3	8.1	9.2	8.2	6.2	7.4	5.3	5.5	8.7	11.8	9.8	9.5	100.0

FROM SALES OF LIVE-STOCK PRODUCTS.

North Atlantic	7.8	7.6	8.3	8.7	9.2	9.1	8.7	8.4	8.0	8.7	7.7	7.8	100.0
South Atlantic	7.9	8.0	7.5	8.4	8.1	9.2	7.5	7.9	8.9	8.9	8.7	9.0	100.0
North Central east of Miss. R.	8.0	7.4	8.4	9.1	10.0	9.5	8.6	7.7	7.7	7.9	7.8	7.9	100.0
North Central west of Miss. R.	6.4	8.0	7.8	9.4	9.9	10.7	8.9	7.9	8.3	7.3	8.0	7.4	100.0
South Central	8.7	8.6	9.1	9.3	8.4	8.1	7.4	6.6	7.0	7.7	9.1	10.0	100.0
Far Western	6.3	5.9	7.0	8.0	8.5	10.7	8.7	8.6	7.4	10.4	10.6	7.9	100.0
United States	7.5	7.6	8.1	8.9	9.3	9.6	8.5	8.0	7.9	8.3	8.3	8.0	100.0

INDEX NUMBERS OF CROP AND MEAT-ANIMAL PRICES.

TABLE 536.—*Index numbers of crop and meat-animal prices, monthly and average. 1908–1921.*

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:

CROPS.

Year.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	une 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.	Yearly aver.[1]
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	125.1
1909	117.8	120.4	126.3	130.6	139.6	146.5	149.5	142.3	132.9	130.5	129.3	127.7	130.9
1910	134.1	138.5	139.9	138.8	133.5	133 5	133.1	137.1	137.0	129.8	122.2	118.4	130.6
1911	118.6	119.8	117.9	118.0	122.2	127.7	136.3	148.2	141.6	138.0	135.6	133.1	131.8
1912	133.9	140.2	144.7	153.4	166.3	168.3	160.1	148.0	137.6	128.6	118.3	110.3	134.6
1913	110.9	112.6	113.3	113.6	116.2	121.2	122.9	125.4	136.3	139.1	133.9	132.7	126.7
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	132.9
1915	126.7	140.5	144.0	144.5	150.0	147.3	139.1	138.9	132.5	128.2	124.4	120.4	132.1
1916	129.0	139.9	138.6	140.2	143.3	145.8	144.8	147.7	161.5	163.6	178.8	187.9	158.3
1917	183.6	195.6	206.5	225.2	280.6	291.3	289.9	307.8	279.6	277.0	261.3	252.3	254.5
1918	264.1	271.6	288.8	288.6	281.8	271.9	272.9	280.6	293.3	289.3	269.5	265.2	277.4
1919	272.4	259.9	257.1	271.2	293.7	307.2	310.2	329.0	317.7	290.0	279.4	282.4	288.4
1920	296.7	311.0	314.3	334.1	362.1	380.4	374.0	329.8	294.7	248.7	201.1	165.5	271.9
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	134.7
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	139.2

MEAT ANIMALS.[2]

1910	6.67	6.71	7.39	7.74	7.37	7.29	6.98	6.67	6.92	6.80	6.47	6.21	6.90
1911	6.40	6.19	6.09	5.80	5.54	5.45	5.52	5.87	5.87	5.58	5.44	5.37	5.77
1912	5.44	5.54	5.69	6.30	6.39	6.27	6.23	6.56	6.74	6.86	6.45	6.42	6.25
1913	6.40	6.70	7.08	7.35	7.08	7.19	7.25	7.20	7.15	7.14	6.94	6.85	7.00
1914	7.05	7.27	7.37	7.40	7.29	7.22	7.41	7.63	7.58	7.14	6.80	6.61	7.19
1915	6.57	6.46	6.46	6.59	6.80	6.85	6.83	6.74	6.77	6.96	6.45	6.25	6.63
1916	6.46	6.94	7.53	7.85	7.98	8.00	8.04	8.05	8.38	8.04	8.09	8.15	7.77
1917	8.53	9.42	10.70	11.71	11.84	11.72	11.47	11.84	12.79	13.04	12.47	12.74	11.56
1918	12.59	12.65	13.06	13.55	13.83	13.62	13.68	14.21	14.50	13.79	13.37	13.40	13.49
1919	13.46	13.51	14.06	15.01	15.34	14.98	15.61	15.56	13.44	12.22	11.88	11.54	13.59
1920	12.14	12.43	12.52	12.72	12.41	12.31	12.40	12.12	12.22	11.67	10.34	8.48	11.69
1921	8.42	8.24	8.67	7.89	7.66	7.31	7.65	7.94	7.11	6.88	6.47	6.37	7.49
1922	6.67	7.56	8.19	8.10	8.29	8.37	8.34	7.87	7.69	7.75	7.36	7.28	7.71

[1] Weighted average. [2] Prices 15th of month.

PRICES OF ARTICLES BOUGHT BY FARMERS.

TABLE 537.—*Prices of articles bought by farmers, 1909–1921, and purchasing power of 1 acre of crops.*

Article.	1909	1914	1920	1921	1922	Price per cent of 1914.			Purchasing power of 1 acre of crops, per cent of 1914.		
						1909	1921	1922	1909	1921	1922
Axes.....each..	$0.89	$0.96	$2.25	$2.00	$1.96	93	207	204	99	43	58
Barb wire.....100 pounds..	2.98	3.08	6.10	5.20	4.73	97	169	154	95	52	77
Barrels.....each..	.....	.25	.76	.51	.58	.....	204	232	.....	43	51
Baskets.....do....	.....	.....	.60	.50	.61	.....	.....	.....	.....	.....	.....
Bone meal.....tons..	.....	31.90	65.00	54.00	53.17	.....	169	167	.....	52	71
Brooms.....each..	.34	.38	.98	.78	.78	89	205	205	103	43	58
Buggies.....do....	64.90	70.10	131.00	108.00	102.85	93	154	147	99	57	80
Buggy whips.....do....	.404	.426	.85	.70	.68	95	164	160	97	54	74
Calico.....yards..	.06	.063	.227	.142	.14	95	225	222	97	39	53
Churns.....each..	2.19	2.30	3.25	3.00	3.35	95	130	146	97	68	81
Coal.....ton..	5.50	5.80	13.30	11.50	11.28	95	198	194	97	45	61
Coal oil.....gallon..	.157	.139	.25	.19	.18	113	137	129	81	64	91
Coffee.....pound..	.211	.245	.41	.32	.33	86	131	135	107	67	87
Corn knives.....each..	.27	.29	.65	.55	.56	93	190	193	99	46	61
Cream separators.....do....	63.10	59.30	102.00	90.00	88.88	106	152	150	87	58	79
Dinner plates.....½ dozen..	.55	.57	1.58	1.31	1.31	96	230	230	96	38	51
Dish pans.....each..	.32	.34	.95	.75	.76	94	221	224	98	40	53
Dung forks.....do....	.70	.76	1.60	1.40	1.44	92	184	189	100	48	62
Fertilizer, commercial...ton..	22.15	23.20	44.00	35.00	30.08	95	151	130	97	58	91
Flour.....barrel..	6.30	6.40	12.90	8.80	8.07	98	137	126	94	64	94
Fruit jars.....dozen..	.73	.74	1.25	1.16	1.15	99	157	155	93	56	76
Gasoline.....gallon..	.202	.179	.33	.265	.24	113	148	134	81	60	88
Gloves, cotton.....pair..	.....	.....	.27	.19	.19	.....	.....	.....	.....	.....	.....
Gloves, leather.....do....	.....	.....	1.85	1.30	1.25	.....	.....	.....	.....	.....	.....
Grindstones.....pound..	.....	.....	.05	.045	6.87	.....	.....	.....	.....	.....	.....
Halters.....each..	.85	.95	1.98	1.55	1.48	89	163	156	103	54	76
Harness, single.....do....	13.50	15.25	32.00	25.00	28.67	89	164	188	103	54	63
Harrows.....do....	.....	.....	30.00	25.50	24.90	.....	.....	.....	.....	.....	.....
Hatchets.....do....	.59	.62	1.50	1.29	1.16	95	208	187	97	42	63
Hats, felt.....do....	1.94	2.03	5.00	3.50	3.46	96	172	170	96	51	69
Hoes.....do....	.41	.45	.93	.80	.85	91	178	189	101	50	62
Horse blankets.....do....	2.25	2.40	5.35	4.15	4.05	94	173	169	98	51	70
Jumpers.....do....	.77	.83	2.50	1.55	1.67	93	187	201	99	47	59
Kitchen chairs.....do....	.72	.80	2.10	1.65	1.79	90	206	224	102	43	53
Lamps.....do....	.50	.52	1.10	.95	.99	96	183	190	96	48	62
Lanterns.....do....	.77	.80	1.45	1.30	1.35	96	162	169	96	55	70
Lard.....pound..	.132	.141	.265	.16	.17	94	113	121	98	78	98
Lime.....barrel..	1.29	1.36	3.10	2.65	2.97	95	195	218	97	45	54
Linseed oil.....gallon..	.79	.82	2.21	1.22	1.37	96	149	167	96	59	71
Lumber, 1-inch.....100 feet..	1.95	2.10	5.15	3.55	3.89	93	169	185	99	52	64
Manure spreaders.....each..	111.60	106.70	194.00	167.00	152.71	105	157	143	87	56	83
Men's suits.....do....	13.15	14.00	41.00	30.30	28.07	94	216	200	98	41	59
Milk cans, 10-gallon.....do....	2.40	2.45	6.20	5.30	4.98	98	216	203	94	41	58
Milk pails.....do....	.43	.45	1.00	.80	.73	96	178	162	96	50	73
Mowers.....do....	44.30	46.50	88.00	78.00	77.24	95	168	166	97	53	71
Muslin.....yard..	.09	.093	.30	.18	.18	97	194	194	95	46	61
Nails.....100 pounds..	3.34	3.40	7.30	5.75	5.45	98	169	160	94	52	74
Overalls.....pair..	.82	.89	2.60	1.58	1.61	92	178	181	100	50	65
Padlocks.....each..	.27	.275	.60	.50	.48	98	182	175	94	49	67
Paint brushes.....do....	.49	.54	1.35	1.15	1.25	91	213	231	101	41	51
Paint, mixed.....gallon..	1.62	1.74	4.30	3.35	3.33	93	193	191	99	46	62
Paris green.....pound..	.29	.30	.64	.52	.49	97	173	163	95	51	72
Picks.....each..	.71	.72	1.50	1.22	1.21	99	169	168	93	52	70
Pincers.....do....	.49	.51	1.10	.90	.98	96	176	192	96	50	61
Pitchforks.....do....	.62	.66	1.45	1.22	1.23	94	185	186	98	48	63
Plows, turning.....do....	11.50	12.10	23.00	20.00	22.35	95	165	185	97	54	64
Portland cement, 100 pounds..	.70	.69	1.30	1.02	1.08	101	148	157	91	60	75
Raincoats.....each..	4.25	4.40	10.50	7.50	6.86	97	170	156	95	52	76
Rope, hemp.....pound..	.135	.149	.355	.26	.26	91	174	174	101	51	68
Rubber boots.....pair..	3.55	3.75	5.30	4.55	4.46	95	121	119	97	73	99

PRICES OF ARTICLES BOUGHT BY FARMERS—Continued.

TABLE 537.—*Prices of articles bought by farmers, 1909–1921, and purchasing power of 1 acre of crops*—Continued.

Article.	1909	1914	1920	1921	1922	Price per cent of 1914.			Purchasing power of 1 acre of crops, per cent of 1914.		
						1909	1921	1922	1909	1921	1922
Sacks, grain.....each..	$0.15	$0.163	$0.42	$0.26	$0.27	92	160	166	100	55	71
Saddles.....do....	17.45	20.35	45.00	35.00	34.94	86	172	172	107	51	69
Salt, for stock.....barrel..	1.50	1.65	3.50	3.20	3.24	91	194	196	101	46	60
Saws, buck.....each..	.89	.92	1.90	1.50	1.56	97	163	170	95	54	69
Screw hooks.....box..	.....	.37	.91	.71	.60	.....	192	162	.....	46	73
Scythes.....each..	1.02	1.06	2.10	1.85	2.04	96	174	192	96	51	61
Sheeting.....yard..	.17	.18	.57	.40	.41	94	222	228	98	40	52
Shingles.....M..	3.50	3.70	8.10	5.80	6.12	95	157	165	97	56	72
Shirts, flannel.....each..	1.34	1.41	3.90	2.85	2.94	95	202	209	97	44	56
Shoes.....pair..	2.00	2.30	5.00	3.65	3.40	87	159	148	106	56	80
Shotguns.....each..	12.45	12.85	33.00	29.00	25.13	97	226	196	95	39	60
Shovels.....do....	.74	.78	1.85	1.55	1.45	95	199	186	97	44	63
Staples.....100 pounds..	3.69	3.75	7.60	6.20	5.86	98	165	156	94	54	76
Starch.....pound..	.07	.07	.125	.103	.11	100	147	157	92	60	75
Steel wire.....100 pounds..	3.43	3.55	7.30	6.00	5.95	97	169	168	95	52	70
Stoves.....each..	22.50	24.00	61.00	52.00	55.47	94	217	231	98	41	51
Sugar.....pound..	.058	.069	.17	.073	.09	84	106	130	109	83	91
Sulphur.....do....	.075	.08	.12	.105	.13	94	131	162	98	67	73
Tedders.....each..	39.00	39.50	78.50	69.00	70.33	99	175	178	93	50	66
Tin pails.....do....	.25	.27	.56	.50	.44	93	185	163	99	48	72
Tobacco, plug.....pound..	.45	.45	.94	.85	.82	100	189	182	92	47	65
Twine, binder.....do....	.103	.112	.20	.16	.13	92	143	116	100	62	102
Wagons, double.....each..	66.00	73.25	155.00	134.00	126.39	90	183	173	102	48	68
Wagons, single.....do....	45.50	48.00	95.00	79.00	81.23	95	165	169	97	54	70
Walking cultivators....do....	.....	.....	40.00	34.00	30.05	.....	.....	.....	.....	.....	.....
Wheelbarrows.....do....	2.80	2.97	6.50	5.50	5.77	94	185	194	98	48	61
Wire fence.....rod..	.311	.317	.64	.53	.52	98	167	164	94	53	72
Wooden buckets.....each..	.31	.35	1.05	.90	1.04	89	257	297	102	34	40
Wooden wash tubs.....do....	.77	.83	1.90	1.50	1.62	93	181	195	99	49	61
Average.....	.....	.....	.....	.....	.....	95	176	177	97	52	67

FARM LABOR.

TABLE 538.—*Wages of male farm labor by classes and States, 1913 and 1922.*

State and division.	Per month.				Per day at harvest.				Per day other than harvest.			
	With board.		Without board.		With board.		Without board.		With board.		Without board.	
	1913	1922	1913	1922	1913	1922	1913	1922	1913	1922	1913	1922
Maine	$25.50	$38.00	$36.00	$53.50	$1.71	$2.45	$2.12	$3.07	$1.35	$2.08	$1.74	$2.70
New Hampshire	24.70	38.60	38.60	60.00	1.70	2.46	2.15	3.20	1.39	2.11	1.79	2.84
Vermont	26.30	35.00	37.00	52.00	1.71	2.35	2.06	3.00	1.31	1.96	1.65	2.53
Massachusetts	25.50	41.00	42.00	68.00	1.61	2.56	2.08	3.45	1.39	2.31	1.87	3.18
Rhode Island	25.00	40.00	39.40	65.00	1.53	2.75	2.00	3.60	1.25	2.37	1.72	3.20
Connecticut	23.90	40.00	39.30	67.00	1.55	2.50	1.95	3.40	1.25	2.05	1.75	2.95
New York	25.50	39.70	36.20	56.50	1.80	3.00	2.30	3.65	1.41	2.46	1.82	3.15
New Jersey	21.20	40.00	35.50	62.00	1.78	3.05	2.25	3.80	1.23	2.25	1.67	3.00
Pennsylvania	20.60	33.00	32.00	50.90	1.53	2.50	1.94	3.20	1.17	2.10	1.58	2.70
North Atlantic	23.45	37.14	35.29	55.82	1.67	2.70	2.12	3.40	1.30	2.24	1.71	2.91
Delaware	17.20	27.10	26.00	40.00	1.40	2.33	1.74	2.85	.94	1.60	1.19	2.07
Maryland	17.30	28.50	26.50	42.00	1.30	2.17	1.65	2.77	.91	1.54	1.22	2.11
Virginia	16.10	24.80	23.50	35.50	1.25	1.90	1.52	2.32	.86	1.31	1.11	1.76
West Virginia	21.20	33.20	30.50	47.90	1.31	2.20	1.73	2.80	1.04	1.55	1.36	2.10
North Carolina	15.90	24.00	22.30	33.00	1.13	1.85	1.40	2.25	.83	1.35	1.06	1.75
South Carolina	13.40	16.20	17.90	23.20	1.03	1.24	1.29	1.56	.73	.85	.91	1.08
Georgia	14.30	15.60	20.20	23.00	1.10	1.05	1.38	1.35	.82	.88	1.04	1.12
Florida	17.90	23.40	26.70	35.50	1.12	1.30	1.40	1.80	.98	1.15	1.30	1.60
South Atlantic	15.88	22.12	22.62	31.72	1.16	1.61	1.45	2.01	.85	1.18	1.09	1.55
Ohio	22.70	32.60	32.20	46.50	1.81	2.70	2.23	3.28	1.33	2.00	1.71	2.60
Indiana	22.30	30.20	30.20	42.70	1.80	2.58	2.20	3.15	1.25	1.80	1.59	2.32
Illinois	25.30	33.90	33.30	45.00	1.93	2.75	2.33	3.30	1.39	1.95	1.73	2.48
Michigan	24.90	33.60	35.00	47.30	1.94	2.60	2.37	3.29	1.41	2.10	1.82	2.70
Wisconsin	28.10	37.00	39.80	54.00	1.90	2.65	2.36	3.32	1.46	2.20	1.93	2.90
N. C. east of Miss. R.	.....	33.35	.....	46.71	.....	2.67	.....	3.27	.....	2.00	.....	2.58
Minnesota	28.90	35.00	41.00	50.00	2.43	2.90	2.83	3.60	1.67	2.20	2.14	2.95
Iowa	30.70	36.80	40.20	49.70	2.25	2.70	2.62	3.35	1.70	2.11	2.13	2.67
Missouri	21.60	28.70	29.40	39.50	1.57	2.25	1.95	2.73	1.08	1.46	1.39	1.90
North Dakota	31.00	38.70	42.50	55.50	2.70	3.90	3.35	4.85	1.85	2.50	2.50	3.40
South Dakota	30.00	36.40	43.00	53.00	2.37	3.05	2.96	3.75	1.69	2.25	2.22	3.10
Nebraska	26.90	34.50	38.40	48.50	2.19	3.00	2.68	3.65	1.57	2.15	2.06	2.85
Kansas	24.00	32.50	33.70	46.70	2.14	3.50	2.48	4.10	1.35	2.19	1.75	2.75
N. C. west of Miss. R.	25.56	33.63	35.23	47.14	2.00	2.88	2.42	3.51	1.42	2.01	1.83	2.63
Kentucky	17.40	25.90	24.00	36.30	1.36	1.95	1.68	2.46	.87	1.23	1.13	1.63
Tennessee	15.80	22.30	22.30	30.75	1.18	1.58	1.47	1.90	.81	1.07	1.03	1.40
Alabama	14.40	17.60	20.30	25.80	1.00	1.18	1.26	1.48	.83	1.00	1.04	1.30
Mississippi	13.60	18.20	19.60	25.90	.93	1.14	1.16	1.50	.85	1.10	1.08	1.45
Louisiana	14.00	22.40	20.70	32.60	1.00	1.30	1.28	1.60	.85	1.26	1.10	1.60
Texas	19.20	24.20	27.50	35.40	1.30	1.72	1.63	2.10	1.08	1.30	1.34	1.66
Oklahoma	20.00	26.00	29.10	37.00	1.60	2.35	2.00	2.75	1.10	1.52	1.47	1.96
Arkansas	17.00	21.35	24.50	31.60	1.24	1.56	1.53	2.00	.92	1.15	1.18	1.52
South Central	16.70	22.33	23.85	32.09	1.21	1.61	1.51	1.98	.93	1.20	1.18	1.56
Montana	37.20	42.20	54.00	63.00	2.21	3.60	2.90	4.40	1.76	2.40	2.52	3.20
Wyoming	34.70	39.50	49.20	60.00	1.94	2.40	2.54	3.25	1.59	1.95	2.22	2.75
Colorado	29.10	35.00	44.30	54.00	1.75	2.52	2.27	3.27	1.36	1.90	1.95	2.60
New Mexico	24.80	31.00	36.00	46.00	1.37	1.60	1.74	2.10	1.13	1.30	1.53	1.80
Arizona	35.00	40.00	48.50	58.00	1.88	2.40	2.31	3.00	1.46	1.75	2.00	2.50
Utah	38.50	47.00	51.00	64.00	1.96	2.40	2.37	2.95	1.75	2.16	2.15	2.81
Nevada	39.70	48.00	56.50	65.00	2.05	3.00	2.75	3.85	1.65	2.40	2.38	3.40
Idaho	36.00	46.00	50.00	66.00	2.31	2.75	2.76	3.40	1.72	2.22	2.32	3.00
Washington	33.20	45.00	48.40	65.00	2.41	3.25	2.90	3.90	1.67	2.38	2.20	3.15
Oregon	31.00	43.50	44.50	63.00	2.09	2.85	2.60	3.50	1.48	2.25	1.98	2.95
California	35.10	55.00	50.70	79.00	1.97	3.20	2.48	3.90	1.44	2.53	2.01	3.40
Far Western	33.52	45.57	48.17	66.03	2.02	2.89	2.53	3.56	1.52	2.23	2.07	3.00
United States	21.38	29.17	30.31	41.79	1.57	2.20	1.94	2.72	1.16	1.65	1.50	2.15

FARM LABOR—Continued.

TABLE 539.—*Wages of classes of male farm labor, yearly, in United States, 1910–1922.*

Year.	By the month.		Day labor at harvest.		Day labor not harvest.	
	With board.	Without board.	With board.	Without board.	With board.	Without board.
United States:						
1910	$19.21	$27.50	$1.45	$1.82	$1.06	$1.83
1911	20.18	28.77	1.49	1.85	1.09	1.42
1912	20.81	29.58	1.54	1.87	1.14	1.47
1913	21.38	30.31	1.57	1.94	1.16	1.50
1914	21.05	29.88	1.55	1.91	1.13	1.45
1915	21.26	30.15	1.56	1.92	1.13	1.47
1916	23.25	32.83	1.69	2.07	1.26	1.62
1917	28.87	40.43	2.08	2.54	1.56	2.02
1918	34.92	48.80	2.65	3.22	2.07	2.63
1919	39.82	56.29	3.15	3.83	2.45	3.12
1920	46.89	64.95	3.60	4.36	2.86	3.59
1921	30.14	43.32	2.24	2.79	1.68	2.18
1922	29.17	41.79	2.20	2.72	1.65	2.15
North Atlantic States:						
1913	23.45	35.29	1.67	2.12	1.30	1.71
1919	42.18	63.39	3.09	3.86	2.59	3.30
1920	51.92	75.54	3.78	4.68	3.20	4.01
1921	38.06	57.25	2.73	3.45	2.20	2.90
1922	37.14	55.82	2.70	3.40	2.24	2.91
North Central, East:						
1913	24.52	33.78	1.88	2.29	1.36	1.75
1919	42.12	58.90	3.56	4.32	2.71	3.44
1920	51.49	70.09	4.17	5.00	3.22	4.01
1921	34.98	48.84	2.68	3.33	2.04	2.61
1922	33.35	46.71	2.67	3.27	2.00	2.58
North Central, West:						
1913	26.60	36.68	2.12	2.54	1.48	1.91
1919	50.29	68.10	4.48	5.33	3.22	4.03
1920	59.63	79.79	5.03	5.94	3.78	4.67
1921	35.53	49.90	3.03	3.72	2.09	2.73
1922	33.63	47.14	2.88	3.51	2.01	2.63
South Atlantic:						
1913	15.88	22.62	1.16	1.45	.85	1.09
1919	30.54	44.03	2.28	2.82	1.85	2.39
1920	35.75	50.56	2.69	3.30	2.13	2.74
1921	22.33	32.26	1.59	1.97	1.22	1.58
1922	22.12	31.72	1.61	2.01	1.18	1.55
South Central:						
1913	16.70	23.85	1.21	1.51	.93	1.18
1919	32.42	46.47	2.56	3.14	2.06	2.61
1920	36.53	51.94	2.80	3.41	2.29	2.89
1921	22.72	33.10	1.63	2.04	1.21	1.58
1922	22.33	32.09	1.61	1.98	1.20	1.56
Far West:						
1913	33.52	48.17	2.02	2.53	1.52	2.07
1919	62.96	87.12	3.80	4.67	3.08	4.02
1920	73.21	99.43	4.48	5.39	3.66	4.61
1921	47.29	68.01	2.87	3.63	2.26	3.01
1922	45.57	66.03	2.89	3.56	2.23	3.00

FARM LABOR SUPPLY AND DEMAND.

TABLE 540.—*Farm labor supply and demand, 1920–1923.*

Division.	Farm labor supply, per cent of normal.				Farm labor demand, per cent of normal.				Per cent of supply to demand.			
	1920	1921	1922	1923	1920	1921	1922	1923	1920	1921	1922	1923
North Atlantic	62.3	92.1	99.2	73.3	107.8	92.7	94.8	95.2	57.8	99.4	104.6	77.0
South Atlantic	72.5	94.3	97.3	83.0	107.4	86.6	88.4	94.2	67.5	108.9	110.1	88.1
N. Cent. E. Miss. R	68.4	95.1	101.4	76.5	106.6	91.2	91.0	95.4	64.2	104.3	111.4	80.2
N. Cent. W. Miss. R	77.8	96.6	101.1	89.1	103.4	89.1	89.3	95.5	75.2	108.4	113.2	93.3
South Central	72.8	94.3	97.1	86.7	104.2	83.0	86.6	93.9	69.9	113.6	112.1	92.3
Far Western	82.1	102.3	107.0	91.0	101.5	89.0	89.9	94.0	80.9	114.9	119.0	97.1
United States	72.4	95.2	99.5	83.6	105.3	87.5	89.3	94.6	68.8	108.8	111.4	88.4

VALUE OF PLOW LANDS.

TABLE 543.—*Value of plow lands, by States, 1920–1923.*

State.	Average of poor plow lands.				Average of good plow lands.				Average of all plow lands.			
	1920	1921	1922	1923	1920	1921	1922	1923	1920	1921	1922	1923
Maine	$30	$25	$22	$22	$56	$50	$47	$48	$42	$36	$35	$36
New Hampshire	24	24	25	24	64	63	64	58	42	31	41	40
Vermont	30	29	27	24	69	67	63	56	48	47	45	40
Massachusetts	40	40	39	39	103	98	105	106	72	69	69	70
Rhode Island	50	50	50	51	105	105	105	106	85	85	86	87
Connecticut	35	34	32	32	100	90	90	88	60	58	58	57
New York	39	40	38	35	84	84	83	80	64	65	62	59
New Jersey	50	55	48	49	104	125	109	109	80	92	84	83
Pennsylvania	40	39	33	35	86	81	73	73	66	62	54	54
Delaware	44	38	31	28	86	72	67	70	66	56	50	51
Maryland	46	31	31	32	82	70	67	67	60	51	49	50
Virginia	34	32	27	31	73	70	60	64	53	50	43	47
West Virginia	32	31	27	28	75	70	62	67	51	48	42	45
North Carolina	42	36	33	35	87	76	67	70	63	55	49	52
South Carolina	41	32	23	21	82	68	46	45	61	50	35	35
Georgia	30	23	18	17	63	50	38	36	46	36	28	26
Florida	23	25	21	20	53	55	56	43	36	40	37	31
Ohio	69	60	52	52	132	110	100	100	105	88	78	78
Indiana	80	71	56	54	150	137	108	105	119	109	85	82
Illinois	115	105	91	86	213	195	160	155	170	157	131	126
Michigan	41	41	39	36	80	83	77	74	64	65	60	57
Wisconsin	66	65	58	60	125	122	110	108	100	98	87	86
Minnesota	73	74	67	59	120	121	102	96	100	101	87	80
Iowa	157	145	119	115	257	238	193	181	219	200	163	153
Missouri	60	58	44	45	110	106	84	85	87	83	65	66
North Dakota	31	30	25	24	49	49	44	40	43	42	37	33
South Dakota	67	66	52	43	108	102	80	73	90	85	72	58
Nebraska	85	80	72	65	150	140	123	116	125	115	101	96
Kansas	50	50	43	41	99	90	77	74	70	70	60	58
Kentucky	42	33	28	27	95	75	67	66	70	53	47	46
Tennessee	40	35	28	30	90	81	68	70	60	55	47	50
Alabama	20	17	14	16	43	38	32	34	30	26	23	26
Mississippi	23	16	16	17	49	36	34	36	35	26	25	26
Louisiana	34	24	21	24	65	50	42	45	50	38	31	34
Texas	36	33	29	28	72	70	60	57	56	52	47	44
Oklahoma	30	29	26	24	63	63	58	52	47	46	41	37
Arkansas	26	24	20	21	65	54	46	47	45	38	33	34
Montana	21	19	15	14	48	41	35	31	36	30	23	22
Wyoming	34	25	23	21	70	60	54	48	53	44	37	35
Colorado	40	35	35	30	88	86	84	75	66	67	61	56
New Mexico	30	30	23	21	60	60	57	53	45	45	41	37
Arizona	90	75	70	70	180	140	130	132	130	120	115	116
Utah	60	50	42	35	135	140	125	95	103	100	90	74
Nevada	46	45	40	30	110	90	80	80	80	75	70	65
Idaho	60	58	50	46	135	128	110	93	105	99	85	76
Washington	68	63	52	50	150	140	120	110	115	105	90	88
Oregon	60	60	55	52	130	135	110	106	100	103	90	84
California	70	75	69	53	175	200	193	166	130	135	128	113
United States	61	57	47	45	113	106	89	85	90	84	70	67

SOURCE OF FARMERS' FOOD SUPPLIES.

In 1922 a questionnaire was sent to crop reporters of the Department of Agriculture with the following questions:

1. What percentage is produced on your farm?
2. What percentage is produced in locality, but not on your farm? (By produced in locality is meant the quantity not brought in by railroad.)
3. What percentage is not produced in locality, and which could not be displaced by locally grown products?
4. What percentage is not now produced locally but which could be produced economically in locality or be reasonably displaced by locally grown products?

The results are given in the tables below:

TABLE 542.—*Summary of percentages of farm food supply derived from various sources, by geographic division.*

Geographic division.	Produced on farm.	Produced locally not on farm.	Not produced locally but can be reasonably displaced by local production.		A+B	C+D
			No.	Yes.		
	A	B	C	D		
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
New England [1]	50.6	7.5	32.6	9.3	58.1	41.9
Middle Atlantic [2]	57.5	8.4	26.6	7.5	65.9	34.1
East North Central [3]	61.9	9.1	21.5	7.5	71.0	29.0
West North Central [4]	58.7	8.2	24.4	8.7	66.9	33.1
South Atlantic [5]	67.5	7.1	17.1	8.3	74.6	25.4
East South Central [6]	68.6	6.6	17.2	7.6	75.2	24.8
West South Central [7]	52.4	10.9	24.0	12.7	63.3	36.7
Mountain [8]	52.2	12.5	25.6	9.7	64.7	35.3
Pacific [9]	42.0	16.6	27.8	13.6	58.6	41.4
United States	60.3	8.8	21.9	9.0	69.1	30.9

[1] Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.
[2] New York, New Jersey, Pennsylvania.
[3] Ohio, Indiana, Illinois, Michigan, Wisconsin.
[4] Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.
[5] Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.
[6] Kentucky, Tennessee, Alabama, Mississippi.
[7] Louisiana, Texas, Oklahoma, Arkansas.
[8] Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho.
[9] Washington, Oregon, California.

SOURCE OF FARMERS' FOOD SUPPLIES—Continued.

TABLE 543.—*Percentages of farm food supply derived from various sources, by States.*

State.	Produced on farm.	Produced locally not on farm.	Not produced locally but can be reasonably displaced by local production.		A+B	C+D
			No.	Yes.		
	A	B	C	D		
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Maine	53.0	7.9	29.7	9.4	60.9	39.1
New Hampshire	57.4	5.4	30.3	6.9	62.8	37.2
Vermont	51.5	8.7	30.4	9.4	60.2	39.8
Massachusetts	49.2	6.3	38.1	6.4	55.5	44.5
Rhode Island	54.0	6.5	23.5	16.0	60.5	39.5
Connecticut	38.2	8.6	37.6	15.6	46.8	53.2
New York	53.8	9.0	29.3	29.3	62.8	37.2
New Jersey	53.1	7.8	30.5	8.6	60.9	39.1
Pennsylvania	61.8	7.8	23.4	7.0	69.6	30.4
Delaware	69.2	9.9	15.9	5.0	79.1	20.9
Maryland	71.3	7.2	16.9	4.6	78.5	21.5
Virginia	72.0	7.2	16.0	4.8	79.2	20.8
West Virginia	53.3	8.9	27.2	10.6	62.2	37.8
North Carolina	72.4	6.5	14.0	7.1	78.9	21.1
South Carolina	67.1	6.1	17.1	9.7	73.2	26.8
Georgia	67.7	6.6	15.7	10.0	74.3	25.7
Florida	47.5	11.5	27.3	13.7	59.0	41.0
Ohio	70.2	7.2	17.3	5.3	77.4	22.6
Indiana	63.2	9.2	20.9	6.7	72.4	27.6
Illinois	54.6	11.0	24.7	9.7	65.6	34.4
Michigan	63.7	9.2	20.3	6.8	72.9	27.1
Wisconsin	57.6	9.2	24.3	8.9	66.8	33.2
Minnesota	60.1	8.0	23.9	8.0	68.1	31.9
Iowa	58.7	6.3	24.0	10.0	66.0	34.0
Missouri	61.4	8.8	21.9	7.9	70.2	29.8
North Dakota	51.5	9.3	29.8	9.4	60.8	39.2
South Dakota	55.2	7.7	28.0	9.1	62.9	37.1
Nebraska	58.4	8.2	24.9	8.5	66.6	33.4
Kansas	57.3	9.5	24.7	8.5	66.8	33.2
Kentucky	67.9	8.2	18.4	5.5	76.1	23.9
Tennessee	71.1	6.9	15.1	6.9	78.0	22.0
Alabama	69.6	4.4	17.1	8.9	74.0	26.0
Mississippi	66.0	6.8	18.3	8.9	72.8	27.2
Louisiana	51.6	11.5	22.5	14.4	63.1	36.9
Texas	48.7	13.1	24.8	13.4	61.8	38.2
Oklahoma	57.4	9.5	23.4	9.7	66.9	33.1
Arkansas	55.4	7.6	23.8	13.2	63.0	37.0
Montana	53.2	9.3	29.4	8.1	62.5	37.5
Wyoming	49.6	6.6	30.6	13.2	56.2	43.8
Colorado	48.9	14.8	26.9	9.4	63.7	36.3
New Mexico	45.7	12.1	32.6	9.6	57.8	42.2
Arizona	33.1	19.6	30.4	16.9	52.7	47.3
Utah	64.6	13.8	14.1	7.5	78.4	21.8
Nevada	30.0	22.5	17.5	30.0	52.5	47.5
Idaho	59.7	13.3	18.7	8.3	73.0	27.0
Washington	49.4	13.6	26.1	10.9	63.0	37.0
Oregon	48.8	12.8	27.9	10.5	61.6	38.4
California	34.8	20.0	28.8	16.4	54.8	45.2
United States	60.3	8.8	21.9	9.0	69.1	30.9

SOURCE OF FARMERS' FOOD SUPPLIES—Continued.

TABLE 544.—*Products mentioned for greater local production.*

Crop reporters were requested to name products which are not now produced locally but which could be produced economically in locality or be reasonably replaced by locally grown products. The frequency of mention of various products, reduced to percentages, is shown below for the United States and geographic divisions.

Product.	United States.	North Atlantic.	North Central, East.	North Central, West.	South Atlantic.	South Central.	Far West.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Fruits	11.7	9.5	13.2	14.5	8.9	9.8	10.4
Nuts	3.1	2.0	2.5	3.2	5.2	3.0	1.9
Vegetables (general)	7.7	8.0	5.7	8.1	5.4	10.0	9.8
Potatoes	4.7	.9	4.4	5.7	3.5	7.8	2.6
Sweet potatoes	1.3	.5	1.0	2.0	1.3	1.5	.6
Beans	2.0	1.1	2.1	2.0	1.6	2.8	1.3
Food cereals	4.9	4.6	5.9	5.8	4.4	1.7	7.1
Wheat (flour)	14.3	19.9	15.4	13.3	14.8	12.8	12.2
Corn (meal)	1.3	2.4	.9	.6	2.0	2.5	.6
Buckwheat	.5	.5	1.0	.4	.3	.....	.3
Rice	.9	.....	.1	.1	3.4	1.9	.1
Canned goods	9.2	7.1	10.7	10.7	7.6	7.6	8.8
Meats	10.4	17.0	8.7	9.1	10.0	11.9	10.1
Lard	1.4	1.1	.4	.5	2.6	3.2	1.1
Dairy products:							
Milk	1.3	.5	.6	.5	2.0	2.0	3.6
Butter	3.2	7.2	3.2	1.4	3.2	3.0	5.0
Cheese	7.6	8.0	8.3	9.5	6.0	4.3	8.5
Eggs	.9	2.0	.4	.1	1.4	1.2	2.3
Poultry	1.0	2.4	.3	.6	1.5	1.2	1.1
Miscellaneous	.1	.....	.1	.2	.1	.....	.1
Sugar	5.2	1.8	7.3	4.4	5.2	3.6	7.6
Sirup	3.4	.9	3.7	3.3	4.1	5.2	.9
Honey	.9	.9	1.1	1.3	.4	.8	.7
Fish	2.1	1.5	1.7	2.2	3.0	1.7	2.6
Vinegar	.2	.....	.3	.3	.4	.....	.....
Tea and coffee	.7	.2	1.0	.2	1.7	.5	.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TAXES PAID ON FARM REAL ESTATE.

In the autumn of 1922 a questionnaire was sent to crop reporters asking the amount of taxes (State, county, and local) actually paid in 1913–14 and 1921–22 on the same real estate in both periods. The average tax per acre obtained by dividing the total of such taxes as reported, by the farm acreages as reported, by States, is shown below:

TABLE 545.—*State, county, and local taxes.*

State and division.	Taxes (State, county, and local) per acre.		
	1913–14	1921–22	1921–22 per cent of 1913–14.
Maine	$0.35	$0.60	172
New Hampshire	.36	.67	189
Vermont	.35	.65	187
Massachusetts	.63	1.20	189
Rhode Island	.59	.99	168
Connecticut	.50	.99	196
New York	.59	1.13	194
New Jersey	.96	2.22	232
Pennsylvania	.58	1.11	192
N. Atlantic	.548	1.05	192
Delaware	.37	.68	182
Maryland	.50	.85	170
Virginia	.20	.34	176
West Virginia	.21	.52	148
North Carolina	.16	.44	269
South Carolina	.13	.35	262
Georgia	.16	.30	188
Florida	.28	.65	229
S. Atlantic	.196	.418	213
Ohio	.61	1.24	204
Indiana	.90	2.09	231
Illinois	.56	1.23	222
Michigan	.66	1.58	240
Wisconsin	.55	1.23	224
N. C. E. Miss. R.	.645	1.44	223
Minnesota	.37	.91	246
Iowa	.68	1.49	220
Missouri	.17	.39	225
North Dakota	$0.24	$0.63	258
South Dakota	.27	.80	292
Nebraska	.27	.67	249
Kansas	.27	.63	229
N. C. W. Miss. R.	.317	.771	243
Kentucky	.24	.52	215
Tennessee	.19	.53	271
Alabama	.14	.27	188
Mississippi	.26	.67	259
Louisiana	.29	.77	257
Texas	.17	.35	214
Oklahoma	.28	.57	201
Arkansas	.18	.66	360
S. Central	.201	.461	229
Montana	.07	.16	229
Wyoming	.19	.39	205
Colorado	.20	.68	340
New Mexico	.19	.33	174
Arizona	.07	.07	100
Utah	.24	.42	175
Nevada	.21	.43	205
Idaho	.59	1.40	237
Washington	.33	.70	212
Oregon	.27	.78	289
California	.42	.78	186
Far Western	.239	.533	223
United States	.314	.709	226

AGRICULTURAL STATISTICS FROM CENSUS FOR 1920.

TABLE 546.—*Nativity of farm operators.*

State and division.	Number of farms operated by—			Percentage of all farm operators which are—						Average acreage per farm.		
	Native white.	Foreign white.	Negro and other nonwhite.	Native white.		Foreign white.		Negro and other nonwhite.		Native white.	Foreign white.	Negro and other nonwhite.
				1920	1910	1920	1910	1920	1910			
Maine	43,830	4,384	13	90.9	91.7	9.1	8.3	(1)	(1)	113.2	106.0	73.3
New Hampshire	17,890	2,619	14	87.2	90.0	12.8	9.9	0.1	0.1	130.6	101.6	105.4
Vermont	25,280	3,767	28	86.9	88.6	13.0	11.4	.1	.1	145.3	147.9	158.9
Massachusetts	22,950	8,930	121	71.7	77.0	27.9	22.7	.4	.3	85.8	58.2	46.2
Rhode Island	3,123	940	20	76.5	83.3	23.0	15.9	.5	.8	88.6	57.6	47.6
Connecticut	14,955	7,625	75	66.0	74.0	33.7	25.6	.3	.4	91.0	69.6	96.6
New York	166,869	25,776	550	86.4	87.0	13.3	12.5	.3	.4	109.9	87.1	78.0
New Jersey	22,555	6,612	535	75.9	80.0	22.3	18.6	1.8	1.4	85.5	49.6	49.2
Pennsylvania	187,277	14,522	451	92.6	93.4	7.2	6.3	.2	.2	88.9	67.3	59.7
N. Atlantic	504,729	75,175	1,807	86.8	88.3	12.9	11.3	.3	.4	102.0	79.1	64.6
Delaware	8,905	363	872	87.8	87.7	3.6	3.8	8.6	8.5	96.7	78.5	62.9
Maryland	40,130	1,569	6,209	83.8	83.1	3.3	3.8	13.0	13.0	106.6	81.9	56.6
District of Columbia	153	31	20	75.0	77.4	15.2	17.1	9.8	5.5	32.1	15.1	14.4
Virginia	136,874	1,582	47,786	73.5	72.9	.8	1.0	25.7	26.1	117.5	134.4	47.4
West Virginia	86,033	752	504	98.6	98.4	.9	.9	.6	.7	110.2	83.0	54.7
North Carolina	193,081	392	76,290	71.6	74.0	.1	.2	28.3	25.9	85.7	117.0	45.1
South Carolina	83,542	141	109,010	43.4	45.0	.1	.1	56.6	54.9	95.9	262.3	40.2
Georgia	180,217	328	130,187	58.0	57.8	.1	.1	41.9	42.1	101.5	221.4	54.3
Florida	38,836	2,215	12,954	71.9	68.1	4.1	2.4	24.0	29.4	135.7	62.0	49.2
S. Atlantic	767,771	7,373	383,832	66.3	67.4	.6	.6	33.1	32.0	102.7	98.4	47.5
Ohio	241,075	14,004	1,616	93.9	92.9	5.5	6.4	.6	.7	93.2	68.0	62.1
Indiana	198,156	6,398	572	96.6	95.1	3.1	4.5	.3	.4	103.0	97.1	64.2
Illinois	214,177	22,111	893	90.3	86.2	9.3	13.3	.4	.6	136.1	125.6	64.6
Michigan	147,450	48,264	733	75.1	71.4	24.6	28.1	.4	.5	99.8	88.6	66.5
Wisconsin	134,634	53,998	663	71.1	60.5	28.5	39.2	.4	.3	122.6	103.9	51.4
N. C. E. Miss. R.	935,492	144,775	4,477	86.2	82.8	13.4	16.7	.4	.5	110.3	98.3	62.0
Minnesota	110,966	67,305	207	62.2	47.9	33.7	52.0	.1	.2	174.5	161.0	98.0
Iowa	181,109	32,221	109	84.9	77.3	15.1	22.6	.1	.1	156.8	157.1	81.2
Missouri	251,835	8,343	2,826	95.8	93.5	3.2	5.2	1.1	1.3	132.9	133.3	67.4
North Dakota	40,899	36,248	543	52.6	48.1	46.7	50.9	.7	1.0	474.2	458.9	343.4
South Dakota	52,700	20,325	1,612	70.6	63.6	27.2	32.8	2.2	3.6	481.5	413.9	527.4
Nebraska	99,441	24,592	384	79.9	72.1	19.8	27.5	.3	.4	354.0	283.0	173.7
Kansas	146,859	17,189	1,238	88.9	84.5	10.4	14.5	.7	1.0	275.0	282.3	152.7
N. C. W. Miss. R.	883,809	206,223	6,919	80.6	74.8	18.8	24.3	.6	.9	228.1	261.2	218.5
Kentucky	256,886	1,112	12,628	94.9	94.7	.4	.8	4.7	4.5	82.1	87.9	33.8
Tennessee	213,832	760	38,182	84.6	84.1	.3	.4	15.1	15.6	83.8	87.9	39.9
Alabama	159,865	1,031	95,203	62.4	57.5	.4	.5	37.2	42.0	94.7	82.9	45.7
Mississippi	110,279	603	161,219	40.5	39.7	.2	.3	59.2	60.0	111.6	130.2	36.1
Louisiana	71,081	2,323	62,059	52.5	52.5	1.7	2.0	45.8	45.5	107.8	74.6	35.2
Texas	327,475	29,774	78,784	75.1	76.4	6.8	6.9	18.1	16.7	317.5	188.1	56.6
Oklahoma	167,472	5,791	18,725	87.2	85.1	3.0	4.1	9.8	10.9	172.4	236.3	91.5
Arkansas	158,273	2,049	72,282	68.0	69.2	.9	1.1	31.1	29.6	92.3	110.2	36.3
S. Central	1,465,163	43,443	539,082	71.6	70.8	2.1	2.3	26.3	26.9	151.2	177.2	42.8
Montana	41,051	15,563	1,063	71.2	69.3	27.0	26.1	1.8	4.6	632.4	543.5	613.0
Wyoming	13,306	2,273	169	84.5	82.1	14.4	17.3	1.1	.6	758.6	744.6	135.3
Colorado	49,846	9,535	553	83.2	80.6	15.9	18.2	.9	1.2	431.2	302.1	158.0
New Mexico	26,593	1,376	1,875	89.1	89.9	4.6	4.0	6.3	6.0	860.5	1,063.2	34.3
Arizona	8,262	1,067	646	82.8	56.6	10.7	8.7	6.5	34.7	642.8	403.8	93.5
Utah	21,276	3,972	414	82.9	73.6	15.5	25.2	1.6	1.3	213.0	117.7	123.6
Nevada	2,060	884	219	65.1	61.8	27.9	32.2	6.9	6.0	895.1	567.2	53.7
Idaho	35,284	6,314	508	83.8	80.2	15.0	18.5	1.2	1.3	203.1	183.8	94.3
Washington	45,265	19,757	1,266	68.3	67.2	29.8	30.8	1.9	2.0	226.2	147.1	80.1
Oregon	40,484	9,149	573	80.6	78.7	18.2	19.9	1.1	1.4	282.4	219.7	174.3
California	76,995	34,189	6,486	65.4	66.8	29.1	29.7	5.5	3.5	287.3	196.7	80.3
Far Western	360,422	104,079	13,772	75.4	74.1	21.8	22.5	2.8	3.4	397.0	275.7	124.9
United States	4,917,386	581,068	949,889	76.3	75.0	9.0	10.5	14.7	14.5	162.6	191.3	47.3

[1] Less than one-tenth of 1 per cent.

AGRICULTURAL STATISTICS FROM CENSUS FOR 1920—Continued.

TABLE 547.—*Mortgage debt reports.*

[No mortgage reports were secured for farms operated by tenants and managers.]

State and division.	Farms operated by owners.					Farms consisting of owned lands only.				Average value per farm mortgaged.	Average debt per farm.
	Number free from mortgage debt.		Number with mortgage debt.		Number unknown (no report).	Number reporting debt and amount.	Value of land and buildings (000 omitted).	Amount of mortgage debt (000 omitted).	Per cent of value of land and buildings.		
	Number.	Per cent.	Number.	Per cent.							
Maine	30,665	67.5	13,023	28.7	1,749	12,345	$58,427	$18,592	31.8	$4,733	$1,506
New Hampshire	11,992	64.5	5,389	29.0	1,223	4,951	20,274	6,821	33.6	4,095	1,378
Vermont	12,132	48.3	12,225	48.7	764	11,504	61,071	23,576	38.6	5,309	2,049
Massachusetts	14,055	50.0	12,632	45.0	1,400	11,663	70,745	23,412	33.1	6,066	2,007
Rhode Island	1,971	60.7	949	29.2	325	856	4,865	1,494	30.7	5,683	1,746
Connecticut	9,597	48.8	8,920	45.4	1,149	8,137	55,781	17,861	32.0	6,855	2,195
New York	75,522	49.8	66,633	43.9	9,562	59,735	388,114	145,533	37.5	6,497	2,436
New Jersey	10,000	45.7	10,085	46.1	1,804	9,296	67,176	25,123	37.4	7,226	2,703
Pennsylvania	93,804	61.1	48,498	31.6	11,196	44,410	256,577	87,741	34.2	5,777	1,976
North Atlantic	259,738	55.6	178,354	38.2	29,172	162,897	983,030	350,153	35.6	6,035	2,150
Delaware	3,504	58.3	2,018	33.6	488	1,903	11,422	4,461	39.0	6,002	2,344
Maryland	19,292	58.8	11,339	34.6	2,174	10,407	75,082	27,481	36.6	7,215	2,641
Dist. of Columbia	53	53.0	29	29.0	18	24	238	93	39.1	9,913	3,871
Virginia	98,470	72.2	24,331	17.8	13,562	21,155	151,585	41,726	27.5	7,165	1,972
West Virginia	52,617	73.0	10,274	14.2	9,210	9,031	43,990	11,206	25.5	4,871	1,241
North Carolina	102,950	68.0	24,499	16.2	23,927	20,149	103,282	31,968	31.0	5,126	1,587
South Carolina	42,847	63.3	14,299	21.1	10,578	12,265	92,053	25,153	27.3	7,505	2,051
Georgia	64,061	62.7	23,135	22.7	14,927	20,797	124,579	37,671	30.2	5,990	1,811
Florida	25,010	65.0	8,102	21.1	5,375	7,308	50,581	12,910	25.5	6,921	1,767
South Atlantic	408,804	67.3	118,026	19.4	80,259	103,039	652,812	192,669	29.5	6,336	1,870
Ohio	110,004	61.8	50,784	28.5	17,198	43,068	387,188	121,121	31.3	8,990	2,812
Indiana	73,233	53.4	51,474	37.5	12,503	40,416	439,152	105,256	24.0	10,866	2,604
Illinois	68,892	52.0	51,039	38.5	12,643	36,663	775,395	197,212	25.4	21,149	5,379
Michigan	72,869	45.7	78,758	49.4	7,779	67,119	420,108	144,103	34.3	6,259	2,147
Wisconsin	57,773	36.2	94,258	59.1	7,579	87,081	937,385	354,574	37.8	10,765	4,072
N. C. E. Miss. R.	382,771	49.9	326,313	42.6	57,702	274,347	2,959,228	922,266	31.2	10,786	3,362
Minnesota	54,086	40.7	69,545	52.4	9,113	57,585	925,963	254,475	27.5	16,080	4,419
Iowa	45,807	37.6	66,096	54.2	9,985	52,341	1,814,260	489,817	27.0	34,662	9,358
Missouri	82,099	44.4	85,538	46.2	17,393	68,784	752,008	216,463	28.8	10,933	3,147
North Dakota	12,833	22.5	40,462	71.1	3,622	22,623	380,133	108,285	28.5	16,803	4,786
South Dakota	16,037	33.5	27,262	57.0	4,516	14,039	411,837	89,875	21.8	29,335	6,402
Nebraska	27,065	38.8	35,191	50.5	7,416	23,986	705,562	168,508	23.9	29,416	7,025
Kansas	40,979	42.2	44,064	45.4	12,047	26,923	424,470	109,914	25.9	15,766	4,083
N.C.W.Miss.R.	278,906	39.2	368,158	51.8	64,092	266,281	5,414,233	1,437,337	26.5	20,333	5,398
Kentucky	116,613	65.0	40,615	22.6	22,099	35,531	230,557	67,117	29.1	6,489	1,889
Tennessee	105,128	71.0	32,264	21.8	10,690	27,496	159,000	49,836	31.3	5,783	1,812
Alabama	64,498	60.2	27,854	26.0	14,737	24,748	81,888	29,103	35.5	3,309	1,176
Mississippi	53,073	58.1	23,990	26.3	14,247	21,844	99,149	30,046	30.3	4,539	1,375
Louisiana	36,010	62.9	11,783	20.6	9,461	10,301	68,362	20,491	30.0	6,636	1,989
Texas	105,490	52.4	69,940	34.8	25,780	57,700	664,523	172,167	25.9	11,517	2,984
Oklahoma	30,551	32.8	47,025	50.4	15,641	34,045	272,616	73,434	26.9	8,008	2,157
Arkansas	64,881	57.6	33,990	30.2	13,776	29,504	129,348	38,540	29.8	4,384	1,306
South Central	576,244	58.2	287,461	29.0	126,431	241,169	1,705,443	480,734	28.2	7,072	1,993
Montana	16,365	32.6	29,897	59.5	4,009	21,244	240,550	77,950	32.4	11,323	3,669
Wyoming	6,816	50.9	5,513	41.1	1,074	3,937	55,610	15,303	27.5	14,125	3,887
Colorado	20,965	46.3	21,131	46.7	3,195	15,735	211,701	62,623	29.6	13,454	3,980
New Mexico	16,650	64.6	6,257	24.3	2,849	4,331	43,085	11,178	25.9	9,948	2,581
Arizona	3,708	47.1	3,380	43.0	781	2,876	50,453	15,648	31.0	17,543	5,441
Utah	10,756	47.6	9,916	43.9	1,907	8,086	84,578	24,335	28.8	10,460	3,009
Nevada	1,599	59.2	884	32.8	216	767	18,281	6,519	35.7	23,834	8,499
Idaho	11,872	34.3	20,060	57.9	2,715	17,142	223,649	69,868	31.2	13,047	4,076
Washington	25,012	47.5	24,004	45.5	3,685	19,503	202,018	61,121	30.3	10,358	3,134
Oregon	18,077	45.3	17,843	44.8	3,943	14,355	166,663	51,999	31.2	11,610	3,622
California	36,042	41.2	44,109	50.4	7,429	37,338	764,166	224,064	29.3	20,466	6,001
Far Western	167,862	43.9	182,994	47.8	31,803	145,314	2,060,754	620,608	30.1	14,181	4,271
United States	2,074,325	52.8	1,461,306	37.2	389,459	1,193,047	13,775,500	4,003,767	29.1	11,546	3,356

AGRICULTURAL STATISTICS FROM CENSUS FOR 1920—Continued.

TABLE 548.—*Farm expenses.*

State and division.	Labor.				Feed.			Fertilizer.		
	Farms reporting.		Cash expended (000 omitted).	Rent and board furnished (000 omitted).	Farms reporting.		Amount expended (000 omitted).	Farms reporting.		Amount expended (000 omitted).
	Number.	Per cent of all farms.			Number.	Per cent of all farms.		Number.	Per cent of all farms.	
Maine	26,735	55.4	$7,506	$2,135	39,794	82.5	$14,859	22,641	46.9	$7,759
New Hampshire	11,365	55.4	3,665	855	18,015	87.8	8,726	8,799	42.9	526
Vermont	18,171	62.5	5,789	1,924	25,389	87.3	11,071	14,568	50.1	857
Massachusetts	18,322	57.3	13,929	2,648	27,853	87.0	20,273	16,992	53.1	3,907
Rhode Island	2,296	56.2	1,730	372	3,608	88.4	2,889	2,297	56.3	380
Connecticut	13,142	58.0	11,067	2,136	19,791	87.4	11,721	12,668	55.9	4,894
New York	121,256	62.8	49,346	14,979	158,428	82.0	82,966	113,578	58.8	15,067
New Jersey	18,588	62.6	14,359	3,716	24,933	83.9	14,719	22,774	76.7	10,743
Pennsylvania	121,116	59.9	31,494	10,112	156,719	77.5	51,678	144,231	71.3	15,628
N. Atlantic	350,991	60.3	138,885	38,877	474,530	81.6	218,902	358,548	61.6	59,761
Delaware	5,394	53.2	2,052	756	6,405	63.2	1,490	9,107	89.8	1,222
Maryland	29,123	60.8	12,915	3,806	33,353	69.6	8,045	39,270	82.0	7,610
Dist. of Columbia	112	54.9	140	33	153	75.0	171	116	56.9	23
Virginia	66,500	35.7	17,003	3,420	97,297	52.2	12,400	135,218	72.6	17,278
West Virginia	31,328	35.9	4,787	1,029	47,183	54.1	5,639	35,309	40.5	1,710
North Carolina	78,394	29.1	10,818	1,218	128,964	47.8	12,292	228,767	84.8	48,797
South Carolina	62,095	32.2	13,688	1,496	60,088	31.2	5,904	176,537	91.6	52,547
Georgia	83,444	26.9	16,705	2,311	86,580	27.9	9,539	280,385	90.2	46,196
Florida	20,190	37.4	10,118	713	20,471	37.9	5,025	28,925	53.6	10,317
S. Atlantic	376,580	32.5	88,226	14,782	480,494	41.5	60,505	933,634	80.6	185,700
Ohio	124,806	48.6	36,339	10,089	161,658	63.0	40,378	165,556	64.5	13,206
Indiana	93,207	45.4	25,609	7,259	130,075	63.4	42,306	98,703	48.1	8,735
Illinois	151,300	63.8	60,909	18,474	158,180	66.7	64,528	22,488	9.5	2,996
Michigan	102,431	52.1	24,875	7,069	111,191	56.6	21,939	65,782	33.5	4,872
Wisconsin	110,878	58.6	34,582	13,555	122,372	64.6	27,919	7,785	4.1	780
N.C.E. Miss. R.	582,622	53.7	182,314	56,446	683,476	63.0	197,070	360,314	33.2	30,589
Minnesota	111,697	62.6	36,451	13,360	100,530	56.3	22,941	3,031	1.7	433
Iowa	136,682	64.0	52,942	17,756	147,605	69.2	79,069	3,177	1.5	597
Missouri	125,248	47.6	33,037	7,078	164,639	62.6	60,171	47,383	18.0	3,941
North Dakota	51,752	66.6	27,678	9,386	42,957	55.3	12,383	489	.6	120
South Dakota	49,658	66.5	24,122	7,630	37,966	50.9	16,689	175	.2	34
Nebraska	80,696	64.9	34,604	10,165	83,374	67.0	58,623	476	.4	65
Kansas	117,908	71.3	54,761	13,112	117,548	71.1	57,515	6,183	3.7	979
N.C.W.Miss. R.	673,641	61.4	263,595	78,487	694,619	63.3	307,391	60,914	5.6	6,169
Kentucky	76,953	28.4	15,292	2,860	119,689	44.2	16,017	86,687	32.0	3,598
Tennessee	70,494	27.9	9,648	1,579	100,074	39.6	11,165	84,827	33.6	3,525
Alabama	57,308	22.4	6,589	1,135	71,668	28.0	5,921	175,407	68.5	14,066
Mississippi	43,151	15.9	6,327	707	77,718	28.6	10,261	71,296	26.2	4,288
Louisiana	30,166	22.3	19,700	1,719	56,423	41.7	12,232	37,652	27.8	3,840
Texas	190,434	43.7	80,315	7,430	215,581	49.4	60,762	27,459	6.3	1,831
Oklahoma	102,674	53.5	35,333	5,282	114,488	59.6	30,372	2,445	1.3	453
Arkansas	66,720	28.7	12,068	1,139	118,998	51.2	17,725	41,338	17.8	2,573
S. Central	637,900	31.2	185,272	21,851	874,639	42.7	164,455	527,111	25.7	34,174
Montana	24,378	42.3	15,603	5,741	37,901	65.7	19,791	453	.8	126
Wyoming	6,961	44.2	6,717	2,583	8,823	56.0	6,910	55	.1	9
Colorado	35,149	58.6	23,146	5,146	36,092	60.2	18,431	1,184	2.0	294
New Mexico	11,538	38.7	5,260	1,178	14,586	48.9	5,371	1,458	4.9	113
Arizona	5,639	56.5	7,664	779	4,906	49.2	2,060	126	.1	41
Utah	15,033	58.6	7,472	1,018	13,082	51.0	3,941	1,017	4.0	109
Nevada	1,993	63.0	4,296	1,513	1,687	53.3	1,423	58	.1	10
Idaho	24,789	58.9	14,734	3,570	24,062	57.1	10,709	575	1.4	106
Washington	38,055	57.4	28,330	5,791	51,038	77.0	20,722	3,645	5.5	526
Oregon	27,959	55.7	17,162	3,869	34,404	68.5	13,390	5,614	11.2	490
California	76,414	64.9	109,928	16,168	77,772	66.1	46,381	16,474	14.0	8,183
Far Western	267,908	56.0	240,312	47,356	304,353	63.6	149,129	30,659	6.4	10,007
United States	2,889,642	44.8	1,098,604	257,799	3,512,111	54.5	1,097,452	2,271,180	35.2	326,400

AGRICULTURAL STATISTICS FROM CENSUS FOR 1920—Continued.

TABLE 548.—*Farm expenses*—Continued.

State and division.	Percentage of value of all property represented in—				Average value per farm of—		Average value of land per acre.	
	Lands.	Buildings.	Implements and machinery.	Live stock.	All property.	Lands and buildings only.	1920	1910
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Dollars.*	*Dollars.*	*Dollars.*	*Dollars.*
Maine	42.3	33.2	9.8	14.7	5,609	4,232	21.09	13.73
New Hampshire	40.0	35.9	8.0	16.2	5,782	4,385	18.21	13.70
Vermont	37.2	34.2	9.5	19.1	7,661	5,473	19.58	12.52
Massachusetts	42.5	39.9	6.4	11.2	9,389	7,737	51.17	36.69
Rhode Island	43.1	35.3	7.2	14.4	8,238	6,463	43.75	33.86
Connecticut	44.6	39.2	5.8	10.4	10,019	8,399	53.28	33.03
New York	41.6	33.1	8.9	16.4	9,879	7,376	38.45	32.13
New Jersey	45.6	34.7	8.2	11.5	10,499	8,428	62.29	48.23
Pennsylvania	42.0	34.7	9.5	13.8	8,551	6,560	41.12	33.92
N. Atlantic	42.0	34.5	8.8	14.7	8,806	6,738	37.35	29.32
Delaware	52.5	28.3	8.5	10.7	7,903	6,386	44.59	33.63
Maryland	56.1	27.3	6.3	10.3	9,678	8,070	54.62	32.32
District of Columbia	70.1	24.0	1.8	4.1	29,059	27,340	733.27	1,186.53
Virginia	63.2	22.4	4.2	10.2	6,425	5,501	40.75	20.24
West Virginia	61.9	20.8	3.7	13.6	5,687	4,706	32.11	20.65
North Carolina	68.6	17.5	4.4	9.5	4,634	3,990	42.84	15.29
South Carolina	67.9	17.4	5.0	9.7	4,946	4,222	52.08	19.89
Georgia	66.1	17.8	4.7	11.4	4,366	3,663	35.28	13.74
Florida	69.2	16.1	4.1	10.7	6,116	5,212	37.78	17.84
S. Atlantic	65.2	19.6	4.6	10.6	5,292	4,488	40.92	18.15
Ohio	65.1	20.9	4.7	9.3	12,060	10,368	85.69	53.34
Indiana	72.4	14.8	4.2	8.6	14,831	12,937	104.57	62.36
Illinois	78.8	11.2	3.3	6.7	28,108	25,289	164.20	95.02
Michigan	54.4	27.1	6.9	11.6	8,976	7,313	50.40	32.48
Wisconsin	60.5	21.3	6.2	12.0	14,143	11,558	73.09	43.30
N. C. E. Miss. R	69.9	16.8	4.5	8.8	15,898	13,771	102.31	61.32
Minnesota	72.6	14.5	4.8	8.1	21,221	18,496	91.00	36.82
Iowa	78.3	10.8	3.6	7.2	39,941	35,616	199.52	82.58
Missouri	72.2	13.1	3.9	10.8	13,654	11,646	74.60	41.80
North Dakota	72.7	11.9	6.5	8.9	22,651	19,160	35.33	25.69
South Dakota	79.0	8.6	4.0	8.4	37,835	33,132	64.42	34.69
Nebraska	79.3	9.1	3.6	8.0	33,771	29,836	78.87	41.80
Kansas	75.0	10.7	4.7	9.6	19,982	17,122	54.50	35.45
N. C. W. Miss. R	76.2	11.2	4.2	8.4	25,517	22,307	83.04	43.21
Kentucky	69.5	16.8	3.2	10.5	5,587	4,823	48.62	21.83
Tennessee	64.5	17.3	4.3	13.9	4,953	4,055	41.40	18.53
Alabama	60.2	18.5	5.0	16.3	2,698	2,123	21.24	10.46
Mississippi	66.5	15.3	4.2	14.0	3,546	2,903	35.27	13.69
Louisiana	65.0	15.3	5.6	14.1	4,354	3,499	38.29	17.99
Texas	73.0	10.2	3.5	13.3	10,200	8,486	28.46	14.53
Oklahoma	70.6	11.6	4.8	13.0	8,649	7,104	36.66	22.49
Arkansas	65.8	15.7	4.7	13.8	3,974	3,238	34.82	14.13
S. Central	69.1	13.5	4.1	13.3	5,881	4,862	32.99	16.13
Montana	70.2	8.6	5.6	15.6	17,095	13,468	19.73	16.74
Wyoming	63.1	7.1	3.5	26.3	21,235	14,907	17.86	10.41
Colorado	70.9	9.5	4.6	15.0	17,966	14,449	31.22	26.81
New Mexico	60.4	7.8	3.0	28.8	10,896	7,432	8.04	8.77
Arizona	67.0	6.7	3.8	22.5	23,418	17,276	26.98	33.97
Utah	67.8	10.5	4.3	17.4	12,130	9,499	41.78	29.28
Nevada	59.5	6.9	3.6	30.0	31,546	20,947	25.18	12.99
Idaho	71.5	9.7	5.4	13.4	17,008	13,811	61.11	41.63
Washington	75.4	11.6	5.2	7.8	15,952	13,885	60.22	44.18
Oregon	71.6	10.9	5.1	12.4	16,304	13,449	43.29	35.23
California	81.1	8.5	3.9	6.5	29,158	26,122	94.77	47.16
Far Western	74.2	9.2	4.5	12.1	19,633	16,377	40.17	30.86
United States	70.4	14.7	4.6	10.3	12,084	10,284	57.36	32.40

AGRICULTURAL STATISTICS FROM CENSUS FOR 1920—Continued.

TABLE 548.—*Farm expenses*—Continued.

[000 omitted.]

State and division.	Value of all farm property.		Value of land.		Value of buildings.		Value of implements and machinery.		Value of live stock.	
	Total.	Per cent of 1910.	Total.	Per cent of 1910.	Total.	Per cent of 1910.	Total.	Per cent of 1910.	Total.	Per cent of 1910.
Maine	$270,527	135.8	$114,412	132.3	$89,697	122.6	$26,638	183.8	$39,780	158.1
New Hampshire	118,656	114.4	47,425	106.5	42,571	102.8	9,499	161.6	19,161	160.9
Vermont	222,737	153.2	82,938	142.1	76,179	140.5	21,234	208.8	42,386	187.2
Massachusetts	300,472	132.7	127,654	121.0	119,934	135.3	19,360	167.4	33,524	161.6
Rhode Island	33,637	102.0	14,509	96.7	11,879	91.9	2,409	135.2	4,840	147.7
Connecticut	226,991	142.4	101,187	140.1	89,084	134.7	13,248	191.5	23,472	165.7
New York	1,908,483	131.5	793,336	112.1	631,726	132.4	169,867	203.1	313,554	171.3
New Jersey	311,848	122.4	142,182	114.5	108,141	116.3	25,459	194.2	36,066	146.7
Pennsylvania	1,729,353	138.0	726,158	115.2	600,594	146.3	163,826	231.6	238,775	168.8
N. Atlantic	5,122,704	133.9	2,149,801	116.6	1,769,805	134.4	451,540	206.9	751,558	168.1
Delaware	80,138	126.8	42,116	120.5	22,640	124.3	6,781	211.5	8,601	126.2
Maryland	463,638	162.0	259,094	159.0	126,693	161.8	28,970	244.3	48,071	147.6
District of Columbia	5,928	69.9	4,156	57.8	1,421	137.0	104	112.9	247	161.2
Virginia	1,196,556	191.4	756,354	191.6	268,081	195.1	50,152	276.8	121,969	162.9
West Viginia	496,440	157.7	30,310	148.4	103,474	180.5	18,395	262.4	67,261	155.2
North Carolina	1,250,167	232.5	857,815	250.0	218,578	192.6	54,622	296.2	119,152	190.2
South Carolina	953,065	243.0	647,157	240.8	166,327	259.4	48,062	340.7	91,519	202.8
Georgia	1,356,685	233.7	897,445	242.3	240,854	221.3	63,343	302.4	155,043	192.9
Florida	330,302	230.7	228,425	243.7	53,025	217.2	13,552	304.8	35,300	171.4
S. Atlantic	6,132,919	207.8	4,000,682	212.4	1,201,093	199.2	283,981	289.1	647,163	176.6
Ohio	3,095,667	162.7	2,015,113	156.7	646,323	175.5	146,575	286.2	287,656	145.8
Indiana	3,042,311	168.2	2,202,566	165.8	451,078	169.5	127,403	310.7	261,264	150.3
Illinois	6,666,767	170.7	5,250,295	169.9	747,699	172.9	222,620	302.0	446,153	144.5
Michigan	1,763,335	161.9	959,187	155.9	477,499	167.0	122,390	245.2	204,259	148.2
Wisconsin	2,677,283	189.5	1,618,913	177.5	568,969	196.4	167,089	315.5	322,312	203.3
N. C. E. Miss. R.	17,245,363	170.4	12,046,074	166.6	2,891,568	176.1	786,077	292.4	1,521,644	155.9
Minnesota	3,787,420	256.5	2,750,328	269.9	550,840	226.4	181,088	346.1	305,164	188.8
Iowa	8,524,871	227.6	6,679,021	238.4	922,752	202.6	309,172	323.8	613,926	156.2
Missouri	3,591,068	174.9	2,594,193	179.4	468,774	173.5	138,261	271.8	389,840	136.4
North Dakota	1,759,743	180.5	1,279,314	175.2	209,208	226.7	114,187	260.1	157,034	145.1
South Dakota	2,823,870	242.2	2,231,432	247.2	241,462	235.6	112,408	332.7	238,568	187.5
Nebraska	4,201,656	202.0	3,330,222	206.3	381,885	192.1	153,105	346.0	336,444	151.4
Kansas	3,302,806	162.0	2,475,635	161.0	354,429	177.6	154,717	320.3	318,025	125.4
N. C. W. Miss. R.	27,991,434	206.8	21,340,145	212.3	3,129,350	200.3	1,162,938	315.2	2,359,001	152.0
Kentucky	1,511,900	195.4	1,050,753	216.9	254,406	168.5	48,355	231.9	158,386	134.8
Tennessee	1,251,965	204.4	807,782	217.5	217,197	199.1	53,463	251.1	173,523	156.7
Alabama	690,849	186.6	415,764	191.6	127,894	179.4	34,366	211.0	112,825	172.0
Mississippi	964,752	226.3	641,842	252.7	148,054	184.7	39,881	235.9	134,975	179.4
Louisiana	589,827	195.8	383,618	204.3	90,421	181.8	32,715	172.4	83,073	185.8
Texas	4,447,420	200.5	3,245,209	198.7	454,965	216.6	154,321	271.7	592,925	186.1
Oklahoma	1,660,424	180.8	1,171,459	180.5	192,406	214.7	80,631	297.7	215,928	141.7
Arkansas	924,395	231.0	607,773	247.0	145,337	230.2	43,432	257.5	127,853	172.6
S. Central	12,041,532	200.0	8,324,200	205.9	1,630,680	197.9	487,164	249.8	1,599,488	166.8
Montana	985,961	283.5	691,912	305.1	84,855	241.4	55,004	521.9	154,190	180.0
Wyoming	334,411	200.0	210,948	237.3	23,801	264.2	11,778	321.1	87,884	134.0
Colorado	1,076,795	219.1	763,723	210.5	102,291	223.8	49,805	389.4	160,976	229.4
New Mexico	325,186	203.9	196,341	198.7	25,473	195.6	9,745	236.4	93,627	215.3
Arizona	233,593	310.9	156,563	369.7	15,763	319.4	8,821	493.4	52,446	201.3
Utah	311,274	206.4	210,998	212.1	32,754	181.3	13,515	302.5	54,007	187.6
Nevada	99,779	165.2	59,362	168.3	6,893	159.1	3,631	230.4	29,893	155.6
Idaho	716,138	234.6	511,866	232.7	69,646	277.3	38,417	366.7	96,209	193.3
Washington	1,057,430	165.9	797,651	154.2	122,741	225.0	54,721	327.5	82,317	168.5
Oregon	818,559	155.0	586,242	142.4	88,971	202.8	41,567	314.8	101,779	171.2
California	3,431,022	212.5	2,783,055	211.3	290,756	217.9	136,069	372.9	221,142	173.3
Far western	9,390,148	206.9	6,968,661	203.7	863,944	229.2	423,073	365.2	1,134,470	181.6
United States	77,924,100	190.1	54,829,563	192.5	11,486,440	181.6	3,594,773	284.1	8,013,324	162.7

AGRICULTURAL STATISTICS FROM CENSUS FOR 1920—Continued.

TABLE 549.—*Farms classified by size.*

State and division.	Percentage of all farms in State.										Average acreage per farm.	Average acreage of improved land per farm.	Total number of farms.
	Under 3 acres.	3 to 9 acres.	10 to 19 acres.	20 to 49 acres.	50 to 99 acres.	100 to 174 acres.	175 to 259 acres.	260 to 499 acres.	500 to 999 acres.	1,000 acres and over.			
	P. ct.	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*Acres.*	*Acres.*	*Number.*
Maine	0.3	4.1	5.0	14.0	29.6	29.9	10.8	5.1	1.0	0.2	112.5	41.0	48,227
New Hampshire	.6	6.6	7.0	16.4	23.8	24.3	11.3	7.3	2.1	.7	126.9	34.2	20,523
Vermont	.3	6.0	5.3	10.1	17.9	30.2	17.5	10.7	1.9	.3	145.7	58.2	29,075
Massachusetts	2.7	13.7	13.3	23.5	21.4	15.3	5.7	3.3	.8	.3	77.9	28.4	32,001
Rhode Island	1.5	9.5	11.9	24.1	25.3	17.6	5.6	3.1	1.1	.3	81.2	32.5	4,083
Connecticut	.6	9.1	10.9	24.4	25.6	18.5	6.5	3.4	.7	.2	83.8	30.9	22,655
New York	.5	6.6	6.6	14.1	26.3	29.5	11.0	4.8	.5	.1	106.8	68.1	193,195
New Jersey	1.3	10.4	12.7	22.8	24.8	21.0	4.9	1.6	.3	.2	76.8	52.4	29,702
Pennsylvania	.5	7.4	7.9	18.0	30.7	26.1	6.6	2.3	.3	.1	87.3	58.6	202,250
N. Atlantic	.7	7.3	7.7	16.8	27.2	26.5	9.0	4.0	.6	.2	99.0	56.2	581,711
Delaware	.2	4.7	7.1	21.5	29.1	24.8	8.5	3.5	.5	(1)	93.1	64.4	10,140
Maryland	.3	10.2	10.4	17.6	20.3	23.4	10.3	6.2	1.0	.2	99.3	65.5	47,908
Dist. of Columbia	15.2	17.2	29.9	24.5	8.8	2.5	.0	2.0	.0	.0	27.8	20.9	204
Virginia	.2	7.6	11.8	24.6	22.9	18.3	7.5	5.2	1.5	.4	99.7	50.8	186,242
West Virginia	.2	5.1	6.6	20.8	29.3	22.4	8.6	5.1	1.4	.4	109.6	63.2	87,289
North Carolina	.1	4.9	14.0	32.3	25.5	15.2	4.6	2.5	.6	.2	74.2	30.4	269,763
South Carolina	.2	5.4	15.6	44.1	19.5	9.4	2.9	1.9	.7	.3	64.5	32.1	192,693
Georgia	.1	2.0	6.6	43.3	26.1	13.3	4.5	2.9	1.0	.4	81.9	42.0	310,732
Florida	.7	7.0	11.8	35.9	20.1	14.1	4.8	3.5	1.3	.7	112.0	42.5	54,005
S. Atlantic	.2	4.9	11.1	34.6	24.2	15.1	5.3	3.3	1.0	.3	84.4	41.9	1,158,976
Ohio	.3	5.9	6.1	17.3	33.6	27.2	6.8	2.5	.3	(1)	91.6	72.2	256,695
Indiana	.3	4.6	4.8	17.0	31.7	28.2	8.9	3.9	.4	.1	102.7	81.3	205,126
Illinois	.3	3.2	3.6	11.4	21.9	34.3	16.5	8.0	.7	.1	134.8	115.1	237,181
Michigan	.2	2.9	3.4	20.8	36.3	26.8	6.7	2.5	.3	.1	96.9	65.8	196,447
Wisconsin	.2	2.6	2.5	13.1	32.1	33.6	10.8	4.6	.5	.1	117.0	65.8	189,295
N.C.E.Miss. R.	.2	3.9	4.2	15.9	30.9	30.0	10.0	4.3	.5	.1	108.5	81.0	1,084,744
Minnesota	.2	1.6	1.7	7.9	18.3	36.9	17.4	14.1	1.7	.2	169.3	120.4	178,478
Iowa	.2	2.7	2.5	6.1	16.8	40.1	19.4	11.2	.9	.1	156.8	134.0	213,439
Missouri	.2	2.7	3.4	15.6	25.6	30.2	12.7	7.9	1.4	.3	132.2	94.4	263,004
North Dakota	(1)	.2	.2	.7	1.2	14.8	7.2	47.0	23.7	5.1	466.1	316.2	77,690
South Dakota	.1	.5	.5	1.3	3.2	22.1	12.8	37.2	15.6	6.8	464.1	243.8	74,637
Nebraska	.1	1.3	1.3	3.0	9.0	34.7	17.3	20.8	7.8	4.8	339.4	185.7	124,417
Kansas	.2	2.3	2.0	5.0	12.3	29.7	16.1	22.7	7.3	2.5	274.8	185.1	165,286
N.C.W.Miss.R.	.2	2.0	2.0	7.4	15.6	32.0	15.4	18.0	5.6	1.8	234.3	156,2	1,096,951
Kentucky	.6	8.5	12.7	23.5	26.3	18.8	5.8	3.0	.6	.1	79.9	51.6	270,626
Tennessee	.1	4.8	12.7	31.6	25.7	16.3	5.2	2.8	.6	.2	77.2	44.3	252,774
Alabama	.1	3.5	9.6	44.1	22.4	12.7	3.9	2.6	.8	.3	76.4	38.6	256,099
Mississippi	.1	3.0	21.2	42.9	15.4	10.4	3.5	2.5	.7	.3	66.9	34.3	272,101
Louisiana	.3	3.0	18.9	45.3	16.0	9.5	3.1	2.4	.9	.6	74.0	41.5	135,463
Texas	.2	1.6	4.1	25.3	27.4	22.2	7.4	6.3	2.9	2.6	261.5	71.6	436,033
Oklahoma	.1	1.0	2.1	17.0	22.6	34.5	8.5	11.1	2.4	.8	166.4	94.4	191,988
Arkansas	.1	2.3	13.0	39.7	21.8	15.6	4.3	2.5	.5	.2	75.0	39.6	232,604
S. Central	.2	3.5	11.1	32.7	23.0	17.8	5.4	4.2	1.3	.8	123.2	53.0	2,047,688
Montana	.2	.7	.8	2.2	3.7	15.1	5.9	40.9	20.8	9.7	608.1	190.8	57,677
Wyoming	.4	.5	.4	2.5	6.3	16.2	5.9	32.3	22.4	13.2	749.9	133.5	15,748
Colorado	.7	3.8	3.7	7.4	9.9	20.3	6.7	29.4	12.5	5.7	408.1	129.2	59,934
New Mexico	1.3	12.5	8.9	10.4	6.7	16.5	3.9	19.6	10.7	9.4	817.9	57.5	29,844
Arizona	1.4	5.7	7.4	23.7	17.1	22.4	3.7	9.8	4.8	4.0	581.7	71.5	9,975
Utah	1.0	7.6	9.3	25.5	19.8	15.9	6.9	8.2	3.3	2.4	196.8	66.8	25,662
Nevada	1.1	3.9	3.3	13.8	17.5	19.3	7.2	13.4	9.0	11.5	745.2	188.0	3,163
Idaho	.8	2.8	3.3	16.2	20.2	25.1	8.7	16.2	5.2	1.4	198.9	107.2	42,106
Washington	1.4	9.9	12.9	23.0	13.7	15.0	5.0	9.5	6.1	3.4	199.8	107.6	66,288
Oregon	.8	6.1	8.1	17.4	16.5	19.4	8.0	12.5	6.7	4.4	269.7	97.9	50,206
California	2.5	11.7	14.8	27.0	12.8	11.2	4.5	7.1	4.3	4.2	249.6	100.9	117,670
Far Western	1.2	7.0	8.4	17.0	12.4	16.5	5.9	17.4	8.9	5.3	362.7	113.0	478,273
United States	.3	4.2	7.9	23.3	22.9	22.5	8.2	7.4	2.3	1.0	148.2	78.0	6,448,343

[1] Less than one-tenth of 1 per cent.

AGRICULTURAL STATISTICS FROM CENSUS FOR 1920—Continued.

TABLE 550.—*Total population, total land area, farm area, improved, woodland, and other unimproved area, and their percentages in 1920, by States.*

[000 omitted.]

State and division.	Total population.	Farm population.	Total land area.	Land in farms.				Percentage of land area.		Percentage of farm-land area.		
				Total.	Improved.	Woodland.	Other unimproved.	In farms.	Improved.	Improved.	Woodland.	Other unimproved.
	No.	*No.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*	*P. ct.*
Maine	768	198	19,133	5,426	1,977	2,448	1,001	28.4	10.3	36.4	45.1	18.5
New Hampshire	443	76	5,780	2,604	703	1,300	601	45.1	12.2	27.0	49.9	23.1
Vermont	353	125	5,839	4,236	1,691	1,428	1,116	72.5	29.0	39.9	33.7	26.4
Massachusetts	3,852	119	5,145	2,494	909	1,030	555	48.5	17.7	36.4	41.3	22.3
Rhode Island	604	15	683	332	133	130	68	48.6	19.5	40.2	39.2	20.6
Connecticut	1,381	93	3,085	1,899	701	684	514	61.6	22.7	36.9	36.0	27.1
New York	10,385	801	30,499	20,633	13,159	4,161	3,314	67.7	43.1	63.8	20.2	16.0
New Jersey	3,156	144	4,809	2,283	1,556	455	272	47.5	32.4	68.2	19.9	11.9
Pennsylvania	8,720	948	28,692	17,657	11,848	4,044	1,766	61.5	41.3	67.1	22.9	10.0
N. Atlantic	29,662	2,519	103,665	57,564	32,677	15,680	9,207	55.5	31.5	56.8	27.2	16.0
Delaware	223	51	1,258	944	653	223	69	75.0	51.9	69.2	23.6	7.2
Maryland	1,450	279	6,362	4,758	3,137	1,327	294	74.8	49.3	65.9	27.9	6.2
Dist. of Columbia	438	1	38	6	4	1	1	15.8	10.5	66.7	16.7	16.6
Virginia	2,309	1,065	25,768	18,561	9,461	7,907	1,193	72.0	36.7	51.0	42.6	6.4
West Virginia	1,464	478	15,374	9,570	5,520	3,469	580	62.2	35.9	57.7	36.2	6.1
North Carolina	2,559	1,501	31,194	20,022	8,198	10,299	1,524	64.2	26.3	40.9	51.5	7.6
South Carolina	1,684	1,075	19,517	12,426	6,184	5,303	940	63.7	31.7	49.8	42.6	7.6
Georgia	2,896	1,685	37,584	25,441	13,055	10,492	1,894	67.7	34.7	51.3	41.2	7.5
Florida	967	282	35,111	6,047	2,297	2,781	968	17.2	6.5	38.0	46.0	16.0
S. Atlantic	13,990	6,417	172,206	97,775	48,509	41,802	7,463	56.8	28.2	49.6	42.8	7.6
Ohio	5,760	1,140	26,074	23,516	18,542	3,199	1,775	90.2	71.1	78.8	13.6	7 6
Indiana	2,930	907	23,069	21,063	16,680	3,141	1,242	91.3	72.3	79.2	14.9	5.9
Illinois	6,485	1,098	35,868	31,975	27,295	3,102	1,578	89.1	76.1	85.4	9.7	4.9
Michigan	3,669	849	36,787	19,033	12,926	3,217	2,890	51.7	35.1	67.9	16.9	15.2
Wisconsin	2,632	920	35,364	22,148	12,452	5,402	4,294	62.6	35.2	56.2	24.4	19.4
N. C. E. Miss R.	21,476	4,914	157,162	117,735	87,895	18,061	11,779	74.9	55.9	74.7	15.3	10.0
Minnesota	2,387	897	51,749	30,222	21,482	4,483	4,257	58.4	41.5	71.1	14.8	14.1
Iowa	2,404	985	35,575	33,475	28,607	2,295	2,573	94.1	80.4	85.5	6.9	7.6
Missouri	3,404	1,211	43,985	34,775	24,833	8,554	1,388	79.1	56.5	71.4	24.6	4.0
North Dakota	647	395	44,917	36,215	24,563	680	10,972	80.6	54.7	67.8	1.9	30.3
South Dakota	637	362	49,196	34,636	18,199	536	15,901	70.4	37.0	52.5	1.6	45.9
Nebraska	1,296	584	49,157	42,225	23,109	901	18,215	85.9	47.0	54.7	2.1	43.2
Kansas	1,769	737	52,335	45,425	30,601	1,313	13,511	86.8	58.5	67.4	2.9	29.7
N. C. W. Miss. R.	12,544	5,171	326,914	256,973	171,394	18,762	66,817	78.6	52.4	66.7	7.3	26.0
Kentucky	2,417	1,305	25,716	21,613	13,976	6,019	1,619	84.0	54.3	64.7	27.8	7.5
Tennessee	2,338	1,272	26,680	19,511	11,185	7,080	1,245	73.1	41.9	57.3	36.3	6.4
Alabama	2,348	1,336	32,819	19,577	9,893	8,301	1,382	59.7	30.1	50.5	42.4	7.1
Mississippi	1,791	1,270	29,672	18,197	9,326	7,015	1,856	61.3	31.4	51.3	38.6	10.1
Louisiana	1,799	786	29,062	10,020	5,626	3,614	780	34.5	19.4	56.1	36.1	7.8
Texas	4,663	1,017	167,935	114,020	31,228	14,533	68,260	67.9	18.6	27.4	12.7	59.9
Oklahoma	2,028	2,278	44,425	31,952	18,125	4,206	9,621	71.9	40.8	56.7	13.2	30.1
Arkansas	1,752	1,147	33,616	17,456	9,211	7,396	850	51.9	27.4	52.8	42.4	4.8
S. Central	19,136	10,411	389,925	252,346	108,570	58,164	85,613	64.7	27.8	43.0	23.0	34.0
Montana	549	226	93,567	35,071	11,007	1,646	22,417	37.5	11.8	31.4	4.7	63.9
Wyoming	194	67	62,460	11,809	2,102	422	9,286	18.9	3.4	17.8	3.6	78.6
Colorado	940	266	66,341	24,462	7,745	1,415	15,302	36.9	11.7	31.7	5.8	62.5
New Mexico	360	161	78,402	24,410	1,717	1,817	20,875	31.1	2.2	7.0	7.4	85.6
Arizona	334	91	72,838	5,802	713	524	4,566	8.0	1.0	12.3	9.0	78.7
Utah	449	140	52,598	5,050	1,716	213	3,122	9.6	3.3	34.0	4.2	61.8
Nevada	78	16	70,285	2,357	595	29	1,734	3.4	.9	25.2	1.2	73.6
Idaho	432	201	53,347	8,376	4,512	821	3,043	15.7	8.5	53.9	9.8	36.3
Washington	1,357	283	42,775	13,245	7,129	1,813	4,302	31.0	16.7	53.8	13.7	32.5
Oregon	783	214	61,188	13,542	4,914	2,310	6,319	22.1	8.0	36.3	17.1	46.6
California	3,427	517	99,617	29,366	11,878	4,252	13,235	29.5	11.9	40.4	14.5	45.1
Far Western	8,903	2,182	753,418	173,490	54,028	15,262	104,201	23.0	7.2	31.1	8.8	60.1
United States	105,711	31,614	1,903,290	955,883	503,073	167,731	285,080	50.2	26.4	52.6	17.5	29.9

RATES OF FOREIGN EXCHANGE.

TABLE 551.—*Average monthly rates of exchange at New York, 1912–1922.*[1]

ARGENTINE PESOS (PAPER).

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1912	42.460	42.500	42.604	42.655	42.526	42.510	42.510	42.510	42.510	42.510	42.478	42.495
1913	42.510	42.878	42.720	42.535	42.470	42.395	42.260	42.110	42.110	42.110	42.110	42.110
1914	42.158	42.522	42.540	42.365	42.230	42.230	42.246	[2]43.465	44.683	43.042	43.428	43.720
1915	43.348	43.332	42.925	42.586	42.005	42.018	42.236	41.385	41.712	42.080	42.212	42.560
1916	42.652	42.858	43.158	43.058	42.525	42.182	41.592	41.402	42.126	42.900	43.240	43.824
1917	44.17	43.96	43.402	42.642	43.262	43.918	43.525	43.104	42.900	43.768	45.600	46.680
1918	44.82	43.895	44.062	44.472	45.192	44.820	44 388	44.413	44.632	44.712	44.828	45.018
1919	44.804	44.748	44.328	44.045	44.100	43.220	42.548	42.138	42.315	42.324	42.945	43.110
1920	43.076	43.108	43.320	42.957	42.485	42.058	40.496	37.657	36.808	35.807	33.650	34.368
1921	34.792	35.078	34.122	32.476	31.585	30.782	28.952	29.284	30.637	32.154	32.329	32.914
1922	33.963	36.334	36.423	35.529	36.260	36.016	36.013	36.117	35.677	35.822	36.180	37.650

[1] International Yearbook of Agricultural Statistics, page 505, through June, 1921. Average of weekly quotations, Federal Reserve Board Bulletin, July, 1921. Average monthly rate of exchange.
[2] Interpolation, no quotation.

EGYPTIAN TALARI.[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
1912	100.345	100.398	100.310	99.980	100.006	99.992	99.972	100.090	100.042	100.412	99.980	100.005
1913	100.144	99.928	99.845	99.832	99.862	99.690	99.662	99.952	100.120	100.244	99.912	99.768
1914	99.965	99.855	99.685	99.828	99.912	99.912	100.158	103.630	103.292	102.552	100.962	100.236
1915	99.582	99.138	98.708	98.372	98.320	97.955	97.738	96.335	96.232	96.144	95.805	96.840
1916	97.505	97.652	97.740	97.770	97.648	97.575	97.592	97.590	97.612	97.698	97.698	97.644
1917	97.605	97.538	97.576	97.670	97.578	97.526	97.608	97.680	97.628	97.572	97.576	98.08
1918	97.585	97.580	97.552	97.598	97.600	97.570	97.560	97.618	97.630	97.675	97.712	97.710
1919	97.726	97.702	96.480	95.525	95.808	94.588	91.395	88.036	85.518	85.560	84.334	78.442
1920	75.864	68.660	74.123	80.088	78.934	79.642	78.362	73.498	72.510	70.876	70.565	72.482
1921	76.915	79.482	80.405	80.780	82.390	78.298	75.126	75.128	76.810	79.538	81.428	84.630

[1] International Yearbook of Agricultural Statistics, 1921, page 506.

INDIAN RUPEE—CENTS PER RUPEE.[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1919	35.650	35.650	35.875	35.650	42.500	42.500	43.000	43.500	45.000	43.000	43.375	45.000
1920	44.125	45.500	47.250	46.500	43.500	40.875	37.875	35.750	33.788	30.625	29.375	27.250
1921	28.574	28.938	26.906	26.100	26.344	25.422	23.059	24.224	26.390	27.419	26.874	27.449
1922	27.810	28.143	27.822	27.810	28.751	28.911	28.891	29.014	28.741	28.842	29.511	30.649

[1] January–September, 1919, highest rate for month. Federal Reserve Board Bulletin, January, 1921, page 31. October, 1919–December, 1920, average between high and low quotations for month, Federal Reserve Board Bulletins. January, 1921–June, 1921, average of weekly high and low quotations for month, Federal Reserve Board Bulletins. July, 1921 to date, average rate of exchange, Federal Reserve Board Bulletins.

POUND STERLING.[1]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1912	4.86988	4.8728	4.87212	4.87100	4.87200	4.87562	4.87525	4.87250	4.86038	4.85740	4.85062	4.85025
1913	4.86880	4.87462	4.87288	4.86875	4.8651	4.86700	4.8678	4.8640	4.85675	4.85800	4.85262	4.8535
1914	4.8623	4.8570	4.86275	4.8698	4.88312	4.88488	4.8878	5.000	4.98125	4.953	4.90312	4.8715
1915	4.84219	4.82062	4.8018	4.7945	4.7925	4.77547	4.76475	4.70625	4.69125	4.68575	4.67062	4.72075
1916	4.75062	4.75906	4.76412	4.76484	4.75812	4.75788	4.75766	4.7575	4.75738	4.75672	4.75672	4.74788
1917	4.75672	4.755	4.75438	4.75672	4.75547	4.75438	4.75531	4.7545	4.75484	4.75219	4.752	4.75172
1918	4.7525	4.7525	4.7525	4.7550	4.7550	4.75375	4.7525	4.75625	4.7550	4.7550	4.7575	4.7575
1919	4.7575	4.7575	4.70	4.65125	4.65625	4.61250	4.4275	4.2725	4.18	4.17125	4.08125	3.76875
1920	3.67	3.37625	3.77125	3.9130	3.85	3.9475	3.8525	3.62	3.5125	3.4730	3.42.50	3.49125
1921	3.75625	3.87125	3.9150	3.93	3.9775	3.7725	3.63213	3.65363	3.7240	3.87289	3.97020	4.15611
1922	4.22478	4.362	4.37572	4.41337	4.44612	4.45186	4.44637	4.46468	4.43070	4.43848	4.47992	4.6098

[1] International Yearbook of Agricultural Statistics, 1912–June, 1921, pages 504, 498. Federal Reserve Board Bulletins, July 1921–October, 1922. Sight drafts 1912–1920; cables 1921–22.

CARLOAD WEIGHTS.

TABLE 552.—*Average weight per carload of freight originating on Class I railroads in the United States for the quarter ending June 30, 1920, calendar year 1921 and nine months of 1922.*

[Interstate Commerce Commission.]

Commodity.	Average weight per carload (in tons of 2,000 pounds).		
	April, May, and June, 1920.	Calendar year 1921.	Nine months, 1922.
	Tons.	*Tons.*	*Tons.*
Wheat	39.4	39.9	39.8
Corn	36.2	38.1	38.5
Oats	30.0	30.5	29.6
Flour and meal	30.9	25.6	24.5
Hay, straw, and alfalfa	12.2	12.5	12.3
Tobacco	13.9	10.9	11.3
Cotton	12.4	11.6	11.5
Citrus fruits	17.5	16.2	15.5
Potatoes	18.7	18.2	17.8
Horses and mules	11.4	11.4	11.3
Cattle and calves	11.7	11.6	11.5
Sheep and goats	10.3	9.7	9.8
Hogs	9.7	9.5	9.6
Poultry	11.5	10.9	10.9
Eggs	11.6	11.2	11.1
Butter and cheese	13.2	12.2	12.3
Wool	12.6	12.2	11.7
Sugar, sirup, glucose, and molasses	28.0	27.7	27.4
Canned goods	24.8	23.1	22.8
Anthracite coal	48.0	47.7	47.9
Bituminous coal	50.1	50.4	53.1
Textiles	12.8	11.8	11.6
Lumber, timber, box shooks, staves, and headings	26.8	26.0	23.8

TABLE 553.—*Index numbers showing changes in freight rates of 50 representative agricultural products, by months, years 1900 to 1922, inclusive.*

[Average for year 1913=100.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly average.
1900	105.7	105.7	103.8	103.4	103.7	103.6	103.7	103.5	103.4	103.5	103.9	103.9	104.0
1901	103.8	104.4	104.4	104.4	104.3	103.5	103.1	103.1	103.1	103.4	103.9	103.9	103.8
1902	103.9	103.9	103.9	103.9	103.7	103.6	103.3	103.1	102.8	102.7	102.7	103.6	103.4
1903	103.9	103.6	103.5	103.5	103.1	102.9	103.0	102.9	102.8	102.6	102.9	103.7	103.2
1904	103.5	102.7	102.1	102.0	90.8	101.9	102.3	102.3	102.3	102.3	102.3	105.2	101.6
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
1906	101.0	101.0	101.0	101.0	101.0	101.0	100.8	100.3	100.1	100.1	100.1	100.2	100.6
1907	100.2	98.3	100.2	100.4	100.3	100.3	100.4	100.2	99.9	99.7	99.7	99.7	99.9
1908	99.7	99.7	99.7	99.7	99.9	100.1	100.1	100.5	100.5	100.6	100.4	100.4	100.1
1909	100.0	100.0	99.9	99.9	99.9	99.9	99.9	100.0	100.1	100.1	99.9	99.9	100.0
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
1911	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.5	100.4
1912	100.5	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.5	100.5	100.5	100.4
1913	100.5	100.5	100.5	100.5	100.5	100.5	100.2	99.5	99.3	99.3	99.3	99.3	100.0
1914	99.3	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.5	99.6	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	159.0	159.0	159.0	159.8

RAILWAY FREIGHT TONNAGE.

TABLE 554.—*Tonnage carried on railways in the United States, 1916–1922.*[1]

Product.	Class I roads,[2] year ending Dec. 31—						
	1916	1917	1918	1919	1920	1921	1922
FARM PRODUCTS.							
Animal matter:	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*
Animals, live—							
Horses and mules	17,294	17,906	17,257	19,395	936	430	.....
Cattle and calves					9,809	8,526	.....
Sheep and goats					1,344	1,176	.....
Hogs					5,421	5,506	.....
Packing-house products—							
Dressed meats	2,808	2,966	3,714	3,398	2,770	2,579	.....
Hides and leather	1,396	1,357	1,303	1,371	1,051	972	.....
Other packing-house products	2,633	2,567	3,510	3,736	2,206	2,095	.....
Total packing-house products	6,837	6,890	8,527	8,505	6,027	5,646	.....
Eggs [3]	.....	.....	.....	.....	536	551	.....
Butter and cheese [3]	.....	.....	.....	.....	425	435	.....
Poultry (including game and fish)	1,097	1,022	1,154	1,322	264	276	.....
Wool	505	499	494	547	293	400	.....
Other animal matter	4,741	5,541	6,338	5,724	1,540	1,327	.....
Total animal matter	30,473	31,858	35,770	35,494	26,595	24,273	.....
Vegetable matter:							
Cotton	4,212	3,552	3,550	3,803	3,379	3,186	.....
Fruit and vegetables	17,621	17,679	18,736	19,726	10,045	9,204	.....
Potatoes [3]	.....	.....	.....	.....	4,118	4,639	.....
Grain and grain products—							
Grain—							
Wheat	55,685	46,372	55,867	52,375	23,131	29,041	.....
Corn					12,689	17,219	.....
Oats					8,615	7,543	.....
Other grain					5,669	4,569	.....
Grain products—							
Flour	10,319	10,065	10,588	11,670	10,952	10,554	.....
Other grain products	8,234	8,413	8,630	9,079	8,891	7,881	.....
Total grain and grain products	74,238	64,850	75,084	73,123	69,947	76,807	.....
Hay	7,243	8,314	8,239	7,483	7,957	5,163	.....
Sugar, sirup, glucose, and molasses	3,762	4,235	4,204	4,934	5,664	4,767	.....
Tobacco	1,016	1,029	1,160	1,293	1,081	933	.....
Other vegetable matter	9,305	9,204	9,257	9,604	15,250	15,169	.....
Total vegetable matter	117,398	108,865	120,230	119,967	117,441	119,868	.....
Canned goods (food products)[3]	.....	.....	.....	.....	3,074	2,626	.....
Total farm products	147,871	140,723	156,000	155,461	147,110	146,767	.....
OTHER FREIGHT.							
Products of mines	680,123	732,656	734,791	589,951	712,154	510,860	.....
Products of forests	93,819	100,838	97,043	94,076	100,766	76,923	.....
Manufactures	185,025	188,796	176,197	163,825	242,189	163,699	.....
All other (including all freight in less than carload lots)	95,162	101,006	99,032	92,799	53,202	42,080	.....
Total tonnage	1,202,000	1,264,019	1,263,063	1,096,111	1,255,421	940,329	.....

[1] Compiled from reports of the Interstate Commerce Commission. Original shipment only, excluding freight received by each railway from connecting railways and other carriers.
[2] Roads having annual operating revenues in excess of $1,000,000.
[3] Not separately stated prior to 1920.

FREIGHT RATES.

TABLE 555.—*Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; also index numbers based on average of the year 1913.*

[Rates are in cents per 100 pounds.]

	Rate.	Index No.	Remarks.
Rate No. 1—Wheat: From Larimore, N. D., to Minneapolis, Minn.:	*Cents.*		
Average, 1913..	12	100.0	
Jan. 1, 1900....	15	125.0	
Aug. 28, 1902..	14.5	120.8	Aug., 1902=124.5
Sept. 1, 1905...	12.5	104.2	
Sept. 1, 1906...	12	100.0	
June 25, 1918..	15	125.0	June, 1918=105.0
Aug. 26, 1920..	20.5	170.8	Aug., 1920=133.9
Jan. 1, 1922....	17.5	145.8	
Jan. 1, 1923....	17.5	145.8	
Rate No. 2—Wheat: From Tracy, Minn., to New Ulm, Minn:			
Average, 1913.	8.34	100.0	
Jan. 1, 1900....	10	119.9	
July 21, 1913..	6.3	75.5	July, 1913=104.1
June 25, 1918..	8	95.9	June, 1918= 79.6
Dec. 20, 1920..	11	131.9	Dec., 1920=109.8
Jan. 1, 1922....	9.5	113.9	
Jan. 1, 1923....	9.5	113.9	
Rate No. 3—Wheat: From Hays, Kans., to Denver, Colo.:			
Average, 1913.	30	100.0	
Jan. 1, 1900....	30	100.0	
June 25, 1918..	36	120.0	June, 1918=104.0
June 15, 1920..	31	103.3	June, 1920=111.1
Aug. 26, 1920..	42	140.0	Aug., 1920=110.4
Dec. 29, 1921..	35.5	121.7	Dec., 1921=137.0
Jan 1, 1923....	36.5	121.7	
Rate No. 4—Wheat: From Cincinnati, Ohio, to Atlanta, Ga.:			
Average, 1913.	24	100.0	
Jan. 1, 1900...	24	100.0	
Feb. 28, 1900..	21	87.5	Feb., 1900= 99.1
Apr. 18, 1900..	24	100.0	Apr., 1900= 92.9
Feb. 1, 1905...	22	91.7	
Sept. 1, 1908...	24	100.0	
Sept. 1, 1916...	25	104.2	
June 25, 1918..	31.5	131.2	June, 1918=109.6
Aug. 26, 1920..	39.5	164.6	Aug., 1920=137.7
Jan. 1, 1922....	35.5	147.9	
Jan. 1, 1923....	35.5	147.9	
Rate No. 5—Wheat: From Chicago, Ill., to Buffalo, N. Y.:			
Average, 1913.	14.5	100.0	
Jan. 1, 1900....	13.5	93.1	
Mar. 5, 1900...	9.5	65.5	Mar., 1900= 69.1
Nov. 1, 1900...	11	75.9	
June 1, 1901...	9.5	65.5	
Oct. 21, 1901...	11	75.9	Oct., 1901= 69.2
Dec. 8, 1902...	12.5	86.2	Dec., 1902= 83.9
May 11, 1903...	11	75.9	May, 1903= 79.2
Dec. 1, 1903...	12.5	86.2	
May 2, 1904...	11	75.9	May, 1904= 76.2
Dec. 5, 1904...	12.5	86.2	Dec., 1904= 84.9
Feb. 1, 1905...	11	75.9	
May 9, 1905....	9.5	65.5	May, 1905= 68.2
Sept. 1, 1905...	11	75.9	
May 1, 1907....	12	82.8	
Feb. 1, 1910...	15	103.4	
Feb. 15, 1911..	14.5	100.0	Feb., 1911=101.7
Mar. 1, 1911...	15	103.4	
Rate No. 5—Wheat: From Chicago, Ill., to Buffalo, N. Y.—Continued.	*Cents.*		
Aug. 15, 1912..	14.5	100.0	Aug., 1912=101.5
Feb. 10, 1914..	15	103.4	Feb., 1914=102.3
June 7, 1918...	16.5	113.8	June, 1918=117.2
June 25, 1918..	20.5	141.4	
Feb. 29, 1920..	21	144.8	Feb., 1920=141.5
Aug. 26, 1920..	29.5	203.4	Aug., 1920=156.1
Jan. 1, 1922....	26.5	182.8	
Jan. 1, 1923....	26.5	182.8	
Rate No. 6—Wheat: From Wichita, Kans., to Galveston, Tex. (for export):			
Average, 1913.	25	100.0	
Jan. 1, 1900....	34	136.0	
Aug. 15, 1902..	28.5	114.0	Aug., 1902=123.9
Dec. 15, 1902..	30.5	122.0	Dec., 1902=118.4
Feb. 1, 1904...	27.5	110.0	Feb., 1904=103.4
Feb. 6, 1904...	25.5	102.0	
June 10, 1904..	28.5	114.0	June, 1904=110.4
Aug. 22, 1905..	27	108.0	Aug., 1905=112.1
Oct. 1, 1905....	27.75	111.0	
Jan. 1, 1906....	28.5	114.0	
July 12, 1906..	27.25	109.0	July, 1906=110.1
July 30, 1906..	24.5	98.0	
Aug. 11, 1906..	27.25	109.0	Aug., 1906=105.5
Sept. 10, 1906..	28.5	114.0	Sept., 1906=112.5
May 2, 1907....	26.5	106.0	May, 1907=106.3
July 15, 1907..	27.75	111.0	July, 1907=108.7
Sept. 2, 1907...	25	100.0	Sept., 1907=100.4
Feb. 5, 1916...	25.7	102.8	Feb., 1916=102.4
Feb. 15, 1917..	26.5	106.0	Feb., 1917=104.4
June 25, 1918..	36.5	146.0	June, 1918=114.0
Dec. 30, 1919..	37.5	150.0	Dec., 1919=146.3
Aug. 26, 1920..	50.5	202.0	Aug., 1920=160.1
June 1, 1922...	44	176.0	
Jan. 1, 1923....	44	176.0	
Rate No. 7.—Wheat: From Riparia, Wash., to Portland, Oreg:			
Average, 1913.	15	100.0	
Jan. 1, 1900....	19	125.7	
Feb. 2, 1903...	16.25	108.3	Feb., 1903=109.0
Nov. 1, 1909...	15	100.00	
June 25, 1918..	19	126.7	June, 1918=105.3
Aug. 26, 1920..	24	160.0	Aug., 1920=133.1
Jan. 1, 1922....	21.5	143.3	
Jan. 1, 1923....	21.5	143.3	
Rate No. 8.—Wheat: From Pana, Ill., to New York, N. Y. (domestic):			
Average, 1913.	22	100.00	
Jan. 1, 1900....	25.5	115.9	
Mar. 5, 1900...	17.5	79.5	Mar., 1900= 84.2
Oct. 8, 1900....	19.5	88.6	Oct., 1900= 86.5
Nov. 1, 1900...	22.5	102.3	
June 1, 1901...	19.5	88.6	
Oct. 21, 1901...	22.5	102.3	Oct., 1901= 93.5
Dec. 8, 1902...	25	113.6	Dec., 1902=111.0
Sept. 30, 1903..	23	104.5	Sept., 1903=113.3
Dec. 1, 1903...	25	113.6	
May 2, 1904....	22.5	102.3	May, 1904=102.7

FREIGHT RATES—Continued.

TABLE 555.—*Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; also index numbers based on average of the year 1913*—Continued.

	Rate.	Index No.	Remarks.
Rate No. 8.—Wheat: From Pana, Ill., to New York, N. Y. (domestic)—Continued.	*Cents.*		
Dec. 5, 1904	25	113.6	Dec., 1904=112.1
Feb. 1, 1905	22.5	102.3	
June 12, 1905	19.5	88.6	June, 1905= 93.6
Sept. 1, 1905	22.5	102.3	
Aug. 18, 1906	20.5	93.2	Aug., 1906= 98.2
Apr. 1, 1907	21	95.5	
May 1, 1908	21.5	97.7	
Feb. 1, 1910	22	100.0	
Jan. 8, 1914	23	104.5	Jan., 1914=103.5
Jan. 20, 1915	23.8	108.2	Jan., 1915=105.9
Apr. 6, 1918	26.5	120.5	Apr., 1918=118.5
June 25, 1918	32.5	147.7	June, 1918=125.
Dec. 31, 1919	33.5	152.3	Dec., 1919=1478.
Aug. 26, 1920	47	213.6	Aug., 1920=164.2
Jan. 1, 1922	42.5	193.2	
Jan. 1, 1923	42.5	193.2	
Rate No. 9.—Corn: From Charleston, Mo., to San Antonio, Tex.:			
Average, 1913	31.5	100.0	
Jan. 1, 1900	31	98.4	
Dec. 15, 1902	30.5	96.8	Dec., 1902= 97.5
Sept. 17, 1907	31.5	100.0	Sept., 1907= 98.3
June 25, 1918	41.5	131.7	June, 1918=106.3
Aug. 26, 1920	56	177.8	Aug., 1920=140.6
Jan. 1, 1922	44	139.7	
Jan. 1, 1923	44	139.7	
Rate N. 10.—Corn: From Sperry, Iowa, to Los Angeles, Calif.:			
Average, 1913	60	100.0	
Jan. 1, 1900	75	125.0	
Jan. 1, 1909	60	100.0	
June 25, 1918	68.5	114.2	June, 1918=102.8
Aug. 26, 1920	91.5	152.5	Aug., 1920=121.6
June 1, 1922	72	120.0	
Jan. 1, 1923	72	120.0	
Rate No. 11—Corn: From Superior, Nebr., to Chicago, Ill.:			
Average, 1913	22.9	100.0	
Jan. 1, 1900	25	109.2	
July 12, 1902	21	91.7	July, 1902= 97.9
Aug. 15, 1902	25	109.2	Aug., 1902=101.3
Dec. 22, 1902	27	117.9	Dec., 1902=112.0
Dec. 28, 1903	25	109.2	Dec., 1903=116.8
Feb. 4, 1904	23	100.4	Feb., 1904= 97.1
Feb. 16, 1904	21	91.7	
Mar. 12, 1904	17	74.2	Mar., 1904= 80.4
June 10, 1904	25	109.2	June, 1904= 98.7
Oct. 2, 1905	24	104.8	Oct., 1905=104.9
Jan. 1, 1906	25	109.2	
July 2, 1906	23.75	103.7	July, 1906=103.9
Aug. 2, 1906	21	91.7	Aug., 1906= 92.1
July 13, 1907	22.9	100.0	July, 1907= 96.8
June 25, 1918	31.5	137.6	June, 1918=107.5
Aug. 26, 1920	42.5	185.6	Aug., 1920=146.9
Nov. 22, 1920	43	187.8	Nov., 1920=186.3
Jan. 1, 1922	34	148.5	
June 1, 1922	33.5	146.3	
Jan. 1, 1923	33.5	146.3	

	Rate.	Index No.	Remarks.
Rate No. 12—Corn: From Omaha, Nebr., to Birmingham, Ala.:	*Cents.*		
Average, 1913	37	100.0	
Jan. 1, 1900	33	89.2	
Feb. 26, 1900	30	81.1	Feb., 1900= 88.1
May 1, 1900	[1]34	91.9	
Oct. 12, 1900	[1]31	83.8	Oct., 1900= 86.7
Feb. 5, 1901	[1]34	91.9	Feb., 1901= 90.7
Feb. 1, 1904	[1]32	86.5	Feb., 1904= 83.1
Feb. 12, 1904	[1]30	81.1	
Mar. 6, 1904	[1]27	73.0	Mar., 1904= 74.3
June 10, 1904	[1]34	91.9	June, 1904= 86.2
Feb. 9, 1905	[1]31	83.8	Feb., 1905= 86.1
Apr. 1, 1905	[1]34	91.9	
Aug. 21, 1905	[1]32.5	87.8	Aug., 1905= 90.4
Oct. 1, 1905	[1]33	89.2	
Jan. 1, 1906	[1]34	91.9	
July 8, 1906	[1]32.75	88.5	July, 1906= 89.3
Jan. 1, 1907	[1]33.75	91.2	
Aug. 12, 1907	[1]35	94.6	Aug., 1907= 93.4
Aug. 1, 1908	37	100.0	
Jan. 1, 1916	[2]38	102.7	
June 25, 1918	[2]49	132.4	June, 1918=108.6
Aug. 26, 1920	[2]63.5	171.6	Aug., 1920=140.0
Nov. 22, 1920	[2]62.5	168.9	Nov., 1920=170.8
Jan. 1, 1922	[2]53.5	144.6	
Jan. 1, 1923	[2]53.5	144.6	
Rate No. 13—Corn: From Washington Court House, Ohio, to Providence, R. I.:			
Average, 1913	18.5	100.0	
Jan. 1, 1900	17	91.9	
Aug. 6, 1900	14.5	78.4	Aug., 1900= 80.6
Nov. 1, 1900	16.5	89.2	
Dec. 8, 1902	18.5	100.0	Dec., 1902= 97.6
May 11, 1903	17	91.9	May, 1903= 94.5
Dec. 1, 1903	18.5	100.0	
May 2, 1904	16.5	89.2	May, 1904= 89.5
Dec. 5, 1904	18.5	100.0	Dec., 1904= 98.6
Feb. 1, 1905	16.5	89.2	
May 8, 1905	14.5	78.4	May, 1905= 80.8
Sept. 1, 1905	16.5	89.2	
Apr. 1, 1907	18	97.3	
Feb. 1, 1910	18.5	100.0	
Jan. 16, 1915	19.3	104.3	Jan., 1915=102.2
Mar. 30, 1918	22	118.9	Mar., 1918=105.2
June 25, 1918	27	145.9	June, 1918=124.3
Aug. 26, 1920	37	200.0	Aug., 1920=156.4
Oct, 15, 1921	33.5	181.1	Oct., 1921=189.6
Jan. 1, 1923	33.5	181.1	
Rate No. 14—Oats: From McIntosh, Minn. to Minneapolis, Minn.			
Average, 1913	10.4	100.0	
Jan. 1, 1900	14	134.6	
Sept. 1, 1905	12	115.4	
Sept. 1, 1906	11	105.8	
Aug. 20, 1913	9.4	90.4	Aug., 1913= 99.8
Jan. 23, 1915	10.3	99.0	Jan., 1915= 92.9
June 25, 1918	13	125.0	June, 1918=104.2
Mar. 20, 1919	14	134.6	Mar., 1919=128.7
Aug. 26, 1920	19	182.7	Aug., 1920=143.9
Jan. 1, 1922	15	144.2	
Jan. 1, 1923	15	144.2	

[1] Combination on Belmont, Mo.

[2] Combination on Cairo, Ill.

FREIGHT RATES—Continued.

TABLE 555.—*Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; also index numbers based on average of the year 1913*—Continued.

	Rate.	Index No.	Remarks.
Rate No. 15—Oats: From Chariton, Iowa, to New Orleans, La.:	*Cents.*		
Average, 1913	21	100.0	
Jan. 1, 1900	[3] 31	147.6	
Apr. 11, 1901	[3] 30	142.9	Apr., 1901=144.5
June 22, 1901	[3] 25	119.0	June, 1901=135.7
Sept. 10, 1902	[3] 22	104.8	Sept., 1902=109.1
Feb. 15, 1909	21	100.0	Feb., 1909=102.4
June 25, 1918	27	128.6	June, 1918=105.7
Dec. 1, 1919	29	138.1	
Feb. 24, 1920	[3] 31.5	150.0	Feb., 1920=140.6
Aug. 26, 1920	[3] 42.5	202.4	Aug., 1920=160.1
Dec. 3, 1920	[3] 42	200.0	Dec., 1920=200.2
Jan. 2, 1922	[3] 38.5	183.3	Jan., 1922=183.8
Apr. 1, 1922	[3] 46.5	221.4	
June 1, 1922	[3] 46	219.0	
July 1, 1922	[3] 43	204.8	
Jan. 1, 1923	[3] 43	204.8	
Rate No. 16—Oats: From Urbana, Ohio, to New York, N. Y.:			
Average, 1913	16.5	100.0	
Jan. 1, 1900	18	109.1	
Mar. 5, 1900	14	84.8	Mar., 1900= 87.9
Apr. 2, 1900	12.5	75.8	Apr., 1900= 76.1
Nov. 1, 1900	14.5	87.9	
June 1, 1901	12.5	75.8	
Oct. 21, 1901	14.5	87.9	Oct., 1901= 80.1
Dec. 8, 1902	16.5	100.0	Dec., 1902= 97.3
May 11, 1903	15	90.9	May, 1903= 93.8
Dec. 1, 1903	16.5	100.0	
May 2, 1904	14.5	87.9	May, 1904= 88.3
Dec. 5, 1904	16.5	100.0	Dec., 1904= 98.4
Feb. 1, 1905	14.5	87.9	
June 12, 1905	12.5	75.8	June, 1905= 80.2
Sept. 1, 1905	14.5	87.9	
Apr. 1, 1907	16	97.0	
Feb. 1, 1910	16.5	100.0	
Dec. 1, 1914	17.5	106.1	Dec., 1914=102.4
Dec. 13, 1914	16.5	100.0	
Jan. 15, 1915	17.3	104.8	Jan., 1915=102.6
Apr. 6, 1918	20	121.2	Apr., 1918=118.5
June 25, 1918	25	151.5	June, 1918=127.3
Aug. 26, 1920	35	212.1	Aug., 1920=163.2
Sept. 28, 1921	31.5	190.9	Sept., 1921=210.0
Jan. 1, 1923	31.5	190.9	
Rate No. 17—Hay: From Auburn, N. Y., to New York City, N. Y.:			
Average, 1913	15	100.0	
Jan. 1, 1900	15	100.0	
Feb. 23, 1915	15.8	105.3	Feb., 1915=101.1
Aug. 1, 1917	18	120.0	
June 25, 1918	22.5	150.0	June, 1918=126.0
Aug. 26, 1920	31.5	210.0	Aug., 1920=161.6
Jan. 1, 1922	28.5	190.0	
Jan. 1, 1923	28.5	190.0	
Rate No. 18—Hay: From Trinidad, Colo., to Kansas City, Mo.:			
Average, 1913	25	100.0	
Jan. 1, 1900	25	100.0	
Sept. 30, 1915	27	108.0	Sept., 1915=100.3
June 25, 1918	34	136.0	June, 1918=113.6
Aug. 26, 1920	46	184.0	Aug., 1920=145.3
Jan. 1, 1922	40	160.0	
Jan. 1, 1923	40	160.0	
Rate No. 19—Hay: From Green Bay, Wis., to Chicago, Ill.:	*Cents.*		
Average, 1913	12.5	100.0	
Jan. 1, 1900	12.5	100.0	
June 25, 1918	15.5	124.0	June, 1918=104.8
Aug. 26, 1920	21	168.0	Aug., 1920=132.5
Jan 1, 1922	19	152.0	
Jan. 1, 1923	19	152.0	
Rate No. 20—Hay: From Cincinnati, Ohio, to Atlanta, Ga.:			
Average, 1913	24	100.0	
Jan. 1, 1900	24	100.0	
Feb. 1, 1905	22	91.7	
Aug. 1, 1908	24	100.0	
Jan. 1, 1916	25	104.2	
June 25, 1918	31.5	131.2	June, 1918=109.6
Aug. 26, 1920	39.5	164.6	Aug., 1920=137.7
July 1, 1922	35.5	147.9	
Jan. 1, 1923	35.5	147.9	
Rate No. 21—Hay: From Fort Wayne, Ind., to Atlanta, Ga.:			
Average, 1913	36	100.0	
Jan. 1, 1900	36	100.0	
Feb. 1, 1905	34	94.4	
Aug. 1, 1908	36	100.0	
Oct. 26, 1914	36.1	100.3	Oct., 1914=100.1
Jan. 1, 1916	37.1	103.1	
Sept. 19, 1917	39.5	109.7	Sept., 1917=105.7
June 25, 1918	49.5	137.5	June, 1918=115.3
Aug. 26, 1920	64.5	179.2	Aug., 1920=145.6
Nov. 30, 1920	65	180.6	Nov., 1920=179.2
Jan. 1, 1922	58.5	162.5	
Jan 1, 1923	58.5	162.5	
Rate No. 22.—Cotton (compressed): From Clarksdale, Miss., to New Orleans, La.:			
Average, 1913	32	100.0	
Oct. 25, 1900	25	78.1	
Feb. 1, 1901	32	100.0	
Dec. 24, 1906	29	90.6	Dec., 1906= 97.6
Oct. 1, 1908	32	100.0	
June 25, 1918	47	146.9	June, 1918=109.4
Sept. 25, 1919	62	193.8	Sept., 1919=156.3
Aug. 26, 1920	77.5	242.2	Aug., 1920=203.2
Jan. 1, 1922	70	218.8	
Sept. 30, 1922	76.5	239.1	
Jan. 1, 1923	76.5	239.1	
Rate No. 23.—Cotton (compressed): From Abilene, Tex., to Galveston, Tex.:			
Average, 1913	52.5	100.0	
June 1, 1905	49	93.3	
Aug. 16, 1909	56.5	107.6	Aug., 1909=100.7
Nov. 19, 1910	52.5	100.0	Nov., 1910=104.6
Jan. 10, 1914	51	97.1	Jan., 1914= 97.9
June 25, 1918	66	125.7	June, 1918=102.8
Mar. 18, 1921	89	169.5	Mar., 1921=145.5
Jan. 1, 1922	82	156.2	
July 1, 1922	80	152.4	
Jan. 1, 1923	80	152.4	

[3] Combination on East St. Louis.

NOTE.—Interstate tariff not filed prior to June 1, 1905. Rate applies also to uncompressed cotton.

FREIGHT RATES—Continued.

TABLE 555.—*Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; also index numbers based on average of the year 1913*—Continued.

	Rate.	Index No.	Remarks.
Rate No. 24.—Cotton (compressed): From Newport, Ark., to New Orleans, La.:	*Cents.*		
Average, 1913	47	100.0	
Jan. 1, 1900	47	100.0	
June 25, 1918	62	131.9	June, 1918=106.4
Aug. 26, 1920	83.5	177.7	Aug., 1920=140.8
Jan. 1, 1922	75	159.6	
Sept. 1, 1922	87	185.1	
Jan. 1, 1923	87	185.1	
Rate No. 25.—Tobacco (leaf): From Burkeville, Va., to Richmond, Va.:			
Average, 1913	15	100.0	
Jan. 1, 1900	13	86.7	
Oct. 15, 1903	15	100.0	Oct., 1903= 94.0
June 25, 1918	19	126.7	June, 1918=105.3
Aug. 26, 1920	26.5	176.7	Aug., 1920=136.4
Oct. 10, 1921	24	160.0	Oct., 1921=164.8
Jan. 1, 1922	21.5	143.3	
Jan. 1, 1923	21.5	143.3	
Rate No. 26.—Cattle: From Amarillo, Tex., to Kansas City, Mo.:			
Average, 1913	31.5	100.0	
Jan. 1, 1900	31.5	100.0	
Mar. 5, 1903	34.5	109.5	Mar., 1903=108.3
Nov. 17, 1908	33.5	106.3	Nov., 1908=108.0
Dec. 30, 1908	31.5	100.0	Dec., 1908=105.9
Nov. 15, 1911	33	104.8	Nov., 1911=102.6
Jan. 31, 1912	31.5	100.0	Jan., 1912=104.6
June 25, 1918	38.5	122.2	June, 1918=104.4
Aug. 26, 1920	52	165.1	Aug., 1920=130.5
Sept. 25, 1921	50	158.7	Sept., 1921=163.8
Jan. 1, 1922	45	142.9	
Jan. 1, 1923	45	142.9	
Rate No. 27.—Cattle: From Bazaar, Kans., to Chicago, Ill.:			
Average, 1913	33.25	100.0	
Jan. 1, 1900	33.5	100.8	
May 2, 1902	31	93.2	May, 1902= 93.4
Sept. 1, 1903	32	96.2	
Oct. 5, 1903	31	93.2	Oct., 1903= 93.6
June 10, 1911	33.25	100.0	June, 1911= 98.0
June 25, 1918	40.5	121.8	June, 1918=104.4
Aug. 26, 1920	54.5	163.9	Aug., 1920=129.9
Sept. 20, 1921	50	150.4	Sept., 1921=159.0
Jan. 1, 1922	49	147.4	
Jan. 1, 1923	49	147.4	
Rate No. 28.—Cattle: From Ruthton, Minn., to Sioux City, Iowa:			
Average, 1913	15	100.0	
Jan. 1, 1900	18	120.0	
May 23, 1902	17	113.3	May, 1902=118.1
Sept. 5, 1903	15	100.0	Sept., 1903=101.8
Jan. 16, 1907	17	113.3	Jan., 1907=106.9
Apr. 18, 1907	15	100.0	Apr., 1907=107.5
June 25, 1918	19	126.7	June, 1918=105.3
Aug. 26, 1920	25.5	170.0	Aug., 1920=135.1
Jan. 1, 1922	23	153.3	
Jan. 1, 1923	23	153.3	
Rate No. 29.—Cattle: From Clio, Iowa, to Kansas City, Mo.:	*Cents.*		
Average, 1913	14	100.0	
Jan. 1, 1900	14	100.0	
June 25, 1918	17.5	125.0	June, 1918=105.0
Aug. 26, 1920	23.5	167.9	Aug., 1920=133.3
Jan. 1, 1922	21	150.0	
Jan. 1, 1923	21	150.0	
Rate No. 30.—Cattle: From Garretson, S. Dak., to Sioux City, Iowa:			
Average, 1913	12.5	100.0	
Oct. 1, 1895	[4]11	88.0	
Jan. 1, 1900	11	88.0	
Jan. 10, 1909	12.5	100.0	Jan., 1909= 96.5
June 25, 1918	15.5	124.0	June, 1918=104.8
Aug. 26, 1920	21	168.0	Aug., 1920=132.5
Jan. 1, 1922	19	152.0	
Jan. 1, 1923	19	152.0	
Rate No. 31.—Cattle: From Red Oaks, Iowa, to Omaha, Nebr.:			
Average, 1913	9.2	100.0	
Jan. 1, 1900	9.5	103.3	
Dec. 1, 1909	9.2	100.0	
June 25, 1918	11.5	125.0	June, 1918=105.0
Aug. 26, 1920	15.5	168.5	Aug., 1920=133.4
Jan. 10, 1922	14	152.2	Jan., 1922=156.9
Jan. 1, 1923	14	152.2	
Rate No. 32.—Cattle: From Columbus, Mo., to St. Louis, Mo.:			
Average, 1913	13	100.0	
Jan. 1, 1900	12	92.3	
May 15, 1910	13	100.0	May, 1910= 96.5
June 25, 1918	16.5	126.9	June, 1918=105.4
Aug. 26, 1920	22.5	173.1	Aug., 1920=135.8
Jan. 1, 1922	20.5	157.7	
Jan. 1, 1923	20.5	157.7	
Rate No. 33—Hogs: From Fort Dodge, Iowa, to Council Bluffs, Iowa:			
Average, 1913	14.6	100.00	
Jan. 1, 1900	[5]12.4	84.9	
Aug. 4, 1903	[5]12.2	83.6	Aug., 1903= 83.7
May 21, 1908	14.55	99.7	May, 1908= 89.3
Apr. 4, 1910	14.6	100.0	Apr., 1910=100.0
June 25, 1918	18.5	126.7	June, 1918=105.3
Aug. 26, 1920	25.	171.2	Aug., 1920=135.3
Jan. 1, 1922	22.5	154.1	
Jan. 1, 1923	22.5	154.1	
Rate No. 34—Hogs: From Madison, Nebr., to Sioux City, Iowa:			
Average, 1913	21.67	100.0	
Jan. 1, 1900	25.3	116.8	
July 9, 1903	25.5	117.7	July, 1903=117.5
Aug. 6, 1907	24.3	112.1	Aug., 1907=113.0
Sept. 26, 1907	21.67	100.	Sept., 1907=110.1
June 25, 1918	27	124.6	June, 1918=104.9
Aug. 26, 1920	36.5	168.4	Aug., 1920=133.1
July 1, 1922	33	152.3	
Jan. 1, 1923	33	152.3	

[4] Stock cattle 10.5 cents.

[5] Plus $4 per car.

FREIGHT RATES—Continued.

TABLE 555.—*Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; also index numbers based on average of the year 1913*—Continued.

	Rate.	Index No.	Remarks.
Rate No. 35—Hogs: From Beatrice, Nebr., to St. Joseph, Mo.:	*Cents.*		
Average, 1913	17	100.0	
Jan. 1, 1900	17	100.0	
June 25, 1918	21.5	126.5	June, 1918=105.3
Aug. 26, 1920	29	170.6	Aug., 1920=135.0
Jan. 1, 1922	26	152.9	
Jan. 1, 1923	26	152.9	
Rate No. 36—Hogs: From Fremont, Nebr., to Omaha, Nebr.:			
Average, 1913	9.35	100.0	
Jan. 1, 1900	11	117.6	
Aug. 6, 1907	9.35	100.0	Aug., 1907=102.8
June 25, 1918	11.5	123.0	June, 1918=104.6
Sept. 1, 1920	14.5	155.1	
Mar. 10, 1921	15.5	165.8	Mar., 1921=162.7
Jan. 1, 1922	14	149.7	
Jan. 1, 1923	14	149.7	
Rate No. 37—Hogs: From Paola, Kans., to Kansas City, Mo.:			
Average, 1913	9	100.0	
Jan. 1, 1900	9.5	105.6	
Apr. 25, 1900	9	100.0	Apr., 1900=104.5
June 25, 1918	11.5	127.8	June, 1918=105.6
Aug 26, 1920	15.5	172.2	Aug., 1920=136.4
Jan. 1, 1922	14	155.6	
Jan. 1, 1923	14	155.6	
Rate No. 38—Hogs: From Ottawa, Kans., to Kansas City, Mo.:			
Average, 1913	10	100.0	
Jan. 1, 1900	10.5	105.0	
Aug. 17, 1909	10	100.0	Aug., 1909=102.6
June 25, 1918	12.5	125.0	June, 1918=105.0
Aug. 26, 1920	17	170.0	Aug., 1920=133.7
Jan. 1, 1922	15.5	155.0	
Jan. 1, 1923	15.5	155.0	
Rate No. 39—Sheep: From Marshfield, Mo., to St. Louis, Mo.:			
Average, 1913	23	100.0	
Jan. 1, 1900	21	91.3	
Nov. 2, 1903	23	100.0	Nov., 1903= 99.7
Nov. 15, 1915	21	91.3	Nov., 1915= 95.4
Dec. 15, 1917	20.5	89.1	Dec., 1917= 90.1
June 25, 1918	25.5	110.9	June, 1918= 93.5
Aug. 26, 1920	34.5	150.0	Aug., 1920=118.5
Jan. 1, 1922	31	134.8	
Jan. 1, 1923	31	134.8	
Rate No. 40—Oranges: From Orange City, Fla., to Pittsburgh, Pa.:			
Average, 1913	67	100.0	
Feb. 20, 1900	75.5	112.7	
June 9, 1901	76	113.4	June, 1901=113.2
July 9, 1901	75.5	112.7	July, 1901=112.9
May 3, 1904	72.4	108.1	May, 1904=108.4
Nov. 20, 1906	75.5	112.7	Nov., 1906=109.8
Nov. 28, 1906	75.4	112.5	
Sept. 15, 1908	66	98.5	Sept., 1908=105.0
Dec. 15, 1908	67	100.0	Dec., 1908= 99.3
June 25, 1918	84	125.4	June., 1918=105.1
Aug. 26, 1920	112	167.2	Aug., 1902=133.5
Jan. 1, 1922	101	150.7	
Jan. 1, 1923	101	150.7	
Rate No. 41—Oranges: From Fresno, Calif., to New York, N. Y.:	*Cents.*		
Average, 1913	115	100.0	
Jan. 1, 1900	125	108.7	
Feb. 26, 1907	115	100.0	Feb., 1907=107.8
June 25, 1918	144	125.2	June, 1918=105.0
Aug. 26, 1920	192	167.0	Aug., 1920=133.3
Jan. 1, 1922	173	150.4	
Jan. 1, 1923	173	150.4	
Rate No. 42—Apples: From Hood River, Oreg., to New York, N. Y.:			
Average, 1913	100	100.0	
Jan. 1, 1900	100	100.0	
June 25, 1918	125	125.0	June, 1918=105.0
Oct. 23, 1918	110	110.0	Oct., 1918=120.6
June 1, 1919	125	125.0	
Aug. 26, 1920	166.5	166.5	Aug. 1920=133.0
July 21, 1921	150	150.0	July, 1921=160.6
Jan. 1, 1922	166.5	166.5	
Apr. 24, 1922	150	150.0	Apr., 1922=162.7
Jan. 1, 1923	150	150.0	
Rate No. 43—Apples: From Rochester, N.Y., to Philadelphia, Pa.			
Average, 1913	15	100.0	
Jan. 1, 1900	(1)		
Jan. 1, 1901	15	100.0	
Feb. 23, 1915	15.8	105.3	Feb. 1915=101.1
Aug. 1, 1917	18	120.0	
June 25, 1918	22.5	150.0	June, 1918=126.0
Aug. 26, 1920	31.5	210.0	Aug., 1920=161.6
July 1, 1922	28.5	190.0	
Jan. 1, 1923	28.5	190.0	
Rate No. 44—Apples: From Crozet, Va., to Washington, D. C.:			
Average, 1913	15	100.0	
Jan, 1, 1900	17	113.3	
Mar. 10, 1903	12	80.0	Mar., 1903=100.0
Mar. 16, 1903	15	100.0	
Apr. 12, 1915	15.8	105.3	Apr., 1915=103.4
June 25, 1918	20	133.3	June, 1918=110.9
July 30, 1919	22.5	150.0	July, 1919=134.4
Aug. 26, 1920	31.5	210.0	Aug., 1920=161.6
Jan. 1, 1922	28.5	190.0	
Jan. 1, 1923	28.5	190.0	
Rate No. 45—Potatoes: From Presque Isle, Me., to New York, N. Y.:			
Average, 1913	32	100.0	
Jan. 1, 1900	29	90.6	
Sept. 16, 1912	32	100.0	Sept., 1912= 95.3
Nov. 10, 1917	35	109.4	Nov., 1917=106.6
June 25, 1918	44	137.5	June, 1918=115.0
Aug. 26, 1920	61.5	192.2	Aug., 1920=148.1
Apr. 1, 1922	55.5	173.4	
Jan. 1, 1923	55.5	173.4	

[1] Unable to locate rates for this year.

FREIGHT RATES—Continued.

TABLE 555.—*Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; also index numbers based on average of the year 1913*—Continued.

	Rate.	Index No.	Remarks.
Rate No. 46—Potatoes: From Greeley, Colo., to Chicago, Ill.:	*Cents.*		
Average, 1913..	45	100.0	
Jan. 1, 1900....	45	100.0	
June 25, 1918..	56.5	125.6	June, 1918=105.1
Aug. 26, 1920..	76.5	170.0	Aug., 1920=134.2
Jan. 1, 1922....	69	153.3	
Sept. 3, 1922...	54	120.0	Sept., 1922=122.2
Oct. 1, 1922....	69	153.3	
Jan. 1, 1923....	69	153.3	
Rate No. 47—Potatoes: From Idaho Falls to St. Louis, Mo.:			
Average, 1913..	50	100.0	
Jan. 1, 1900....	58	116.0	
Nov. 4, 1908...	55	110.0	Nov., 1908=110.6
Feb. 12, 1910..	50	100.0	Feb., 1910=103.9
June 25, 1918..	62.5	125.0	June, 1918=105.0
Aug. 26, 1920..	83.5	167.0	Aug., 1920=133.1
Aug. 15, 1921..	79.5	159.0	Aug., 1921=162.6
Jan. 1, 1922....	75	150.0	
Jan. 1, 1923....	75	150.0	
Rate No. 48—Cabbage: From Cortland, N. Y., to New York, N. Y.:			
Average, 1913..	15	100.0	
Jan. 1, 1900....	15	100.0	
Oct. 15, 1915...	15.8	105.3	Oct., 1915=102.9
Aug. 1, 1917...	16	106.7	Aug., 1917=116.6
Aug. 9, 1917...	18	120.0	
Rate No. 48—Cabbage from Cortland, N. Y.. to New York, N. Y.—Contd.	*Cents.*		
June 25, 1918..	22.5	150.0	June, 1918=126.0
Aug. 26, 1920..	31.5	210.0	Aug., 1920=161.6
July 1, 1922...	28.5	190.0	
Jan. 1, 1923....	28.5	190.0	
Rate No. 49—Butter: From Louisville, Ky., to Chicago, Ill.:			
Average, 1913..	35	100.0	
Jan. 1, 1900....	35	100.0	
Nov. 16, 1914..	36.7	104.9	Nov., 1914=102.5
Sept. 20, 1917..	45	128.6	Sept., 1917=113.6
June 25, 1918..	56.5	161.4	June, 1918=135.2
Aug. 1, 1919...	45	128.6	
July 15, 1920..	44.5	127.1	July, 1920=127.8
Aug. 26, 1920..	62.5	178.6	Aug., 1920=137.1
July 1, 1922...	56.5	161.4	
Jan. 1, 1923....	56.5	161.4	
Rate No. 50—Eggs: From Petaluma, Calif., to Chicago, Ill.:			
Average, 1913..	200	100.0	
Jan. 1, 1900....	200	100.0	
June 25, 1918..	250	125.0	June, 1918=105.0
Aug. 26, 1920..	333.5	166.8	Aug., 1920=133.1
Jan. 1, 1922....	300	150.0	
Jan. 1, 1923....	300	150.0	

COLD-STORAGE SPACE.

TABLE 556.—*Total refrigerated space of packing houses and cold-storage plants, October, 1922.*

Geographic division and State.	Concerns.	Cubic feet of space held at temperatures of—				Total space.
		10° and below.	11° to 29°, inclusive.	30° to 44°, inclusive.	45° and above.	
New England:						
Maine	11	472,580	422,060	847,040	3,060	1,744,740
New Hampshire and Vermont	6	25,632	64,629	166,108	.....	256,369
Massachusetts	46	7,657,918	2,145,567	14,167,727	719,235	24,690,447
Rhode Island	4	329,788	250,952	773,100	154,458	1,508,298
Connecticut	6	249,554	317,867	913,306	.....	1,480,727
Total	73	8,735,472	3,201,075	16,867,281	876,753	29,680,581
Middle Atlantic:						
New York	177	10,431,239	7,573,507	49,647,748	1,634,596	69,287,090
New Jersey	35	3,694,315	1,430,229	8,315,820	362,328	13,802,692
Pennsylvania	106	2,011,250	2,215,252	15,922,442	490,943	20,639,887
Total	318	16,136,804	11,218,988	73,886,010	2,487,867	103,729,669

COLD-STORAGE SPACE—Continued.

TABLE 556.—*Total refrigerated space of packing houses and cold-storage plants, October, 1922*—Continued.

Geographic division and State.	Concerns.	Cubic feet of space held at temperatures of—				Total space.
		10° and below.	11° to 29°, inclusive.	30° to 44°, inclusive.	45° and above.	
East North Central:						
Ohio	92	1,983,471	1,147,048	15,691,874	440,326	19,262,719
Indiana	44	524,261	765,694	12,566,337	942,339	14,798,631
Illinois	94	20,982,064	14,823,356	84,257,398	7,671,370	127,734,188
Michigan	27	562,815	577,903	4,792,947	214,462	6,148,127
Wisconsin	69	464,743	872,293	10,116,895	307,524	11,761,455
Total	326	24,517,354	18,186,294	127,425,451	9,576,021	179,705,120
West North Central:						
Minnesota	23	2,240,387	2,308,535	12,105,492	1,634,788	18,289,202
Iowa	43	1,139,655	1,934,117	18,795,177	1,954,558	23,823,507
Missouri	52	2,625,281	4,896,940	23,798,574	877,704	32,198,499
North Dakota	3	.....	32,288	179,969	.....	212,257
South Dakota	7	111,095	226,660	1,623,447	133,500	2,094,702
Nebraska	25	2,995,100	754,115	20,932,982	1,899,986	26,582,183
Kansas	34	2,723,681	4,374,031	30,028,609	4,792,184	41,918,505
Total	187	11,835,199	14,526,686	107,464,250	11,292,720	145,118,855
South Atlantic:						
Delaware and Maryland	23	408,186	198,109	4,245,210	676,804	5,528,309
District of Columbia	4	170,647	261,409	1,926,162	.....	2,358,218
Virginia	29	625,576	468,821	7,094,290	169,815	8,358,502
West Virginia	16	5,400	5,640	3,168,173	2,138,282	5,317,495
North and South Carolina	8	.....	22,753	426,800	30,760	480,313
Georgia	16	55,100	455,957	2,003,791	13,240	2,528,088
Florida	8	16,200	107,858	581,472	2,520	708,050
Total	104	1,281,109	1,520,547	19,445,898	3,031,421	25,278,975
East South Central:						
Kentucky	17	342,884	252,328	3,696,163	348,695	4,640,070
Tennessee	16	389,444	272,900	3,199,361	4,666	3,866,371
Alabama and Mississippi	7	14,494	113,343	821,785	30,950	980,572
Total	40	746,822	638,571	7,717,309	384,311	9,487,013
West South Central:						
Arkansas	8	4,625	9,698	566,117	10,236	590,676
Louisiana	7	109,500	18,875	1,651,877	38,320	1,818,572
Oklahoma	13	488,320	1,649,316	4,799,929	1,020,036	7,957,601
Texas	49	523,051	1,620,978	8,886,303	1,841,260	12,871,592
Total	77	1,125,496	3,298,867	15,904,226	2,909,852	23,238,441
Mountain:						
Montana	10	109,314	90,346	356,849	1,350	557,859
Idaho	12	48,392	39,260	403,898	25,000	516,550
Wyoming	3	.....	.....	44,470	24,750	69,220
Colorado	17	155,417	896,100	4,059,797	491,076	5,602,390
Arizona and New Mexico	4	.....	115,560	484,287	14,212	614,059
Utah and Nevada	8	151,236	70,763	1,224,859	7,589	1,454,447
Total	54	464,359	1,212,029	6,574,160	563,977	8,814,525
Pacific:						
Washington	42	836,055	2,193,587	8,526,862	1,705,073	13,261,577
Oregon	29	276,428	850,503	2,586,687	198,548	3,912,166
California	60	1,087,456	1,946,661	13,221,714	100,747	16,356,578
Total	131	2,199,939	4,990,751	24,335,263	2,004,368	33,530,321
Alaska	5	52,786	497,467	4,472	.....	554,725
Grand total	1,315	67,095,340	59,291,275	399,624,320	33,127,290	559,138,225

FARM IMPLEMENTS AND EQUIPMENT.

TABLE 557.—*Farm equipment manufactured in the United States, 1920–21.*

[Bureau of the Census.]

Article.	Manufactured.		Sold in United States.		Sold for export.	
	Number.	Value.	Number.	Value.	Number.	Value.
Gas tractors:						
Size, belt horsepower—						
15 and less—		*Dollars.*		*Dollars.*		*Dollars.*
1920	11,044	4,571,000	8,711	.....	1,007	.....
1921	412	291,000	353	280,000	26	27,000
16 to 22—						
1920	147,746	119,521,000	119,371	.....	22,461	.....
1921	1,012	1,224,000	1,174	1,204,000	43	91,000
23 and over—						
1920	44,417	69,471,000	34,906	.....	5,675	.....
1921	2,799	4,146,000	4,250	7,530,000	303	435,000
All other—						
1921	71,823	44,434,000	4,626	5,661,000	543	666,000
Total—						
1920	203,207	193,563,000	162,988	161,896,000	29,143	30,850,000
1921	76,046	50,095,000	10,403	14,675,000	915	1,219,000
Steam tractors:						
All sizes—						
1920	1,766	4,661,000	1,401	3,903,000	121	370,000
1921	957	2,293,000	470	1,051,000	8	12,000
Plows and listers:						
Horse-drawn moldboard plows—						
1-horse—						
1920	370,979	2,532,000	298,653	.....	81,442	.....
1921	130,654	871,700	70,536	428,600	27,269	224,000
Walking (2-horse and larger)—						
1920	346,331	5,707,000	302,425	.....	77,803	.....
1921	177,865	2,433,000	117,882	1,613,000	43,091	622,000
Sulky (1 bottom)—						
1920	51,911	3,209,000	57,903	.....	6,176	.....
1921	28,741	1,574,000	13,113	794,000	4,534	265,000
Sulky (2-bottom)—						
1920	48,601	4,590,000	40,074	.....	15,547	.....
1921	16,554	1,419,000	15,030	792,000	6,315	573,000
Sulky (3-bottom and larger)—						
1920	2,437	335,000	2,021	.....	359	.....
1921	2,601	175,000	1,271	105,000	1,335	86,000
Total—						
1920	820,259	16,373,000	701,076	.....	181,327	.....
1921	356,415	6,472,700	217,832	3,732,600	82,544	1,770,000
Two-way moldboard plows:						
Walking—						
1920	41,127	414,000	21,472	.....	12,965	.....
1921	20,242	262,000	10,731	150,000	8,238	93,000
Sulky—						
1920	5,694	470,000	5,229	.....	69	.....
1921	6,900	505,000	4,968	375,000	158	13,000
Total—						
1920	46,821	884,000	26,701	.....	13,034	.....
1921	27,142	767,000	15,699	525,000	8,396	106,000
Horse-drawn disk plows:						
1 disk—						
1920	2,927	143,000	1,496	.....	123	.....
1921	1,680	93,000	520	31,000	917	51,000
2 disks—						
1920	11,112	911,000	9,485	.....	969	.....
1921	4,126	317,000	2,750	205,000	1,137	94,000
3 disk and larger—						
1920	2,392	258,000	1,962	.....	282	.....
1921	1,085	93,000	720	60,000	316	33,000
Total—						
1920	16,431	1,312,000	12,943	.....	1,374	.....
1921	6,891	503,000	3,990	296,000	2,370	178,000

FARM IMPLEMENTS AND EQUIPMENT—Continued.

TABLE 557.—*Farm equipment manufactured in the United States, 1920–21*—Continued.

Article.	Manufactured.		Sold in Un ted States.		Sold for export.	
	Number.	Value.	Number.	Value.	Number.	Value.
Tractor moldboard plows:						
1-bottom—		*Dollars.*		*Dollars.*		*Dollars.*
1920	4,569	405,000	3,297	.....	600	.....
1921	3,290	138,000	1,673	63,000	197	18,000
2-bottom—						
1920	87,059	8,908,000	75,527	.....	9,382	.....
1921	9,846	892,000	15,529	1,381,000	1,361	117,000
3-bottom—						
1920	44,509	7,211,000	38,056	.....	9,172	.....
1921	9,321	1,332,000	6,429	962,000	1,238	193,000
4 bottom and larger—						
1920	7,405	1,771,000	5,148	.....	1,103	.....
1921	1,459	264,000	666	142,400	191	42,600
Total—						
1920	143,542	18,295,000	122,028	.....	20,257	.....
1921	23,916	2,626,000	24,297	2,548,400	2,987	370,600
Tractor disk plows:						
2 disk—						
1920	12,327	1,626,000	10,116	.....	1,299	.....
1921	3,334	441,000	3,417	435,000	189	27,000
3 disk—						
1920	8,982	1,394,000	6,972	.....	1,139	.....
1921	3,125	449,000	1,260	180,000	334	51,000
4 disk and larger—						
1920	7,007	1,319,000	5,539	.....	712	.....
1921	2,920	541,300	1,543	293,000	464	91,400
Total—						
1920	28,316	4,339,000	22,627	.....	3,150	.....
1921	9,379	1,431,300	6,220	908,000	987	169,400
Horse-drawn listers:						
1 bottom—						
1920	35,551	869,000	37,190	.....	359	.....
1921	20,607	686,000	14,249	491,000	234	8,000
2 bottom—						
1920	3,232	343,000	2,501	.....	.....	.....
1921	1,538	161,000	1,216	127,000	134	17,000
Total—						
1920	38,783	1,212,000	39,691	.....	359	.....
1921	22,145	847,000	15,465	618,000	368	25,000
Tractor-drawn listers:						
2 bottom—						
1920	3,305	314,000	2,219	.....	.....	.....
1921	644	92,000	529	75,000	10	2,000
3 bottom—						
1921	192	32,000	130	23,000	.....	.....
Total—						
1920	3,305	314,000	2,219	.....	.....	.....
1921	836	124,000	659	98,000	10	2,000
Plow stocks—						
1920	264,121	493,000	288,694	.....	1,576	.....
1921	115,324	203,000	93,492	186,000	507	2,000
Total plows and listers—						
1920	1,361,578	43,222,000	1,215,979	37,699,000	221,077	7,200,000
1921	562,048	12,974,000	377,654	8,912,000	98,169	2,623,000
Tillage implements:						
Harrows—						
Spik-etooth and spring-tooth—						
1 horse—						
1920	68,782	447,000	69,500	.....	2,133	.....
1921	43,770	415,000	19,493	143,000	305	3,300
2 horse and larger—						
1920	111,731	2,176,000	105,886	.....	5,348	.....

FARM IMPLEMENTS AND EQUIPMENT—Continued.

TABLE 557.—*Farm equipment manufactured in the United States, 1920–21*—Continued.

Article.	Manufactured.		Sold in United States.		Sold for export.	
	Number.	Value.	Number.	Value.	Number.	Value.
Tillage implements—Continued.						
Harrows—Continued.						
Sections, spike-tooth—		*Dollars.*		*Dollars.*		*Dollars.*
1920	169,529	1,796,000	169,725	.....	13,961	.....
1921	175,740	1,422,000	118,234	990,000	18,117	120,000
Sections, spring-tooth—						
1920	92,601	1,473,000	48,416	.....	27,224	.....
1921	82,525	1,042,000	70,773	769,000	12,634	241,000
Horse-drawn disk—						
1920	164,586	7,159,000	151,198	.....	11,894	.....
1921	80,403	3,127,000	53,815	2,150,000	8,221	314,000
Tractor-drawn disk—						
1920	67,095	6,820,000	59,715	.....	3,589	.....
1921	38,118	3,412,000	28,507	2,433,000	2,406	236,300
Other—						
1920	63,732	3,048,000	62,154	.....	1,386	.....
1921	31,454	896,000	24,741	694,000	1,210	21,400
Total—						
1920	.....	22,919,000	.....	20,636,000	.....	1,665,000
1921	.....	10,314,000	.....	7,179,000	.....	936,000
Corn planters:						
Hand—						
1920	33,780	53,000	34,583	.....	365	.....
1921	52,211	63,000	22,950	24,000	30	50
1 row—						
1920	31,602	521,000	31,127	.....	581	.....
1921	23,046	351,000	13,303	222,000	879	12,200
2 row—						
1920	59,627	3,474,000	66,475	.....	1,207	.....
1921	35,690	1,754,000	21,952	1,098,000	1,913	85,600
Other—						
1920	.....	.....	.....	.....	.....	.....
1921	493	19,000	364	12,000	273	23,200
Total—						
1920	125,009	4,048,000	132,185	.....	2,153	.....
1921	111,440	2,187,000	58,569	1,356,000	3,095	121,050
Cotton planters:						
1 row—						
1920	35,056	393,000	37,917	.....	.....	.....
1921	7,889	66,000	5,755	55,000	15	400
Combination corn and cotton planters:						
1 row—						
1920	90,732	1,647,000	97,908	.....	1,436	.....
1921	33,142	625,000	21,761	406,000	726	22,800
2 row—						
1920	2,854	174,000	3,773	.....	1,246	.....
1921	1,869	110,000	923	63,000	188	10,000
Total—						
1920	93,586	1,821,000	101,681	.....	2,682	.....
1921	35,011	735,000	22,684	469,000	914	32,800
Combination listers and drills:						
1 row—						
1920	7,607	473,000	11,858	.....	.....	.....
1921	10,132	358,000	7,819	256,000	6	280
2 row—						
1920	1,332	189,000	1,312	.....	.....	.....
1921	2,276	152,000	1,489	104,000	31	2,700
Other—						
1920	.....	.....	.....	.....	29	.....
1921	9,772	120,000	7,853	96,000	1,562	18,000
Total—						
1920	8,939	662,000	13,170	.....	29	.....
1921	22,180	630,000	17,161	456,000	1,599	20,980

FARM IMPLEMENTS AND EQUIPMENT—Continued.

TABLE 557.—*Farm equipment manufactured in the United States, 1920–21*—Continued.

Article.	Manufactured.		Sold in United States.		Sold for export.	
	Number.	Value.	Number.	Value.	Number.	Value.
Potato planters:		*Dollars.*		*Dollars.*		*Dollars.*
Hand-drawn—						
1920	.....	.....	.....	.....	.....	.....
1921	30,477	46,000	15,734	31,000	60	100
Horse-drawn—						
1920	8,471	667,000	8,367	.....	107	.....
1921	6,425	588,000	5,741	539,000	162	12,200
Total—						
1920	8,471	667,000	8,367	.....	107	.....
1921	36,902	634,000	21,475	570,000	222	12,300
Grain drills:						
Horse—						
1920	100,637	10,973,000	107,182	.....	9,734	.....
1921	40,934	3,353,000	21,343	2,040,000	2,747	240,000
Tractor—						
1920	3,406	431,000	3,168	.....	163	.....
1921	1,465	130,000	841	83,000	117	14,700
Total—						
1920	104,043	11,404,000	110,350	.....	9,897	.....
1921	42,399	3,483,000	22,184	2,123,000	2,864	254,700
Broadcast seeders:						
Wheel (horse-drawn)—						
1920	6,783	357,000	6,163	.....	636	.....
1921	5,734	200,000	2,186	83,000	255	17,000
End gate—						
1920	14,961	246,000	14,928	.....	.....	.....
1921	10,425	171,000	6,913	105,000	.....	.....
Hand (wheelbarrow and other)—						
1920	69,239	78,000	68,280	.....	1,080	.....
1921	33,383	67,000	32,280	60,000	572	2,300
Total—						
1920	90,983	681,000	89,371	.....	1,716	.....
1921	49,542	438,000	41,379	248,000	827	19,300
Transplanters:						
Hand and horse drawn—						
1920	4,804	318,000	4,426	.....	230	.....
1921	3,894	151,000	3,534	128,000	56	900
Beet drills:						
Horse-drawn—						
1920	1,357	103,000	1,386	.....	8	.....
1921	1,120	91,000	505	37,000	31	2,570
Total planting machinery—						
1920	472,248	20,097,000	498,853	21,612,000	16,822	1,458,000
1921	310,377	8,415,000	193,246	5,442,000	9,623	465,000
Cultivator (row crops):						
Motor, 1 and 2 row—						
1920	1,120	911,000	865	.....	20	.....
1921	1,586	94,000	1,577	103,000	1	80
Horse-drawn (straddle row)—						
1 row, walking—						
1920	57,379	1,793,000	62,329	.....	765	.....
1921	32,694	678,000	22,070	434,000	320	9,000
1 row, riding—						
1920	121,637	5,645,000	152,644	.....	787	.....
1921	104,832	4,161,000	73,407	2,988,000	1,390	80,000
2 row—						
1920	74,827	4,272,000	90,427	.....	2,444	.....
1921	22,848	1,560,000	17,181	1,180,000	107	9,100
1 horse, including shovel plows—						
1920	316,312	1,950,000	273,576	.....	40,785	.....
1921	86,349	499,000	41,217	284,000	17,614	107,000
Beet cultivators—						
1920	4,430	283,000	5,336	.....	157	.....
1921	3,848	184,000	2,668	137,000	21	6,820

FARM IMPLEMENTS AND EQUIPMENT—Continued.

TABLE 557.—*Farm equipment manufactured in the United States, 1920–21*—Continued.

Article.	Manufactured.		Sold in United States.		Sold for export.	
	Number.	Value.	Number.	Value.	Number.	Value.
Cultivator (row crops)—Contd.						
Hand cultivators (wheeled hoes)—		*Dollars.*		*Dollars.*		*Dollars.*
1920	.....	.....	.....	.....	.....	.....
1921	150,937	603,000	111,044	490,000	3,966	21,000
Other cultivators—						
1920	4,474	332,000	4,653	.....	905	.....
1921	43,561	396,000	38,424	282,000	12,994	31,000
Total—						
1920	580,179	15,186,000	589,830	17,296,000	45,863	670,000
1921	446,655	8,175,000	307,588	5,898,000	36,413	264,000
Haying machinery:						
Mowers—						
1920	239,165	15,393,000	172,654	.....	68,229	.....
1921	103,826	5,167,000	61,061	3,116,000	47,589	1,391,000
Rakes, sulky (dump)—						
1920	84,495	3,107,000	77,622	.....	19,695	.....
1921	54,178	1,454,000	31,322	862,000	9,864	269,000
Rakes, side delivery—						
1920	15,195	1,127,000	16,658	.....	414	.....
1921	14,813	872,000	13,724	797,000	348	23,600
Rakes, sweep—						
1920	22,964	819,000	24,078	.....	865	.....
1921	13,501	386,000	6,648	189,000	70	3,200
Tedders—						
1920	5,992	347,000	4,803	.....	1,981	.....
1921	1,703	95,000	2,470	116,000	63	2,400
Loaders—						
1920	33,337	3,050,000	32,399	.....	2,509	.....
1921	21,487	1,535,000	17,012	1,207,000	211	19,500
Stackers—						
1920	10,129	825,000	9,628	.....	318	.....
1921	7,956	546,000	2,938	222,000	23	1,300
Combined sweep rakes and stackers—						
1920	279	35,000	270	.....	.....	.....
1921	310	28,000	73	7,000	.....	.....
Total—						
1920	411,556	24,703,000	338,112	19,667,000	94,011	6,230,000
1921	217,774	10,083,000	135,248	6,516,000	58,168	1,710,000
Harvesting machinery:						
Grain binders—						
1920	139,372	24,593,000	99,546	.....	25,122	.....
1921	72,184	9,310,000	27,245	3,570,000	21,570	2,978,000
Grain headers—						
1920	4,725	1,295,000	3,071	.....	945	.....
1921	4,253	815,000	2,866	544,000	1,012	207,000
Combined harvesters and threshers—						
1920	3,627	4,253,000	2,717	.....	929	.....
1921	5,027	4,680,000	2,264	2,411,000	2,593	1,935,000
Rice binders—						
1920	2,135	446,000	3,662	.....	42	.....
1921	1,393	194,000	61	9,000	5	800
Corn binders (row)—						
1920	40,793	6,690,000	32,559	.....	833	.....
1921	5,773	828,000	8,361	1,067,000	308	36,000
Self-rake reapers—						
1920	14,949	1,170,000	1,708	.....	12,377	.....
1921	9,705	672,000	696	47,000	7,024	489,000
Corn pickers and huskers (field)—						
1920	2,882	1,068,000	2,939	.....	.....	.....
1921	1,483	303,000	399	82,000	.....	.....
Potato diggers (elevator type)—						
1920	11,718	1,090,000	10,463	.....	657	.....
1921	7,683	743,000	7,422	728,000	210	[1] 21,000
Potato diggers (plow type)—						
1920	6,452	93,000	6,781	.....	228	.....
1921	4,040	75,000	3,034	60,000	218	3,600

FARM IMPLEMENTS AND EQUIPMENT—Continued.

TABLE 557.—*Farm equipment manufactured in the United States, 1920–21*—Continued.

Article.	Manufactured.		Sold in United States.		Sold for export.	
	Number.	Value.	Number.	Value.	Number.	Value.
Harvesting machinery—Contd.						
Pea and bean harvesters—		*Dollars.*		*Dollars.*		*Dollars.*
1920	498	31,000	490	.....	.....	.....
1921	1,926	81,000	1,518	80,000	.....	.....
Beet lifters—						
1920	5,026	286,000	4,893	.....	201	.....
1921	5,409	189,000	5,254	116,000	59	2,800
Total—						
1920	232,177	41,015,000	168,829	30,626,000	41,334	7,339,000
1921	118,876	17,890,000	59,120	8,714,000	32,999	5,673,200
Machines for preparing crops for market or use:						
Grain threshers—						
1920	22,159	19,059,000	20,753	.....	1,961	.....
1921	13,100	11,937,000	5,491	5,972,000	825	847,000
Rice threashers—						
1920	510	501,000	596	.....	6	.....
1921	264	233,000	4	7,000	.....	.....
Pea and bean threshers—						
1920	216	156,000	211	.....	4	.....
1921	689	108,000	52	42,000	.....	.....
Peanut threshers—						
1920	.....	.....	.....	.....	.....	.....
1921	783	111,000	233	103,000	.....	.....
Clover hullers—						
1920	690	910,000	767	.....	102	.....
1921	511	550,000	309	331,000	103	118,000
Ensilage cutters—						
1920	27,004	4,852,000	23,896	.....	1,085	.....
1921	11,301	1,904,000	9,869	1,542,000	209	39,000
Corn shellers, power—						
1920	7,229	1,644,000	6,506	.....	150	.....
1921	3,907	698,000	2,851	542,000	169	42,000
Corn shellers, hand—						
1920	.....	.....	.....	.....	.....	.....
1921	21,604	229,000	11,731	104,000	6,183	108,000
Corn huskers and shredders—						
1920	4,953	2,116,000	5,101	.....	22	.....
1921	4,423	1,405,000	2,744	905,000	25	9,000
Hay presses:						
Horse—						
1920	2,225	781,000	2,795	.....	483	.....
1921	1,288	289,000	515	101,000	98	23,000
Engine—						
1920	5,247	2,539,000	4,251	.....	329	.....
1921	1,121	600,000	786	442,000	3	1,600
Feed grinders and crushers:						
Hand—						
1920	44,797	226,000	23,535	.....	20,346	.....
1921	2,562	8,000	1,289	3,000	200	400
Power—						
1920	61,977	2,244,000	52,314	.....	4,570	.....
1921	11,336	271,000	10,781	250,000	200	5,000
Grain cleaner and grader—						
1920	19,765	584,000	19,193	.....	1,162	.....
1921	3,819	265,000	1,914	126,000	228	6,000
Total—						
1920	196,772	35,612,000	159,918	34,749,000	30,220	3,010,000
1921	76 708	18,608,000	48,569	10,470,000	8,243	1,199,000
Farm wagons:						
1-horse—						
1920	32,934	2,076,000	31,165	.....	122	.....
1921	270	19,000	276	18,000	.....	.....
Light, 2-horse—						
1920	49,498	5,413,000	46,571	.....	32	.....
1921	1,149	106,000	590	54,000	.....	.....
Medium, 2-horse—						
1920	72,399	8,325,000	68,439	.....	43	.....
1921	1,374	148,000	1,013	107,000	.....	.....
Standard, 2-horse—						
1920	50,926	6,457,000	48,380	.....	67	.....
1921	1,022	117,000	1,303	146,000	.....	.....

FARM IMPLEMENTS AND EQUIPMENT—Continued.

TABLE 557.—*Farm equipment manufactured in the United States, 1920–21*—Continued.

Article.	Manufactured.		Sold in United States.		Sold for export.	
	Number.	Value.	Number.	Value.	Number.	Value.
Farm wagons—Continued.						
Heavy, 2-horse—		*Dollars.*		*Dollars.*		*Dollars.*
1920	9,666	1,384,000	9,317		213	
1921	314	35,000	514	60,000		
Sizes not specified—						
1920	11,800	1,140,000	11,800			
1921	55,120	4,692,000				
Horse-drawn farm trucks—						
With wood wheels—						
1920	47,238	3,280,000	44,757		725	
1921	583	24,000	600	34,000		
With metal wheels—						
1920	36,856	1,617,000	34,607		471	
1921	1,073	41,000	976	37,000		
Light spring vehicles—						
1920	5,532	477,000	3,409		2,137	
1921						
Carriages and buggies—						
1920	132,246	12,254,000	132,014			
1921	34,144	3,588,000				
Total—						
1920	449,095	42,423,000	430,459	40,929,000	3,810	339,000
1921	95,049	8,770,000	5,272	456,000		
Miscellaneous items:						
Cane mills—						
1920	11,923	780,000	7,539		1,879	
1921	3,814	236,000	2,744	146,000	444	27,000
Cream separators—						
1920	222,587	15,501,000	169,057		27,954	
1921	50,024	3,767,000	2,202	102,000	10	600
Farm elevators—						
Portable—						
1920	7,703	1,776,000	7,423		69	
1921	951	227,000	527	113,000		
Stationary—						
1920	3,052	934,000	2,910		8	
1921	68	15,000	78	17,000		
Feed and litter carriers—						
1920	15,093	682,000	14,274		75	
1921	1,066	23,000	770	16,000		
Fertilizer distributors—						
1920	48,540	453,000	51,236			
1921	19,548	229,000	14,071	159,000	47	700
Gasoline and kerosene engines, stationary and portable, for farm use—						
1920	268,287	25,693,000	216,144		22,059	
1921	107,120	18,720,000	1,634	127,000		
Hay forks, slings, or carriers—						
1920						
1921	39,590	155,000	28,074	123,000		
Lime spreaders—						
1920	9,153	325,000	9,093		83	
1921	3,851	161,000	2,440	108,000	392	14,500
Mangers, stalls, and fittings—						
1920						
1921	6,882	45,000	5,440	39,000		
Manure spreaders—						
1920	103,036	14,744,000	104,444		1,120	
1921	43,837	4,948,000	26,272	3,022,000	73	10,000
Milking machines—						
1920	29,555	2,962,000	28,130		921	
1921	43,290	2,143,000				
Portable corn cribs—						
1920	4,502	731,000	4,186			
1921						
Portable grain bins—						
1920	6,137	1,206,000	6,137			
1921						
Pumps—						
1920	500,690	5,087,000	445,269		27,177	
1921	1,455,014	58,537,000	[2] 751	[2] 5,300		

[1] 1,000 added to adjust to total.

[2] Incomplete.

FARM IMPLEMENTS AND EQUIPMENT—Continued.

TABLE 557.—*Farm equipment manufactured in the United States, 1920–21*—Continued.

Article.	Manufactured.		Sold in United States.		Sold for export.	
	Number.	Value.	Number.	Value.	Number.	Value.
Miscellaneous items—Continued.						
Pump jacks—		*Dollars.*		*Dollars.*		*Dollars.*
1920	84,948	877,000	86,198		2,349	
1921						
Sawmill machinery—						
1920						
1921		5,957,000				
Seed-potato cutters—						
1920	1,442	14,000	1,418			
1921	831	5,000	595	6,000	2	30
Silos—						
1920	24,052	9,492,000	23,637		24	
1921	596	173,000	596	173,000		
Spraying machines, power or traction—						
1920	11,000	2,488,000	10,715		228	
1921	2,533	315,000	2,180	268,000	75	5,000
Spraying-outfits, hand—						
1920						
1921	32,005	188,000	14,402	142,000	49	215
Stalk cutters—						
1920	24,064	1,098,000	22,455		43	
1921	9,118	332,000	4,879	193,000	104	4,200
Steel pens, linear feet—						
Cattle and horses—						
1920						
1921	3,202	7,000	3,702	8,000		
Swine—						
1920						
1921	704	1,000	704	1,000		
Stump pullers—						
1920	4,862	618,000	2,888		1,249	
1921	224	17,000	173	13,000	51	4,500
Sirup evaporators—						
1920	11,355	275,000	9,114		233	
1921	5,002	75,000	4,550	65,000	106	2,255
Trackage for carriers, feet—						
1920						
1921	327,405	49,000	327,775	59,000		
Ventilators and cupolas—						
1920						
1921	68	2,000	68	2,000		
Water bowls—						
1920						
1921	3,518	7,000	2,449	6,000		
Windmill towers—						
1920						
1921	19,647	622,000	83	4,000		
Windmills—						
1920	75,736	5,443,000	57,108		17,464	
1921	38,570	2,873,000	417	14,000		
Wood-sawing machines—						
Circular—						
1920	29,084	732,000	29,195		36	
1921	3,529	107,000	2,562	84,700		
Drag—						
1920	11,482	1,633,000	10,427		13	
1921	71	16,000	65	12,000		
Cooperage, furniture, veneer, and other machinery—						
1920						
1921		2,400,000				
All other items—						
1920						
1921		60,598,000		109,000		
Total—						
1920		93,544,000		82,429,000		7,495,000
1921		162,950,000		5,137,000		69,000

FARM IMPLEMENTS AND EQUIPMENT—Continued.

TABLE 557.—*Farm equipment manufactured in the United States, 1920–21*—Continued.

SUMMARY.

Article.	Manufactured.		Sold in United States.		Sold for export.	
	Number.	Value.	Number.	Value.	Number.	Value.
		Dollars.		*Dollars.*		*Dollars.*
Tractors, gas:						
1920	203,207	193,563,000	162,988	161,896,000	29,143	30,850,000
1921	76,046	50,095,000	10,403	14,675,000	915	1,219,000
Steam traction engines:						
1920	1,766	4,661,000	1,401	3,903,000	121	370,000
1921	957	2,293,000	470	1,051,000	8	12,000
Plows and listers:						
1920	1,361,578	43,222,000	1,215,979	37,699,000	221,077	7,200,000
1921	562,048	12,974,000	377,654	8,912,000	98,169	2,623,000
Tillage implements:						
1920	.....	22,919,000	.....	20,636,000	.....	1,665,000
1921	.....	10,314,000	.....	7,179,000	.....	936,000
Planting machinery:						
1920	472,248	20,097,000	498,853	21,612,000	16,822	1,458,000
1921	310,377	8,415,000	193,246	5,442,000	9,623	465,000
Cultivating machinery:						
1920	580,179	15,186,000	589,830	17,296,000	45,863	670,000
1921	446,655	8,175,000	307,588	5,898,000	36,413	264,000
Haying machinery:						
1920	411,556	24,703,000	338,112	19,667,000	94,011	6,230,000
1921	217,774	10,083,000	135,248	6,516,000	58,168	1,710,000
Harvesting machinery:						
1920	232,177	41,015,000	168,829	30,626,000	41,334	7,339,000
1921	118,876	17,890,000	59,120	8,714,000	32,999	5,673,200
Machines for preparing crops for market or use:						
1920	196,772	35,612,000	159,918	34,749,000	30,220	3,010,000
1921	76,708	18,608,000	48,569	10,470,000	8,243	1,199,000
Horse-drawn vehicles:						
1920	449,095	42,423,000	430,459	40,929,000	3,810	339,000
1921	95,049	8,770,000	5,272	456,000	.....	.....
Miscellaneous items:						
1920	.....	93,544,000	.....	82,429,000	.....	7,495,000
1921	.....	162,950,000	.....	5,137,000	.....	69,000
Grand total—						
1920	.....	536,945,000	.....	471,442,000	.....	66,626,000
1921	.....	310,567,000	.....	74,450,000	.....	14,170,000

VEGETABLE OILS.

TABLE 558.—*Imports of vegetable oils into the United States, for calendar years 1912–1921.*[1]

[In thousands of pounds, i. e., 000 omitted.]

Year.	Castor.[2]	Chinese nut.	Cocoa butter or butterine.	Coconut.	Cottonseed.	Linseed.	Olive.[3]	Palm.	Palm kernel.	Peanut.	Rapeseed.	Soy bean.
1912	56	42,787	4,749	46,720	2,160	2,134	49,154	52,771	27,681	7,626	10,266	24,959
1914	1,661	30,137	1,244	58,012	16,017	4,350	56,466	49,092	21,089	7,365	11,172	12,555
1916	3,071	57,649	558	64,349	16,598	711	61,769	29,270	4,324	15,674	20,181	145,409
1917	4,406	41,091	1	163,091	13,826	633	55,531	34,257	(4)	27,405	10,132	264,926
1918	8,780	42,718	3	356,089	18,373	196	1,286	20,993	34	68,466	23,079	335,984
1919	3,000	53,853	1	281,063	27,806	16,143	69,799	41,818	1,929	154,052	8,375	195,808
1920	1,372	67,962	72	216,327	9,458	35,200	31,087	41,948	1,694	95,124	12,907	112,214
1921[5]	151	27,249	2,373	189,717	668	60,091	53,881	23,155	2,383	3,021	7,152	17,283

[1] Bureau of Foreign and Domestic Commerce.
[2] Imports for consumption.
[3] Includes oil for mechanical purposes.
[4] Less than 500 pounds.
[5] Preliminary.

NOTE.—Conversions on basis of 7½ pounds to the gallon for all oils except castor; castor oil, 8 pounds to the gallon.

TABLE 559.—*Exports of vegetable oils from the United States for calendar years 1912–1921.*

Year.	Corn.	Cottonseed.	Linseed.	Cocoa butter or butterine.[2]	Coconut.[2]	Peanut.[2]	Soy bean.[2]
	1,000 pounds.	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*	*1,000 pounds.*
1912	22,870	355,930	3,151	.....	.....	.....	.....
1914	16,199	216,309	1,993	.....	.....	.....	.....
1916	9,119	188,214	6,180	.....	.....	.....	.....
1917	4,709	124,704	11,465	.....	.....	.....	.....
1918	171	119,067	5,806	.....	.....	.....	.....
1919	6,415	193,133	11,266	[3] 7,320	[3] 118,612	[3] 4,342	[3] 27,715
1920	12,059	184,754	5,366	5,377	25,695	1,425	43,512
1921[4]	4,400	252,549	3,512	2,855	7,498	1,708	1,944

[1] Bureau of Foreign and Domestic Commerce.
[2] Not separately stated prior to July 1, 1919.
[3] July to December.
[4] Preliminary.

NOTE.—Conversions on basis of 7½ pounds to the gallon.

VEGETABLE OILS—Continued.

TABLE 560.—*International trade in olive oil (including nonedible), calendar years 1913–1921.*

[Conversions on basis of 7.5 pounds to the gallon.]

Countries.	1913		1918		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Belgium	4,448,263	940,535			5,810,237	2,448,080	1,676,453	293,395	1,373,274	185,978
Denmark	179,454		3,307				202,382	7,937		
Finland	243,659		582		56,231		81,400			
France	31,926,797	13,027,202	27,660,014	981,929	111,815,989	4,958,366	20,249,912	4,812,421	48,137,221	11,115,814
Greece	166,224	10,953,562			106,976	11,135,946	812,896	3,915,819	206,317	23,342,834
Italy	4,601,882	68,824,526	3,487,457	1,155,431	15,175,805	18,888,792	2,630,970	23,374,272	25,195,932	30,907,831
Netherlands	200,735	277,028		46	833,487	396,403	36,764	36,162	150,795	42,613
Norway	2,408,415	83,601	1,625,672		2,351,109		2,227,138		873,394	
Portugal	30,886	4,226,495	3,479	2,551,347	39,928	1,113,496				
Rumania	7,310,034	884			5,453,515	7,632	527,155	171,361		
Spain	17,776	67,011,798	351	85,538,244	8,225	247,514,573	21,136	119,754,119	780	105,931,074
Sweden	731,182	622	456,167		1,152,508	480,654	305,326	33,203	252,696	5,053
Switzerland	3,256,856	20,944	2,808,660		8,129,022		2,448,429	4,630	3,304,695	9,480
United Kingdom	17,738,560	725,760	10,317,440	2,240	13,095,040	154,560	9,051,840	667,520	9,853,760	163,520
Canada	1,896,918		238,046		1,509,560		1,458,635		1,556,669	
United States	43,072,635		1,286,385		69,799,425		31,087,200		53,881,290	
Cuba	7,940,355		7,498,688		9,763,095		11,232,098			
Argentina	52,717,198		15,355,259		29,825,857		[1] 24,406,657			
Brazil	8,681,907		1,419,555		3,065,794		9,732,632		1,223,983	
Chile	6,378,900		4,606,036		6,342,171		5,424,612		3,940,674	
Peru	793,178	30,770	45,098	258,112	463,156		1,496,308			
Japan	197,040		141,733		269,067		427,067		133,733	
Australia (year beginning July 1)	[2] 533,122	[2] 1,476	98,872	1,872	1,059,654	2,620	523,355	216		
New Zealand	56,246		2,530		21,578	819	87,394			53,680
Philippine Islands	273,781		102,630		244,858		111,702		103,635	
Egypt	4,080,829		2,400,441		1,968,450		1,591,201	2,932	3,164,022	

[1] January to September, inclusive.

[2] Calendar year.

TABLE 561.—*International trade in peanut oil, calendar years 1913–1921.*

[Conversions on basis of 7.5 pounds to the gallon.]

Countries.	1913		1918		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Belgium	3,332,595	1,946,300	.....	.....	2,506,727	315,778	4,036,424	1,703,274	4,433,561	4,528,224
Denmark	4,471,811	.....	.....	.....	1,089,513	432,322	948,419	390,876	1,345,688	.....
France	67,681	53,427,379	2,301,382	3,755,536	7,277,605	4,006,199	18,277,457	29,321,400	11,155,056	89,798,429
Italy	7,631,003	220	.....	.....	789,026	.....	12,253,387	53,351	28,159,356	60,626
Netherlands	6,534,915	21,415,747	2,040,869	48,395	5,422,928	5,641,743	2,269,768	8,702,683	14,279,554	18,114,614
Norway	.....	.....	186,245	.....	2,217,601	.....	3,678,155	537,151	6,068,574	.....
Spain	.....	18,435	.....	79	.....	1,633,102	.....	172,567	.....	.....
Sweden	3,123,601	.....	(1)	(1)	2,243,529	661	1,859,410	323,366	.....	.....
United States	11,271,098	.....	68,466,450	.....	154,052,378	4,341,803	95,124,278	1,425,225	3,020,505	1,708,335
China	(1)	34,209,733	(1)	78,750,267	(1)	163,223,067	(1)	110,169,600	(1)	61,554,800
Philippine Islands	1,381,117	(1)	1,007,094	(1)	1,176,901	(1)	1,381,763	(1)	2,437,454	(1)
Egypt	.....	.....	.....	.....	560,493	.....	16,878	.....	77,622	.....

[1] Not separately stated.

VEGETABLE OILS—Continued.

TABLE 562.—*International trade in linseed oil, calendar years 1913–1921.*

[Conversions made on the basis of 7.5 pounds to the gallon.]

Countries.	1913		1918		1919		1920		1921	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Belgium	18,105,419	15,827,807			20,271,248	10,667,131	7,794,608	16,117,085	11,207,265	25,625,076
Finland	850,636				1,074,075		294,654			
France	4,671,768	5,783,327	5,009,072	1,139,999	41,989,693	2,112,227	26,629,804	3,855,845	31,366,387	3,319,246
Greece	131,833				1,070,774		1,005,721		1,267,114	
Italy	985,236	166,667	2,789,921	372,357	8,337,136	3,427,051	9,219,637	395,064	7,563,983	474,209
Netherlands	1,214,975	56,102,357	33,336	157,929	2,631,990	38,170,215	2,137,320	59,238,673	2,124,031	145,568,633
Norway	3,327,623	10,565	157,563		8,828,746	29,767	2,303,417	49,167	8,110,554	
Rumania	85,750				12,531		34,348			
Sweden	792,688	3,554	529,395	1,825	6,948,070	325,591	1,147,549	74,504	1,300,643	6,698
Switzerland	10,513,958	13,889	2,663,157		5,381,208	703,929	4,606,953	1,842,384	8,189,428	395,726
United Kingdom	24,655,680	67,000,640	277,760	3,926,720	1,668,800	168,004,480	3,357,760	108,463,040	109,760	123,764,480
Canada	287,579		78,191		2,465,522		8,323,183		254,100	
United States	1,213,200	11,930,782	195,968	5,806,440	16,142,835	11,266,335	35,200,200	5,365,875	60,090,712	3,512,228
Argentina	1,139,231		36,817	8,923,559	256,066	4,512,851	(1)	2,482,380	(1)	747,359
Brazil	10,687,982		4,186,315		5,732,703		8,768,924		4,616,490	
Chile		35,009	793,603		1,268,864		3,112,278		777,426	
Peru	1,003,369		580,987		655,849		1,572,649			
British India	3,887,182	785,760	47,400	15,479,632	683,100	5,230,252	2,594,482	3,125,062	1,952,888	398,640
Dutch East Indies	3,104,491		2,944,751		2,267,137		6,643,318			
Japan	582,269		441,867		375,467		149,867			274,533
Australia (year beginning July 1)	[3] 13,327,858		1,580,075	349,251	1,635,061	1,059,727	3,486,941	319,589		
New Zealand [2]	4,963,409		3,459,043		1,765,161	369	4,782,733		3,317,653	
Philippine Islands	1,019,572		1,178,375		676,494		1,485,114		931,673	
Union of South Africa	3,792,162		3,721,764		1,970,989		3,198,310		2,928,702	
Egypt	3,540,224		1,157,274		1,282,608		2,034,103	6,021	2,615,282	

[1] Unavailable.
[2] Including imports for the New Zealand Government, as follows: 1918, 275,802 pounds; 1919, 135,394 pounds; 1920, 177,767 pounds.
[3] Calendar year.

METEOROLOGICAL STATISTICS.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau.*

JANUARY, 1922.

State.	Temperature (° F.).						Precipitation (inches).					
	Jan., 1922.		Jan. 1 to Jan. 31, 1922.		Extremes Jan., 1922.		Jan., 1922.		Jan. 1 to Jan. 31, 1922.		Extremes, monthly totals.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	15.7	−2.4	15.7	−2.4	47	−38	3.38	−1.22	3.38	−1.22	3.40	1.47
New Hampshire	17.6	−3.0	17.6	−3.0	45	−36	2.87	−0.91	2.87	−0.91	2.32	1.61
Vermont	16.1	−2.7	16.1	−2.7	58	−36	2.66	−0.78	2.66	−0.78	3.39	0.79
Massachusetts	25.5	−1.8	25.5	−1.8	65	−20	3.72	−1.74	3.72	−1.74	3.68	1.01
Rhode Island	28.7	−1.3	28.7	−1.3	50	−2	4.40	−1.64	4.40	−1.64	3.88	1.36
Connecticut	23.3	−1.3	23.3	−1.3	49	−9	3.51	−1.63	3.51	−1.63	2.82	1.59
New York	22.9	−3.3	22.9	−3.3	55	−37	2.96	−0.75	2.96	−0.75	4.95	0.83
New Jersey	29.9	−2.3	29.9	−2.3	57	−13	3.61	−0.99	3.61	−0.99	4.13	1.08
Pennsylvania	28.1	−3.1	28.1	−3.1	62	−19	3.19	−0.93	3.19	−0.93	4.46	1.15
Delaware	34.1	−2.7	34.1	−2.7	60	6	3.28	+0.73	3.28	+0.73	4.92	3.21
Maryland	32.3	−2.2	32.3	−2.2	63	−15	3.25	+0.71	3.25	+0.71	5.63	1.39
Virginia	36.3	−2.4	36.3	−2.4	72	−5	3.37	+0.63	3.37	+0.63	6.20	1.83
West Virginia	32.1	−1.9	32.1	−1.9	68	−15	3.91	−1.16	3.91	−1.16	4.81	1.01
North Carolina	41.1	−1.3	41.1	−1.3	82	−1	3.71	+0.87	3.71	+0.87	9.22	2.13
South Carolina	45.5	−1.3	45.5	−1.3	81	14	3.46	+0.07	3.46	+0.07	8.64	1.57
Georgia	46.8	−0.2	46.8	−0.2	82	12	3.94	+0.77	3.94	+0.77	11.65	2.25
Florida	59.3	−0.3	59.3	−0.3	92	21	3.08	−0.89	3.08	−0.89	5.92	0.25
Ohio	28.6	−2.2	28.6	−2.2	69	−20	3.11	−1.49	3.11	−1.49	3.41	0.70
Indiana	28.6	−1.9	28.6	−1.9	67	−25	3.19	−1.54	3.19	−1.54	2.89	0.76
Illinois	26.5	−0.6	26.5	−0.6	69	−11	2.44	−1.16	2.44	−1.16	2.30	0.60
Michigan	20.1	−1.1	20.1	−1.1	54	−41	2.04	−0.73	2.04	−0.73	5.05	0.37
Wisconsin	13.8	−0.6	13.8	−0.6	51	−54	1.28	−0.48	1.28	−0.48	1.87	0.10
Minnesota	7.5	+1.9	7.5	+1.9	49	−51	0.77	−0.12	0.77	−0.12	1.88	0.05
Iowa	17.9	+1.9	17.9	+1.9	57	−29	1.05	−0.16	1.05	−0.16	2.30	0.32
Missouri	30.1	−0.6	30.1	−0.6	66	−6	2.26	−1.05	2.26	−1.05	6.15	0.32
North Dakota	4.9	+2.1	4.9	+2.1	55	−46	0.54	−0.05	0.54	−0.05	1.60	0.10
South Dakota	14.2	−0.4	14.2	−0.4	60	−30	0.48	+0.47	0.48	+0.47	2.23	0.16
Nebraska	21.9	−1.1	21.9	−1.1	68	−25	0.57	+0.16	0.57	+0.16	2.09	0.05
Kansas	29.7	−1.2	29.7	−1.2	72	−7	0.71	−0.30	0.71	−0.30	1.60	0.00
Kentucky	35.2	−0.6	35.2	−0.6	67	1	4.39	−2.14	4.39	−2.14	5.48	0.71
Tennessee	39.1	−0.2	39.1	−0.2	69	−3	5.06	−0.70	5.06	−0.70	8.67	2.26
Alabama	46.3	+1.1	46.3	+1.1	79	15	4.78	+2.30	4.78	+2.30	10.41	3.10
Mississippi	46.9	−0.2	46.9	−0.2	81	20	5.03	+1.49	5.03	+1.49	11.03	2.15
Louisiana	51.1	−0.1	51.1	−0.1	84	21	4.26	+1.70	4.26	+1.70	10.80	3.04
Texas	48.4	−2.5	48.4	−2.5	92	−5	1.75	+0.72	1.75	+0.72	9.34	T.
Oklahoma	38.7	−2.6	38.7	−2.6	77	−7	1.24	+0.26	1.24	+0.26	2.58	0.06
Arkansas	40.9	−1.8	40.9	−1.8	74	10	4.23	−1.60	4.23	−1.60	7.98	0.77
Montana	18.6	−3.5	18.6	−3.5	60	−42	1.05	−0.35	1.05	−0.35	4.32	0.06
Wyoming	19.4	−7.1	19.4	−7.1	59	−51	0.86	−0.07	0.86	−0.07	2.04	0.00
Colorado	23.3	−3.2	23.3	−3.2	73	−45	0.86	−0.01	0.86	−0.01	8.07	0.00
New Mexico	34.2	−2.9	34.2	−2.9	73	−19	0.67	−0.16	0.67	−0.16	2.71	0.00
Arizona	42.4	−2.9	42.4	−2.9	80	−23	1.46	+0.45	1.46	+0.45	7.60	T.
Utah	25.0	−6.9	25.0	−6.9	64	−42	1.44	−0.15	1.44	−0.15	4.91	0.05
Nevada	31.4	−9.2	31.4	−9.2	66	−39	1.11	+0.02	1.11	+0.02	3.44	0.13
Idaho	22.9	−7.6	22.9	−7.6	51	−50	2.38	−0.90	2.38	−0.90	4.11	0.38
Washington	30.8	−5.9	30.8	−5.9	60	−28	4.54	−2.44	4.54	−2.44	12.65	0.07
Oregon	33.4	−6.0	33.4	−6.0	67	−39	4.62	−1.85	4.62	−1.85	10.59	0.16
California	45.8	−4.0	45.8	−4.0	82	−28	5.41	−1.94	5.41	−1.94	14.48	0.22

METEOROLOGICAL STATISTICS—Continued.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau*—Continued.

FEBRUARY, 1922.

State.	Temperature (° F.).						Precipitation (inches).					
	Feb., 1922.		Jan. 1 to Feb. 28, 1922.		Extremes, Feb., 1922.		Feb., 1922.		Jan. 1 to Feb. 28, 1922.		Extremes, monthly total.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	17.4	−0.6	16.6	−1.5	57	−40	3.00	−0.19	6.38	−1.41	5.05	1.86
New Hampshire	18.2	+1.2	17.9	−0.9	54	−40	2.85	−0.15	5.72	−1.06	3.58	1.81
Vermont	18.0	+1.7	17.0	−0.5	58	−40	2.34	+0.30	5.00	−0.48	3.49	1.55
Massachusetts	25.9	+2.5	25.7	+0.4	56	−25	3.50	−0.40	7.22	−2.14	4.91	1.52
Rhode Island	29.3	+1.9	29.0	+0.3	57	−7	4.46	−1.05	8.86	−2.69	4.65	2.42
Connecticut	26.4	+2.9	24.8	+0.8	60	−19	3.78	−1.15	7.29	−2.78	3.34	1.94
New York	21.6	+4.7	22.2	+0.7	73	−39	2.83	−0.27	5.79	−1.02	5.30	0.41
New Jersey	29.6	+4.0	29.8	+0.8	73	−18	3.57	−0.63	7.18	−1.62	4.60	1.80
Pennsylvania	27.5	+5.5	27.8	+1.2	74	−19	2.89	−0.90	6.08	−1.83	3.61	0.67
Delaware	33.5	+4.3	33.8	+0.8	73	1	3.26	+0.12	6.54	+0.85	4.54	2.52
Maryland	32.7	+4.5	32.5	+1.2	79	−11	3.27	−0.13	6.52	+0.58	6.35	2.04
Virginia	36.3	+4.6	36.3	+1.1	78	−13	3.16	+0.89	6.53	+1.52	6.70	1.86
West Virginia	31.8	+6.4	32.0	+2.2	77	−14	3.10	−0.21	7.01	−1.37	5.57	0.94
North Carolina	41.9	+5.7	41.5	+2.2	83	3	3.89	+1.89	7.60	+2.76	9.85	2.97
South Carolina	47.1	+5.5	46.3	+2.1	84	14	4.43	+2.19	7.89	+2.26	10.54	3.23
Georgia	47.9	+7.6	47.4	+3.7	86	14	4.97	+1.38	8.91	+2.15	9.13	3.84
Florida	60.0	+5.3	59.6	+2.5	90	24	3.35	−0.51	6.43	−1.40	8.78	0.27
Ohio	28.0	+5.9	28.3	+1.8	76	−3	2.60	−0.92	5.71	−2.41	4.00	0.67
Indiana	29.2	+4.6	28.9	+1.4	76	0	2.65	−1.02	5.84	−2.56	3.11	0.49
Illinois	27.7	+5.1	27.1	+2.2	75	−4	2.08	−.67	4.52	−1.83	3.04	0.44
Michigan	18.3	+3.5	19.2	+1.2	65	−35	1.77	+0.96	3.81	+0.23	6.75	0.65
Wisconsin	15.3	+0.5	14.6	0	52	−42	1.16	+1.95	2.44	+1.47	5.27	1.04
Minnesota	10.0	−2.8	8.8	−0.4	46	−45	0.71	+1.43	1.48	+1.31	4.89	0.38
Iowa	20.5	+3.2	19.2	+2.6	70	−20	1.15	+0.44	2.20	+0.28	4.56	0.40
Missouri	31.3	+4.1	30.7	+1.8	80	−5	2.23	−0.44	4.49	−1.49	4.28	0.84
North Dakota	7.9	−7.1	6.4	−2.5	45	−39	0.49	+0.72	1.03	+0.67	3.16	0.10
South Dakota	16.4	−6.7	15.3	−3.6	62	−37	0.29	+0.69	0.77	+1.16	3.65	0.10
Nebraska	24.8	−1.5	23.4	−1.3	74	−16	0.73	−0.35	1.30	−0.19	1.65	0.00
Kansas	30.9	+2.9	30.3	+0.8	82	−3	1.27	−0.14	1.98	−0.44	3.40	0.07
Kentucky	35.6	+5.7	35.4	+2.6	76	4	3.60	−0.02	7.99	−2.16	6.59	1.82
Tennessee	40.2	+5.6	39.6	+2.7	80	5	4.13	+0.21	9.19	−0.49	6.20	2.49
Alabama	47.6	+6.7	47.0	+3.9	83	15	5.35	+0.77	10.13	+3.07	9.39	3.87
Mississippi	48.4	+5.3	47.6	+2.6	86	19	4.92	+1.56	9.95	+3.05	10.18	3.23
Louisiana	52.6	+6.3	51.8	+3.1	88	19	4.47	+0.82	8.73	+2.52	12.89	1.98
Texas	50.3	+4.3	49.4	+0.9	100	−2	1.80	−0.03	3.55	+0.69	6.35	0.00
Oklahoma	39.4	+4.8	39.0	+1.1	87	−1	1.42	−0.11	2.66	+0.15	4.04	0.30
Arkansas	42.2	+5.6	41.6	+1.9	84	10	3.28	+1.61	7.51	+0.01	9.70	1.70
Montana	21.3	−10.0	20.0	−6.8	62	−42	0.79	−0.03	1.84	−0.38	3.57	0.01
Wyoming	21.4	−5.6	20.4	−6.4	69	−42	0.81	+0.04	1.67	−0.03	3.28	T.
Colorado	26.5	−0.5	24.9	−1.8	78	−33	1.11	−0.06	1.97	−0.07	4.38	0.10
New Mexico	37.4	−0.2	35.8	−1.6	82	−28	0.69	−0.25	1.36	−0.41	3.29	0.00
Arizona	46.0	−1.6	44.2	−2.2	88	−28	1.29	−0.61	2.75	−0.16	2.80	0.00
Utah	29.5	−2.6	27.2	−4.8	70	−22	1.41	+0.21	2.85	+0.06	6.68	T.
Nevada	35.0	−3.8	33.2	−6.5	80	−30	0.98	+0.65	2.09	+0.67	4.29	0.29
Idaho	27.1	−4.5	25.0	−6.0	56	−34	1.89	−0.14	4.27	−1.04	4.27	0.39
Washington	34.4	−4.8	32.6	−5.4	65	−20	3.43	−1.26	7.97	−3.70	9.32	0.13
Oregon	36.9	−3.3	35.2	−4.6	67	−25	3.74	−0.38	8.36	−2.23	10.89	0.31
California	48.5	−3.0	47.2	−3.5	91	−19	4.41	+2.57	9.82	+0.63	31.84	0.00

METEOROLOGICAL STATISTICS—Continued.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau*—Continued.

MARCH, 1922.

State.	Temperature (° F.).						Precipitation (inches).					
	Mar., 1922.		Jan. 1 to Mar. 31, 1922.		Extremes, Mar., 1922.		Mar., 1922.		Jan. 1 to Mar. 31, 1922.		Extremes, monthly totals.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	28.2	+2.8	20.4	−0.1	70	−27	3.61	−0.07	9.99	−1.48	5.10	1.25
New Hampshire	28.2	+3.1	21.3	+0.4	72	−13	3.31	+1.54	9.03	+0.48	5.89	2.95
Vermont	26.8	+3.4	20.3	+0.8	71	−15	3.00	+0.86	8.00	+0.38	6.10	2.05
Massachusetts	33.6	+3.0	28.3	+1.2	79	−2	3.81	+0.85	11.03	−1.29	6.58	3.15
Rhode Island	35.3	+2.9	31.1	+1.2	75	11	4.82	+0.28	13.68	−2.41	6.32	4.67
Connecticut	33.8	+3.1	27.8	+1.6	76	3	4.40	+0.90	11.69	−1.88	7.05	2.96
New York	31.5	+3.1	25.3	+1.5	78	−8	3.10	+0.72	8.89	−0.30	6.19	0.48
New Jersey	38.5	+2.6	32.7	+1.4	82	2	3.88	+0.64	11.06	−0.98	7.10	3.42
Pennsylvania	37.2	+2.8	30.9	+1.7	81	−5	3.55	+0.82	9.63	−1.01	6.65	2.30
Delaware	43.1	+1.9	36.9	+1.2	76	19	3.98	+0.50	10.52	+1.35	5.20	4.01
Maryland	42.3	+1.9	35.8	+1.4	80	11	3.59	+1.11	10.11	+1.69	9.22	3.38
Virginia	45.2	+2.3	39.3	+1.5	86	16	3.79	+1.66	10.32	+3.18	7.50	1.87
West Virginia	42.6	+2.4	35.5	+2.3	85	0	3.83	+1.50	10.84	+0.13	8.19	1.40
North Carolina	49.8	+2.2	44.3	+2.2	87	18	4.28	+2.63	11.88	+5.39	13.92	4.47
South Carolina	55.0	+0.5	49.2	+1.6	89	24	3.94	+3.10	11.83	+5.36	10.10	3.15
Georgia	56.8	+0.7	50.5	+2.7	88	20	4.39	+3.88	13.30	+6.03	14.40	2.69
Florida	65.7	+1.7	61.6	+2.2	94	28	2.79	−0.50	9.22	−1.90	11.50	0.00
Ohio	39.0	+3.2	31.9	+2.3	83	4	3.48	+1.67	9.19	−.74	10.10	2.62
Indiana	40.4	+3.2	32.7	+2.0	77	10	3.73	+3.34	9.57	+.78	11.11	3.22
Illinois	40.2	+2.7	31.5	+2.4	78	7	3.02	+3.30	7.54	+1.47	11.79	2.17
Michigan	29.1	+2.9	22.5	+1.8	72	−23	1.98	+0.71	5.79	+0.94	6.47	0.50
Wisconsin	32.1	+1.8	20.4	+0.6	75	−27	1.75	+0.15	4.19	+1.62	3.82	0.10
Minnesota	25.7	+2.7	14.4	+0.6	66	−31	1.18	+0.04	2.66	+1.35	2.61	0.30
Iowa	33.6	+5.1	24.0	+3.4	74	−5	1.77	+0.20	3.97	+0.48	3.73	0.76
Missouri	44.2	+1.4	35.2	+1.6	80	3	3.08	+3.38	7.57	+1.89	13.29	1.45
North Dakota	22.6	+2.9	11.8	−0.7	60	−30	0.83	−0.11	1.86	+0.56	2.05	0.04
South Dakota	30.2	+2.1	20.3	−1.7	76	−25	0.95	−0.26	1.72	+0.90	2.50	0.00
Nebraska	35.7	+3.0	27.5	+0.1	84	−13	1.10	+0.02	2.40	−0.17	5.89	Trace.
Kansas	43.4	−0.1	34.7	+0.5	83	−14	1.35	+2.59	3.33	+2.15	12.40	0.35
Kentucky	46.0	+3.4	38.9	+2.8	83	19	4.66	+3.45	12.65	+1.29	12.68	4.70
Tennessee	49.7	+1.5	43.0	+2.3	84	19	5.38	+3.89	14.57	+3.40	13.04	4.04
Alabama	56.2	0.0	50.0	+2.6	85	23	5.46	+4.65	15.59	+7.72	13.98	5.94
Mississippi	57.4	−0.9	50.9	+1.4	87	21	5.45	+4.46	15.40	+7.51	15.01	6.20
Louisiana	60.7	−0.8	54.8	+1.8	91	18	4.17	+5.53	12.90	+8.05	15.52	5.69
Texas	58.9	−1.2	52.5	+0.2	100	−12	1.98	+1.71	5.53	+2.40	17.00	0.00
Oklahoma	51.8	−1.7	43.3	+0.2	85	−18	2.29	+1.96	4.95	+2.11	10.18	0.51
Arkansas	52.6	−0.9	45.2	+1.0	83	7	4.70	+3.87	12.21	+3.88	14.59	3.24
Montana	30.4	−1.3	23.4	−4.9	70	−33	0.93	−0.23	2.77	−0.61	3.29	0.00
Wyoming	30.7	−1.5	23.8	−4.7	73	−43	1.12	−0.66	2.79	−0.69	1.70	0.00
Colorado	34.4	−1.3	28.1	−1.7	80	−32	1.32	+0.10	3.29	+0.03	6.71	Trace.
New Mexico	44.2	−2.8	38.6	−2.0	87	−25	0.81	−0.19	2.17	−0.60	2.92	0.00
Arizona	53.4	−4.5	47.3	−3.0	90	−7	1.03	+0.23	3.78	+0.07	3.91	0.03
Utah	38.5	−4.6	31.0	−4.5	79	−22	1.50	−0.20	4.35	−0.14	6.73	0.01
Nevada	41.6	−3.8	36.0	−5.6	90	−16	0.95	−0.12	3.04	+0.55	3.26	Trace.
Idaho	35.0	−4.7	28.3	−5.6	69	−35	1.62	+0.20	5.89	−0.84	5.49	0.10
Washington	41.5	−3.6	35.6	−4.8	70	−9	2.99	+0.45	10.96	−3.25	15.89	0.26
Oregon	42.4	−3.4	37.6	−4.2	73	−30	3.14	+1.08	11.50	−1.15	16.53	0.09
California	51.8	−3.3	48.7	−3.4	91	−10	4.74	−0.87	14.56	−0.24	15.50	0.00

METEOROLOGICAL STATISTICS—Continued.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau*—Continued.

APRIL, 1922.

State.	Temperature (° F.).						Precipitation (inches).					
	Apr., 1922.		Jan. 1 to Apr. 30, 1922.		Extremes, Apr., 1922.		Apr., 1922.		Jan. 1 to Apr. 30, 1922.		Extremes, monthly totals.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	40.9	+1.4	25.5	+0.3	80	18	2.87	+0.12	12.86	−1.36	5.17	1.76
New Hampshire	42.0	+0.5	26.5	+0.4	84	13	2.90	+0.29	11.93	+0.77	3.73	2.11
Vermont	41.3	+0.5	25.6	+0.7	80	10	2.68	+1.16	36.85	+1.54	5.67	2.81
Massachusetts	45.1	+1.0	33.4	+1.2	85	18	3.32	−1.01	14.35	−2.30	3.80	1.13
Rhode Island	45.1	+1.2	34.6	+1.2	82	27	3.97	−1.54	17.65	−3.95	3.31	1.45
Connecticut	45.8	+1.5	32.3	+1.6	85	16	3.85	−1.17	15.54	+3.05	4.09	1.64
New York	44.3	+1.0	30.1	+1.4	89	3	2.80	+0.32	11.69	+0.02	7.02	0.44
New Jersey	49.5	+1.5	36.9	+1.4	89	18	3.63	−1.08	14.69	−2.06	4.12	1.57
Pennsylvania	48.7	+1.4	35.4	+1.6	91	11	3.67	−0.50	13.30	−1.51	6.10	1.28
Delaware	53.2	+1.0	41.0	+1.1	88	28	3.71	−1.39	14.23	−0.04	2.64	1.98
Maryland	52.5	+1.5	40.0	+1.4	93	17	3.30	−1.46	13.41	+0.23	3.56	0.88
Virginia	54.5	+2.5	43.1	+1.8	93	19	3.41	−1.19	13.73	+1.99	5.71	0.82
West Virginia	51.5	+2.9	39.5	+2.4	91	15	3.52	−0.37	14.36	−0.24	6.76	0.50
North Carolina	57.5	+2.9	47.6	+2.4	96	23	3.57	+0.13	15.45	+5.52	7.41	1.54
South Carolina	62.4	+2.1	52.5	+1.7	95	33	2.97	+2.14	14.80	+7.50	8.30	0.82
Georgia	63.4	+3.4	53.7	+2.9	96	28	3.56	0.00	16.86	+6.03	7.62	0.30
Florida	69.8	+3.4	63.7	+2.5	98	38	2.60	−1.71	11.82	−3.61	4.41	0.00
Ohio	50.0	+2.6	38.4	+2.4	86	20	3.20	+1.32	12.39	+0.58	7.96	1.73
Indiana	51.7	+2.6	37.5	+2.1	88	23	3.47	+2.61	13.04	+3.39	11.58	3.13
Illinois	51.8	+2.1	36.6	+2.3	85	24	3.41	+1.64	10.95	+3.11	9.93	1.15
Michigan	42.4	+0.6	27.5	+1.5	84	7	2.30	+1.07	8.09	+2.01	6.30	1.50
Wisconsin	43.2	+0.1	26.1	+0.4	76	7	2.46	+1.05	6.65	+2.67	5.62	1.17
Minnesota	42.9	+0.1	21.5	+0.5	83	7	2.05	−0.16	4.71	+1.19	4.19	T.
Iowa	48.7	+1.2	30.2	+2.8	87	21	2.86	+0.20	6.83	+0.68	6.70	1.04
Missouri	55.4	+1.9	40.2	+1.7	91	24	3.79	+2.42	11.36	+4.31	14.34	1.72
North Dakota	41.7	+0.6	19.3	−0.4	89	−2	1.38	−0.46	3.24	+0.10	3.15	T.
South Dakota	45.2	+0.8	26.5	−1.0	81	9	2.18	−0.69	3.90	+0.21	4.34	T.
Nebraska	48.8	+0.2	32.8	+0.2	87	15	2.48	+0.22	4.88	+0.05	6.26	0.34
Kansas	54.1	+0.8	39.5	+0.6	87	15	2.45	+2.62	5.78	+4.77	12.41	0.92
Kentucky	55.9	+3.6	43.2	+3.0	88	25	3.94	+0.30	16.59	+1.59	7.13	2.68
Tennessee	58.2	+3.6	46.8	+2.6	92	23	4.60	+0.84	19.17	+4.24	8.61	3.14
Alabama	63.2	+3.7	53.3	+2.9	92	32	4.38	−0.24	19.97	+7.48	8.14	0.61
Mississippi	64.0	+3.7	54.2	+2.0	91	36	5.46	−0.23	20.86	+7.28	10.60	1.60
Louisiana	67.0	+3.5	57.8	+2.2	91	37	4.83	−0.49	17.73	+7.56	9.80	1.59
Texas	66.1	+1.5	55.9	+0.5	107	23	3.22	+3.04	8.75	+5.44	18.11	0.00
Oklahoma	60.0	+0.8	47.5	+0.3	95	15	2.98	+3.52	7.93	+5.63	13.00	1.15
Arkansas	61.2	+2.2	49.2	+1.3	90	26	4.78	+0.72	16.99	+4.60	12.81	2.77
Montana	44.3	−3.9	28.6	−4.7	83	−10	1.06	+0.78	3.83	+0.17	5.92	0.51
Wyoming	40.0	−3.6	27.9	−4.4	76	−19	1.63	+0.51	4.42	−0.18	6.36	0.16
Colorado	43.0	−2.2	31.8	−1.8	82	−9	1.92	+0.30	5.21	+0.33	5.81	T.
New Mexico	50.8	−0.8	41.6	−1.7	89	4	1.25	+0.05	3.42	−0.55	6.63	0.00
Arizona	58.8	−4.0	50.2	−3.2	99	2	0.53	+0.02	4.31	+0.09	2.49	0.00
Utah	47.3	−5.8	35.1	−5.0	86	0	1.21	+0.53	5.56	+0.39	6.22	0.12
Nevada	49.3	−5.5	39.3	−5.6	92	6	0.75	−0.01	3.79	+0.54	3.30	0.00
Idaho	43.9	−4.2	32.2	−5.2	79	−14	1.42	+0.28	7.31	−0.56	3.59	0.28
Washington	48.3	−2.9	38.8	−4.3	86	9	2.12	+0.09	13.08	−3.16	10.70	0.00
Oregon	47.7	−3.2	40.1	−4.0	83	−3	2.47	−0.11	13.97	−1.26	10.75	0.18
California	57.0	−4.1	50.8	−3.6	100	−3	1.79	−0.97	16.35	−1.21	4.95	0.00

METEOROLOGICAL STATISTICS—Continued.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau*—Continued.

MAY, 1922.

State.	Temperature (° F.).						Precipitation (inches).					
	May, 1922.		Jan. 1 to May 31, 1922.		Extremes, May, 1922.		May, 1922.		Jan. 1 to May 31, 1922.		Extremes, monthly total.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	52.6	+1.6	31.0	+0.6	87	20	3.23	+0.43	16.09	−0.93	6.02	1.05
New Hampshire	54.7	+0.9	32.1	+0.5	87	21	2.80	+1.08	14.73	+1.85	5.51	1.98
Vermont	54.2	+1.1	31.3	+0.8	92	19	3.27	−0.24	13.95	+1.30	5.54	2.00
Massachusetts	56.3	+3.0	37.3	+1.5	88	27	3.43	+1.28	17.78	−1.02	6.27	2.88
Rhode Island	55.4	+2.8	38.8	+1.5	86	31	3.65	+0.91	21.30	−3.04	5.50	4.17
Connecticut	56.8	+3.6	37.2	+2.0	92	21	3.77	+1.22	19.31	−1.83	6.60	3.53
New York	56.1	+3.1	35.3	+1.7	93	19	3.68	−0.36	15.37	−0.34	6.65	0.89
New Jersey	60.4	+2.6	41.6	+1.7	90	23	3.80	+0.04	18.49	−2.02	7.55	1.16
Pennsylvania	59.8	+2.7	40.3	+1.9	96	20	3.75	−0.54	17.05	−2.05	6.10	1.69
Delaware	63.6	+1.4	45.5	+1.2	88	32	3.73	−1.64	17.96	−1.68	3.47	1.19
Maryland	62.8	+1.9	44.5	+1.5	93	25	3.50	−0.29	16.91	−0.06	5.40	1.58
Virginia	64.3	+1.0	47.3	+1.6	92	32	3.79	+0.38	17.52	+2.37	8.24	1.83
West Virginia	61.9	+1.8	43.9	+2.3	94	26	3.89	−0.22	18.25	−0.46	5.83	1.55
North Carolina	66.8	+0.4	51.4	+2.0	94	29	4.03	+1.04	19.48	+6.56	11.01	1.40
South Carolina	71.2	−0.2	56.2	+1.3	98	38	3.58	+2.31	18.38	+9.81	12.65	2.63
Georgia	72.0	0.0	57.4	+2.3	99	40	3.39	+3.79	20.25	+9.82	12.23	4.47
Florida	75.5	+0.9	66.1	+2.2	99	50	4.26	+3.16	16.08	−0.45	12.33	2.54
Ohio	60.7	+3.3	41.3	+2.6	96	27	3.58	+1.11	15.97	+1.69	9.39	1.87
Indiana	62.3	+4.3	42.4	+2.6	92	35	4.12	−0.50	17.16	+2.89	8.19	1.52
Illinois	62.7	+3.8	41.8	+2.6	91	36	4.23	−0.64	15.18	+2.47	8.77	1.14
Michigan	53.7	+5.9	32.7	+2.4	93	25	3.34	−0.38	11.43	+1.63	6.92	1.25
Wisconsin	54.8	+6.1	31.8	+1.6	92	29	3.92	−0.40	10.57	+2.27	7.55	1.47
Minnesota	54.3	+5.9	28.1	+1.6	94	26	3.42	−0.35	8.13	+0.84	6.65	1.29
Iowa	60.5	+2.9	36.2	+2.9	91	34	4.57	−1.04	11.40	−0.36	8.36	0.47
Missouri	64.9	+2.3	45.2	+1.8	97	38	4.94	−1.77	16.30	+2.54	6.86	1.01
North Dakota	52.6	+3.7	25.9	+0.4	93	24	2.55	+0.56	5.79	+0.66	6.82	1.23
South Dakota	55.2	+2.7	32.2	−0.3	90	23	3.64	−0.05	7.54	+0.16	13.75	0.80
Nebraska	59.1	+1.2	38.1	+0.4	92	26	3.59	−0.82	8.47	−0.77	6.18	1.05
Kansas	63.4	+1.2	44.3	+0.7	92	33	4.02	+0.04	9.80	+4.81	9.81	0.90
Kentucky	65.6	+2.3	47.7	+2.9	94	35	3.95	−0.08	20.54	+1.51	9.39	1.50
Tennessee	67.0	+1.5	50.8	+2.4	92	31	4.27	+0.57	23.44	+4.81	8.32	2.37
Alabama	71.5	+0.5	57.0	+2.4	97	45	4.07	+2.63	24.04	+10.11	11.71	3.42
Mississippi	71.6	+1.1	57.7	+1.8	95	47	4.54	+1.34	25.40	+8.62	12.36	2.70
Louisiana	73.8	+1.2	61.0	+2.0	97	46	4.36	+2.45	22.09	+10.01	13.09	2.50
Texas	73.0	+2.0	59.3	+0.8	105	33	3.32	+1.14	12.07	+6.58	12.90	Trace.
Oklahoma	67.7	+1.4	51.5	+0.5	100	34	5.16	+0.56	13.09	+6.19	10.42	1.16
Arkansas	69.2	+1.6	53.2	+1.3	100	40	5.12	−0.12	22.11	+4.48	12.69	1.57
Montana	50.8	−0.3	33.1	−3.8	96	18	2.37	+0.03	6.20	+0.20	7.07	0.64
Wyoming	48.5	+0.3	32.0	−3.5	92	6	2.22	−0.04	6.64	−0.22	9.23	0.11
Colorado	51.3	+0.3	35.7	−1.4	91	2	1.82	−0.41	7.03	−0.08	4.67	Trace.
New Mexico	59.3	+0.6	45.2	−1.2	99	11	1.23	−0.19	4.65	−0.74	4.05	0.00
Arizona	65.5	+1.8	53.2	−2.2	112	17	0.33	+0.05	4.64	+0.14	2.40	0.00
Utah	54.4	+0.2	38.9	−3.9	99	3	1.21	+0.02	6.77	+0.41	3.43	0.00
Nevada	56.2	+0.3	42.7	−4.4	104	15	0.99	−0.29	4.78	+0.25	2.42	Trace.
Idaho	52.2	−0.5	36.2	−4.3	93	10	1.79	−0.49	9.10	−1.05	3.23	0.20
Washington	54.5	−0.7	41.9	−3.6	98	16	1.98	−0.74	15.06	−3.90	8.05	0.00
Oregon	53.3	+0.7	42.7	−3.0	100	10	2.04	−0.75	16.01	−2.01	5.38	Trace.
California	61.4	+0.7	52.9	−2.7	111	10	1.09	+0.04	17.44	−1.17	5.47	0.00

METEOROLOGICAL STATISTICS—Continued.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau*—Continued.

JUNE, 1922.

State.	Temperature (° F.).						Precipitation (inches).					
	June, 1922.		Jan. 1 to June 30, 1922.		Extremes, June, 1922.		June, 1922.		Jan. 1 to June 30, 1922.		Extremes, monthly totals.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	62.7	+0.1	36.2	+0.5	93	33	3.09	+5.70	19.18	+4.77	11.71	2.45
New Hampshire	63.5	+0.6	37.4	+0.6	93	35	3.41	+5.81	18.14	+7.66	11.92	6.50
Vermont	64.0	+0.6	36.7	+0.8	92	33	3.29	+4.69	17.24	+5.99	10.35	5.76
Massachusetts	65.1	+2.0	41.9	+1.6	96	42	3.07	+5.11	20.85	+4.09	11.14	2.61
Rhode Island	64.8	+1.4	43.1	+1.5	91	43	2.90	+3.02	24.20	−0.02	8.50	2.68
Connecticut	66.0	+2.3	42.0	+2.0	92	40	2.98	+3.85	22.29	+2.02	7.48	4.95
New York	64.8	+1.5	40.2	+1.7	96	32	3.59	+4.26	18.96	+3.92	15.92	3.38
New Jersey	68.6	+2.5	46.1	+1.8	95	39	3.79	+2.52	22.28	+0.50	11.50	2.97
Pennsylvania	67.6	+1.9	44.8	+1.9	96	30	4.20	+0.91	21.25	−1.14	12.46	1.78
Delaware	71.2	+2.3	49.8	+1.4	93	50	3.79	+1.52	21.75	−0.16	7.23	4.29
Maryland	69.9	+2.9	48.8	+1.8	97	38	4.10	+1.02	21.01	+0.96	9.35	2.05
Virginia	71.4	+1.9	51.3	+1.6	100	43	4.39	+0.73	21.91	+3.10	10.08	1.01
West Virginia	68.9	+1.8	48.1	+2.2	97	33	4.21	+0.45	22.46	−0.01	7.95	1.75
North Carolina	73.3	+1.5	55.1	+1.9	98	38	5.01	+1.40	24.49	+7.96	12.74	2.36
South Carolina	77.6	+0.6	59.8	+1.2	101	52	4.90	+0.58	23.28	+10.39	11.76	2.62
Georgia	78.2	+0.5	60.8	+2.0	104	48	4.63	+0.45	24.88	+10.27	9.00	1.29
Florida	79.7	+0.4	68.3	+1.9	103	60	6.66	−0.37	22.74	−0.82	15.11	0.54
Ohio	69.4	+1.5	46.0	+2.4	98	37	3.74	−0.76	19.71	+0.93	7.57	1.05
Indiana	71.7	+1.4	47.3	+2.4	101	40	3.84	−1.91	21.00	+0.98	4.18	0.07
Illinois	71.5	+2.4	46.7	+2.6	101	38	3.85	−2.36	19.03	+0.11	5.00	0.12
Michigan	63.4	+1.4	37.8	+2.2	98	26	2.97	+0.48	14.40	+2.11	8.76	0.78
Wisconsin	64.4	+1.7	37.3	+1.6	98	30	4.16	+0.18	14.73	+2.45	10.11	0.36
Minnesota	63.8	+2.6	34.0	+1.7	102	34	4.00	−1.00	12.13	−0.16	6.18	0.99
Iowa	69.1	+3.1	41.7	+2.0	104	38	4.38	−2.56	15.78	−2.92	7.19	0.28
Missouri	73.4	+3.1	49.9	+2.0	108	43	4.55	−2.89	20.85	−0.35	3.57	0.18
North Dakota	62.8	+0.7	32.1	+0.5	108	30	3.50	+0.26	9.29	+0.92	7.54	0.64
South Dakota	65.4	+3.0	37.8	+0.2	107	32	4.05	−0.33	11.59	−0.17	7.60	0.76
Nebraska	69.3	+2.9	43.3	+0.8	105	31	3.76	−1.35	12.23	−2.12	7.98	0.20
Kansas	72.9	+2.3	49.1	+1.0	105	40	4.23	−1.87	14.03	+2.94	6.03	0.33
Kentucky	73.7	+1.7	52.0	+2.7	100	44	4.18	−1.08	24.72	+0.43	6.86	0.35
Tennessee	74.4	+1.4	54.8	+2.2	101	38	4.41	−0.29	27.85	+4.52	7.60	1.19
Alabama	78.1	+0.6	60.5	+2.1	102	50	4.18	−0.54	28.22	+9.57	7.97	T.
Mississippi	78.7	+0.9	61.2	+1.6	104	53	4.32	−0.59	29.72	+8.03	8.51	1.12
Louisiana	80.1	+0.3	64.2	+1.7	102	55	4.74	+0.87	26.83	+10.88	10.35	2.37
Texas	80.2	−0.7	62.8	+0.6	107	48	3.19	+0.36	15.26	+6.94	15.05	0.05
Oklahoma	76.5	+1.3	55.7	+0.7	106	44	4.03	−2.29	17.12	+3.90	5.77	0.19
Arkansas	76.8	+1.8	57.2	+1.4	104	44	4.08	−1.44	26.19	+3.04	6.35	0.32
Montana	59.6	+3.6	37.5	−2.6	101	24	2.56	−0.37	8.76	−0.17	7.54	0.12
Wyoming	58.5	+3.2	36.4	−2.4	105	15	1.68	−0.31	8.32	−0.53	5.42	T.
Colorado	60.7	+2.7	39.9	−0.7	106	12	1.44	−0.57	8.47	−0.65	4.20	T.
New Mexico	68.3	+1.2	49.0	−0.8	108	24	1.64	−0.18	6.29	−0.92	7.20	0.00
Arizona	75.0	+2.4	56.8	−1.5	120	17	0.40	+0.22	5.04	+0.36	3.57	0.00
Utah	63.6	+4.0	43.0	−2.6	109	24	0.68	−0.25	7.45	+0.16	2.02	0.00
Nevada	65.1	+3.6	46.4	−3.1	113	27	0.52	+0.01	5.30	+0.26	2.40	0.00
Idaho	60.4	+4.0	40.2	−2.9	107	22	1.24	−0.34	10.34	−1.39	2.56	T.
Washington	60.0	+4.6	44.9	−2.2	97	30	1.58	−1.38	16.64	−5.28	1.50	0.00
Oregon	59.8	+4.1	45.6	−1.8	104	24	1.44	−0.65	17.45	−2.66	3.27	T.
California	68.3	+0.6	55.5	−2.2	123	25	0.33	−0.10	17.77	−1.27	2.80	0.00

METEOROLOGICAL STATISTICS—Continued.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau*—Continued.

JULY, 1922.

State.	Temperature (° F.).						Precipitation (inches).					
	July, 1922.		Jan. 1 to July 31, 1922.		Extremes, July, 1922.		July, 1922.		Jan. 1 to July 31, 1922.		Extremes, monthly totals.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	67.2	−0.8	40.9	+0.3	92	39	3.64	−0.94	22.82	+3.83	6.48	1.15
New Hampshire	67.9	−0.5	41.7	+0.4	94	39	3.62	−0.90	21.76	+6.76	4.84	1.41
Vermont	68.0	−0.5	41.2	+0.6	92	36	4.03	−2.03	21.27	+3.96	3.08	0.98
Massachusetts	70.3	−0.3	46.0	+1.3	94	45	3.63	+0.47	24.48	+4.56	7.17	1.30
Rhode Island	70.1	−1.5	47.0	+1.1	90	50	3.28	+0.85	27.48	+0.83	6.88	1.82
Connecticut	70.3	+0.4	46.1	+1.8	95	42	4.80	+0.02	27.09	+2.04	7.05	3.13
New York	69.6	−0.5	44.4	+1.4	100	37	3.92	−0.63	22.88	+3.29	12.40	0.63
New Jersey	73.7	−0.7	50.0	+1.5	98	44	4.79	+1.00	27.07	+1.50	9.26	2.29
Pennsylvania	72.1	−0.2	48.7	+1.6	98	38	4.21	−0.53	25.46	−1.67	7.58	1.45
Delaware	76.5	−1.2	53.6	+1.0	96	56	4.60	+1.79	26.35	+1.63	9.54	2.57
Maryland	74.9	−0.2	52.5	+1.5	99	43	4.42	+1.41	25.43	+2.37	11.78	1.83
Virginia	75.5	−0.2	54.8	+1.4	99	48	4.44	+2.22	26.35	+5.32	16.25	2.20
West Virginia	73.0	−0.1	51.7	+1.9	99	43	4.72	−0.19	27.18	−0.20	8.05	1.16
North Carolina	68.3	+0.5	57.0	+1.7	100	50	5.92	+1.05	30.41	+9.01	12.52	2.40
South Carolina	79.8	+0.1	62.7	+1.0	101	58	5.98	+1.22	29.26	+11.61	12.58	3.50
Georgia	80.1	+0.2	63.6	+1.7	101	57	5.77	−0.81	30.65	+9.46	10.04	1.60
Florida	81.1	−0.4	70.1	+1.6	101	57	7.73	−0.89	30.47	−1.71	16.02	1.68
Ohio	73.8	−0.9	49.9	+1.9	99	41	3.85	−0.15	23.56	+.78	8.45	1.25
Indiana	75.3	−1.1	51.3	+1.9	101	43	3.45	+0.04	24.45	+1.02	9.05	0.80
Illinois	75.9	−0.9	50.9	+2.1	102	41	3.44	+0.25	22.47	+0.36	8.00	1.20
Michigan	68.5	−1.4	42.2	+1.7	100	29	3.11	+0.71	17.51	+2.82	7.37	0.48
Wisconsin	69.2	−2.1	41.8	+1.1	99	31	3.64	+0.22	18.37	+2.67	7.68	1.39
Minnesota	69.0	−1.7	39.0	+1.2	100	38	3.66	−1.40	15.79	−1.56	5.35	0.40
Iowa	74.1	−2.6	46.3	+2.1	98	40	3.96	+2.35	19.74	−0.57	11.72	3.13
Missouri	77.5	−0.7	53.8	+1.6	103	46	4.03	+1.82	24.88	+1.47	17.68	1.92
North Dakota	67.5	−1.9	37.1	+0.1	100	30	2.61	−0.21	11.90	+.71	6.15	0.60
South Dakota	70.9	−1.7	42.5	0.0	104	33	3.31	+0.55	14.90	+.38	8.82	0.44
Nebraska	74.6	−2.0	47.7	+0.4	106	35	3.44	+1.10	15.67	−1.02	9.08	1.08
Kansas	78.1	−1.1	53.2	+0.7	109	42	3.58	+1.49	17.61	+4.43	13.62	0.71
Kentucky	76.7	−0.3	55.5	+2.3	102	47	4.30	+0.47	29.02	+.90	9.06	1.55
Tennessee	77.5	−0.1	58.0	+1.9	101	48	4.72	+0.86	32.57	+5.38	10.56	1.05
Alabama	79.9	0.0	63.3	+1.8	100	53	5.45	−1.06	33.67	+8.51	12.85	1.76
Mississippi	80.7	−0.2	64.0	+1.4	100	53	5.06	−0.42	34.78	+7.61	10.35	1.32
Louisiana	81.8	−0.4	66.7	+1.4	103	52	6.31	−0.46	33.14	+10.42	12.25	2.34
Texas	82.9	+0.5	65.7	+0.6	110	53	2.73	−0.99	17.99	+5.95	10.16	0.00
Oklahoma	81.0	+0.7	59.3	+0.7	112	50	3.11	+0.97	20.23	+4.87	9.85	0.44
Arkansas	79.9	+0.3	60.4	+1.3	106	48	3.92	+0.20	30.11	+3.24	8.90	0.96
Montana	66.2	−0.4	41.6	−2.3	103	29	1.25	+0.48	10.01	+0.31	4.45	0.34
Wyoming	65.0	−0.9	40.5	−2.2	102	21	1.35	+0.24	9.67	−.29	5.78	0.01
Colorado	62.8	+3.5	43.1	−0.1	105	27	2.21	−0.33	10.68	−0.98	5.15	0.04
New Mexico	72.7	+1.3	52.4	−0.5	110	30	2.57	−1.25	8.86	−2.17	4.59	0.00
Arizona	79.9	+1.6	60.1	−1.0	119	39	2.48	−0.69	7.52	−0.33	6.29	0.00
Utah	70.7	+0.9	47.0	−2.1	112	32	0.92	−0.17	8.37	−.01	2.16	0.00
Nevada	73.0	+1.1	50.2	−2.5	116	33	0.35	+0.19	5.65	+.45	1.80	0.00
Idaho	66.9	+1.1	44.1	−2.3	113	25	0.75	−0.26	11.09	−1.65	2.11	0.00
Washington	66.0	+1.7	47.9	−1.7	111	32	0.75	−0.72	17.39	−6.00	0.61	0.00
Oregon	66.0	+2.3	48.5	−1.3	114	21	0.57	−0.52	18.02	−3.18	0.59	0.00
California	73.2	+0.2	58.0	−1.8	126	28	0.08	+0.07	17.85	−1.20	7.10	0.00

METEOROLOGICAL STATISTICS—Continued.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau*—Continued.

AUGUST, 1922.

State.	Temperature (° F.).						Precipitation (inches).					
	Aug., 1922.		Jan. 1 to Aug. 31, 1922.		Extremes, Aug., 1922.		Aug., 1922.		Jan. 1, to Aug. 31, 1922.		Extremes, monthly totals.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	65.0	+0.3	43.7	+0.3	94	34	3.54	+1.43	26.36	+5.26	9.44	2.75
New Hampshire	65.1	+0.6	44.6	+0.4	94	38	4.41	+0.10	26.17	+6.86	9.57	2.63
Vermont	65.0	+0.2	44.2	+0.5	91	34	3.82	+0.88	25.09	+4.84	7.99	3.07
Massachusetts	68.2	+0.3	48.8	+1.2	96	44	3.76	+1.79	28.24	+6.35	11.63	3.17
Rhode Island	66.8	−1.4	49.4	+0.8	91	48	3.69	+5.69	31.17	+6.52	10.99	6.96
Connecticut	68.6	−0.1	48.9	+1.6	94	38	4.35	+1.12	31.44	+3.16	7.77	3.01
New York	67.3	−0.4	47.3	+1.2	96	32	3.86	+0.91	26.74	+4.20	9.14	1.20
New Jersey	72.1	−0.9	52.8	+1.6	96	39	4.68	−0.65	31.75	+.85	6.78	2.18
Pennsylvania	70.3	−1.2	51.4	+1.2	100	31	4.17	−1.03	29.63	−2.70	8.16	1.15
Delaware	74.5	−1.6	56.2	+0.7	91	51	4.67	+0.12	31.02	+1.75	7.06	2.02
Maryland	73.4	−1.8	55.1	+1.1	98	31	4.42	−1.23	29.85	+1.14	9.17	1.11
Virginia	73.5	−1.6	57.1	+1.0	95	37	4.45	−0.01	30.80	+5.31	11.58	1.18
West Virginia	71.7	−2.8	54.2	+1.3	98	31	3.94	−0.07	31.12	−0.27	7.51	1.20
North Carolina	75.7	−2.2	59.3	+1.2	97	39	5.50	−0.32	35.91	+8.69	11.82	1.64
South Carolina	78.8	−2.4	64.7	+0.6	98	49	6.05	−0.98	35.31	+10.63	12.73	0.89
Georgia	79.5	−1.6	65.6	+1.3	103	45	5.52	−2.05	36.17	+7.41	8.18	0.86
Florida	81.4	−1.3	71.6	+1.2	99	59	6.80	+1.44	37.27	−0.27	19.35	1.46
Ohio	71.8	−1.3	52.7	+1.5	101	35	3.59	−0.33	27.15	+.45	7.47	0.79
Indiana	73.4	+0.3	54.1	+1.7	103	42	3.26	−1.15	27.71	−0.13	5.28	0.48
Illinois	74.1	+1.0	53.8	+2.0	104	42	3.32	−1.62	25.79	−1.26	2.21	0.21
Michigan	66.3	+1.0	45.2	+1.6	102	30	2.88	−0.74	20.39	+2.08	5.18	0.56
Wisconsin	66.7	+1.9	44.9	+1.2	97	31	3.39	−1.38	21.76	+1.29	7.32	0.35
Minnesota	66.4	+3.9	42.4	+1.6	105	28	3.37	−1.59	19.16	−3.15	3.88	0.42
Iowa	71.8	+2.0	49.5	+2.1	102	42	3.68	−0.62	23.42	−1.19	9.80	0.33
Missouri	76.3	+1.2	56.6	+1.6	107	46	4.00	−1.60	28.88	−0.13	6.22	0.13
North Dakota	65.4	+4.4	40.7	+0.7	115	33	2.28	−0.92	14.18	−.21	4.70	0.14
South Dakota	69.9	+4.0	45.9	+0.5	108	37	2.65	−1.14	17.55	−.76	4.46	0.05
Nebraska	72.8	+3.7	50.9	+0.8	109	37	2.77	−1.00	18.44	−2.02	5.87	0.12
Kansas	77.2	+2.9	56.2	+1.0	113	48	3.17	−1.70	20.78	+2.73	5.49	0.00
Kentucky	75.7	−0.5	58.0	+1.9	101	47	3.56	−1.13	32.58	−0.23	5.82	0.61
Tennessee	76.5	−0.9	60.3	+1.6	102	46	4.19	−1.08	36.76	+5.30	9.28	0.37
Alabama	79.6	−0.7	65.3	+1.5	101	52	4.81	−1.54	38.48	+6.97	7.88	1.07
Mississippi	80.4	−0.3	66.0	+1.2	101	54	4.36	−1.17	39.14	+6.44	9.43	0.10
Louisiana	81.5	−0.2	68.6	+1.2	103	55	5.17	+0.09	38.31	+10.51	10.21	0.74
Texas	82.6	+1.8	67.8	+0.7	114	52	2.60	−1.43	20.59	+4.52	6.31	0.00
Oklahoma	80.6	+3.0	62.0	+1.0	118	49	2.97	−1.79	23.20	+3.08	5.66	T.
Arkansas	79.4	+1.0	62.8	+1.2	111	51	3.83	−1.93	33.94	+1.31	8.43	0.21
Montana	64.4	+3.4	44.4	−1.6	104	31	1.12	+0.24	11.13	+0.55	3.69	0.00
Wyoming	63.3	+4.1	43.4	−1.4	103	21	.95	+0.55	10.62	+.26	3.75	0.16
Colorado	64.2	+2.8	45.8	+0.3	104	25	2.02	+0.11	12.70	−0.87	7.39	0.07
New Mexico	70.4	+2.5	54.7	−0.1	110	36	2.42	−0.88	11.28	−3.05	9.93	0.00
Arizona	78.6	+1.4	62.4	−0.7	118	42	2.29	+0.04	9.81	−0.29	7.40	0.09
Utah	69.4	+1.8	49.8	−1.6	107	36	.99	+1.04	9.36	+1.03	7.45	T.
Nevada	71.2	−0.5	52.8	−2.2	110	25	.42	+0.72	6.07	+1.17	5.29	T.
Idaho	65.8	+2.3	46.8	−1.8	108	23	.67	+0.88	11.76	−0.77	3.55	0.10
Washington	65.1	+1.0	50.1	−1.3	104	32	0.77	+0.72	18.16	−5.28	5.29	0.10
Oregon	66.4	0.0	50.7	−1.1	104	22	0.46	+0.51	18.48	−2.67	6.68	0.00
California	72.5	−1.2	59.8	−1.8	122	27	0.10	−0.02	17.95	−1.22	2.35	0.00

METEOROLOGICAL STATISTICS—Continued.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau*—Continued.

SEPTEMBER, 1922.

State.	Temperature (°F.).						Precipitation (inches).					
	Sept., 1922.		Jan. 1 to Sept. 30, 1922.		Extremes, Sept., 1922.		Sept., 1922.		Jan. 1 to Sept. 30, 1922.		Extremes, monthly totals.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	57.8	+0.2	45.3	+0.3	88	18	3.51	−1.65	29.87	+3.61	2.94	0.65
New Hampshire	57.6	+1.7	46.1	+0.6	88	24	3.45	−1.14	29.62	+5.72	3.20	1.36
Vermont	57.5	+2.3	45.7	+0.7	90	20	3.47	−1.40	28.56	+3.44	2.85	1.49
Massachusetts	61.7	+1.5	50.2	+1.2	89	30	3.39	−0.30	31.63	+6.05	5.41	0.83
Rhode Island	63.2	+1.1	51.0	+0.8	89	34	3.27	−1.41	34.44	+5.11	3.28	0.84
Connecticut	61.8	+1.8	50.3	+1.6	90	26	3.73	−0.98	35.17	+2.18	6.01	1.38
New York	60.9	+1.9	48.8	+1.2	95	22	3.34	−1.33	30.08	+2.87	4.32	0.70
New Jersey	65.6	+1.1	54.2	+1.2	94	27	3.71	−1.45	35.46	−0.60	5.22	0.59
Pennsylvania	63.3	+3.0	52.7	+1.4	100	22	3.27	−1.79	32.90	−4.49	3.73	0.17
Delaware	68.2	+0.7	57.5	+0.7	93	39	3.11	−0.85	34.13	+0.90	3.20	0.99
Maryland	67.2	+1.4	56.4	+1.1	100	27	3.09	−0.48	32.94	+0.66	7.30	0.69
Virginia	68.1	+1.2	58.3	+1.0	98	31	3.34	−2.11	34.14	+3.20	6.27	0.00
West Virginia	65.6	+1.6	55.5	+1.3	100	25	2.74	−0.60	33.86	−0.87	5.64	0.10
North Carolina	70.0	+1.5	60.5	+1.2	99	37	3.83	−2.23	39.74	+6.46	7.48	0.00
South Carolina	74.2	+1.0	65.7	+0.7	100	47	3.85	−2.70	39.16	+7.93	3.68	0.00
Georgia	75.0	+1.3	66.6	+1.3	104	46	3.67	−2.10	39.84	+5.31	7.16	0.10
Florida	79.3	−0.8	72.4	+1.0	101	49	7.02	+0.73	44.29	+0.46	17.35	1.17
Ohio	65.5	+2.7	54.1	+1.6	98	29	2.67	+0.14	29.82	+0.59	7.32	0.16
Indiana	66.7	+3.9	55.5	+1.9	103	32	3.00	−1.15	30.71	−1.28	4.21	0.47
Illinois	67.0	+3.3	55.3	+2.1	103	33	3.51	−1.57	29.30	−2.83	4.37	0.44
Michigan	59.9	+2.7	46.9	+1.7	98	22	2.87	+0.76	23.26	+2.84	8.53	1.04
Wisconsin	59.5	+2.8	46.6	+1.4	104	23	3.53	−0.03	25.29	+1.26	6.96	1.38
Minnesota	57.9	+4.3	44.2	+1.9	105	24	2.93	−0.96	22.09	−4.11	5.43	0.13
Iowa	63.4	+3.7	51.1	+2.3	103	31	3.36	−1.33	26.78	−2.52	4.34	0.31
Missouri	69.1	+2.6	58.0	+1.7	107	34	3.88	−0.57	32.76	+0.44	8.22	0.15
North Dakota	56.4	+3.4	42.4	+1.0	104	23	1.64	+0.52	15.82	+0.31	6.94	0.15
South Dakota	60.9	+4.4	47.6	+0.9	106	25	1.83	−1.47	19.38	−2.23	2.64	0.00
Nebraska	63.9	+4.7	52.3	+1.2	111	25	2.10	−1.25	20.54	−3.27	4.89	0.00
Kansas	69.3	+3.8	57.7	+1.3	112	35	3.02	−0.78	23.80	+1.95	6.63	T.
Kentucky	70.0	+2.7	59.3	+2.0	103	39	2.76	−0.54	35.34	−0.77	5.99	0.60
Tennessee	70.9	+2.6	61.5	+1.7	104	36	3.09	−1.32	39.85	+3.98	4.40	0.14
Alabama	75.1	+2.5	66.4	+1.6	102	45	3.55	−2.04	42.03	+4.93	4.70	0.00
Mississippi	76.5	+1.5	67.2	+1.2	105	46	3.33	−1.95	42.47	+4.49	5.33	0.00
Louisiana	77.5	+0.9	69.6	+1.2	102	51	3.76	−0.76	42.07	+9.75	8.33	0.10
Texas	77.1	+1.3	68.8	+0.8	108	43	2.82	−0.34	23.41	+4.18	18.21	0.00
Oklahoma	73.8	+2.6	63.3	+1.1	109	40	2.98	−1.57	26.18	+1.51	4.20	0.04
Arkansas	73.9	+2.3	64.0	+1.3	106	37	3.33	−2.08	37.27	−0.77	5.89	T.
Montana	55.4	+4.2	45.7	−0.9	100	20	1.40	−0.73	12.53	−0.18	2.47	0.00
Wyoming	54.4	+4.0	44.6	−0.8	100	12	1.30	−1.01	11.92	−0.75	1.68	0.00
Colorado	57.2	+2.5	47.0	+0.5	102	18	1.46	−1.05	14.16	−1.92	2.33	0.00
New Mexico	64.3	+2.3	55.7	+0.1	105	27	1.47	−0.53	12.75	−3.58	2.77	0.00
Arizona	73.8	+2.4	63.7	−0.4	118	33	1.16	−0.06	10.97	−0.35	4.05	T.
Utah	60.4	+3.6	51.0	−1.0	102	25	1.11	−0.87	10.47	+0.16	2.10	0.00
Nevada	62.0	+3.9	53.9	−1.5	108	14	0.44	−0.44	6.51	+0.73	0.19	0.00
Idaho	56.5	+3.4	47.9	−1.2	101	11	0.96	−0.71	12.72	−1.48	2.04	0.00
Washington	58.1	+2.7	51.0	−0.9	100	27	1.59	−0.05	19.75	−5.33	8.08	0.02
Oregon	58.6	+2.9	51.6	−0.7	106	12	1.43	−0.48	19.91	−3.15	4.98	0.00
California	67.1	+4.5	60.6	−1.1	118	20	0.55	−0.50	18.50	−1.72	1.79	0.00

METEOROLOGICAL STATISTICS—Continued.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau*—Continued.

OCTOBER, 1922.

State.	Temperature (°F.).						Precipitation (inches).					
	Oct., 1922.		Jan. 1 to Oct. 31, 1922.		Extremes, Oct., 1922.		Oct., 1922.		Jan. 1 to Oct. 31, 1922.		Extremes, monthly totals.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	46.1	−0.3	45.4	+0.2	87	11	3.60	−1.01	33.47	+2.60	3.43	1.26
New Hampshire	46.2	+0.9	46.1	+0.6	88	12	3.21	−1.00	32.83	+4.72	3.59	1.07
Vermont	45.5	+0.5	45.6	+0.7	90	10	2.86	−0.71	31.42	+2.73	3.56	1.50
Massachusetts	50.5	+2.3	50.2	+1.4	92	19	3.75	−1.16	35.38	+4.89	5.34	1.42
Rhode Island	52.7	+0.8	51.1	+0.8	87	23	4.03	−0.90	38.47	+4.21	3.70	2.66
Connecticut	51.1	+2.2	50.4	+1.6	89	13	4.04	−0.92	39.21	+1.26	4.35	2.40
New York	50.3	+0.4	48.9	+1.1	90	8	3.43	−0.96	33.51	+1.91	4.74	1.17
New Jersey	55.0	+1.6	54.3	+1.2	92	18	3.73	−2.25	39.19	−2.85	2.70	0.55
Pennsylvania	52.3	+2.5	52.7	+1.5	94	12	3.31	−0.80	36.21	−5.29	5.60	0.65
Delaware	57.3	+2.0	57.5	+0.8	89	28	3.09	−1.68	37.22	−0.78	1.65	0.89
Maryland	56.3	+2.0	56.4	+1.2	94	15	2.84	−0.91	35.78	−0.25	5.58	0.74
Virginia	57.4	+2.0	58.2	+1.1	95	19	3.09	+0.11	37.23	+3.31	6.55	0.80
West Virginia	54.9	+0.5	55.4	+1.3	93	18	2.95	−0.50	36.81	−1.37	4.81	0.39
North Carolina	60.1	+1.2	60.4	+1.2	93	22	3.45	+1.05	43.19	+7.51	8.34	1.67
South Carolina	63.6	+0.9	65.5	+0.7	94	31	3.09	+2.48	42.25	+10.41	9.00	3.04
Georgia	64.8	+1.1	66.4	+1.3	94	28	2.82	+0.91	42.66	+6.22	8.67	1.29
Florida	73.2	+1.3	72.5	+1.0	96	38	4.55	+3.73	48.84	+4.19	23.89	1.50
Ohio	53.6	+2.2	54.0	+1.7	93	21	2.67	−0.89	32.49	−0.30	3.43	0.54
Indiana	54.6	+3.2	55.4	+2.0	98	24	2.70	+0.17	33.41	−1.11	4.83	0.95
Illinois	55.2	+3.3	55.3	+2.2	96	22	2.58	−0.30	31.88	−3.13	5.76	0.13
Michigan	48.7	+1.3	47.0	+1.7	94	10	2.68	−0.53	25.94	+2.31	3.88	0.39
Wisconsin	47.9	+2.6	46.7	+1.5	90	11	2.63	−1.62	27.92	−0.36	2.13	0.24
Minnesota	45.5	+3.9	44.3	+2.1	95	9	2.02	−1.02	24.11	−5.13	2.50	T.
Iowa	50.8	+5.3	51.0	+2.6	96	14	2.46	−0.65	29.24	−3.17	3.93	0.06
Missouri	57.5	+2.4	58.0	+1.8	97	18	2.77	−0.77	35.53	−0.33	3.83	0.51
North Dakota	43.8	+1.9	42.6	+1.1	98	8	1.00	−0.43	16.82	−0.12	1.70	0.00
South Dakota	47.6	+3.3	47.6	+1.2	102	4	1.49	−0.66	20.87	−2.89	2.69	T.
Nebraska	51.1	+3.6	52.2	+1.5	99	5	1.56	−0.93	22.10	−4.20	2.89	0.00
Kansas	56.5	+2.8	57.6	+1.4	97	13	1.86	−0.59	25.66	+1.36	3.87	0.00
Kentucky	57.8	+2.4	59.2	+2.0	96	25	2.50	−0.26	37.84	−1.03	4.41	0.76
Tennessee	59.7	+1.2	61.3	+1.6	96	22	2.95	−1.46	42.80	+2.52	3.90	0.56
Alabama	64.8	+0.5	66.2	+1.5	92	32	2.98	−0.42	45.01	+4.51	5.83	T.
Mississippi	64.7	+1.0	66.9	+1.2	95	31	2.58	−0.95	45.05	+3.54	4.44	0.38
Louisiana	67.5	+0.6	69.4	+1.1	95	32	2.87	−0.16	44.94	+9.59	6.79	0.01
Texas	67.5	+0.2	68.7	+0.7	103	25	2.62	−0.46	26.03	+3.72	7.44	0.00
Oklahoma	61.6	+1.7	63.1	+1.2	98	21	2.67	−0.83	28.85	+0.68	5.00	0.01
Arkansas	62.3	+0.8	63.8	+1.3	98	20	3.00	−1.53	40.27	−2.30	4.35	0.15
Montana	44.0	+4.0	45.5	−0.4	95	8	1.15	−0.57	13.68	−0.75	3.14	0.00
Wyoming	42.6	+3.0	44.4	−0.4	98	0	1.13	−0.29	13.05	−1.04	2.95	T.
Colorado	45.9	+1.3	46.9	+0.6	99	−1	1.28	−0.83	15.44	−2.75	1.43	0.00
New Mexico	53.5	+0.6	55.5	+0.2	98	−3	1.24	−0.90	13.99	−4.48	2.11	0.00
Arizona	62.0	+1.2	63.5	−0.2	106	3	0.87	−0.56	11.84	−0.91	1.63	0.00
Utah	48.8	+1.9	50.8	−0.8	94	9	1.26	−0.54	11.73	−.38	3.22	T.
Nevada	50.7	+1.3	53.6	−1.3	98	4	0.59	−0.27	7.10	+.46	1.15	0.00
Idaho	46.2	+3.3	47.7	−0.7	94	4	1.34	−0.63	14.06	−2.11	4.58	0.00
Washington	49.1	+2.4	50.8	−0.6	87	17	2.59	+0.04	22.34	−5.29	11.20	0.15
Oregon	50.5	+1.4	51.5	−0.4	88	5	2.12	+0.42	22.03	−2.73	9.58	0.08
California	60.8	−1.1	60.6	−1.1	103	13	1.28	+0.23	19.78	−1.49	6.75	0.00

METEOROLOGICAL STATISTICS—Continued.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau*—Continued.

NOVEMBER.

State.	Temperature (° F.).						Precipitation (inches).					
	Nov., 1922.		Jan. 1 to Nov. 30, 1922.		Extremes, Nov., 1922.		Nov., 1922.		Jan. 1 to Nov. 30, 1922.		Extremes, monthly totals.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	33.7	+0.9	44.3	+0.3	66	9	3.32	−1.48	36.79	+1.12	2.71	0.97
New Hampshire	34.0	+1.5	45.0	+0.7	65	5	3.05	−1.69	35.88	+3.03	2.86	0.92
Vermont	33.7	+1.8	44.6	+0.8	66	3	3.00	−1.37	34.42	+1.36	2.87	0.78
Massachusetts	39.9	+1.2	49.3	+1.3	74	5	3.57	−2.40	38.95	+2.49	1.56	0.56
Rhode Island	42.6	−0.8	50.4	+0.6	64	19	4.00	−3.04	42.47	+1.17	1.19	0.54
Connecticut	40.5	0.0	49.5	+1.5	76	9	3.69	−2.33	42.90	+1.07	1.96	0.89
New York	37.5	+2.1	47.9	+1.2	70	−1	2.79	−1.37	36.30	+0.54	3.57	0.24
New Jersey	43.0	+1.3	53.3	+1.2	73	13	3.20	−2.29	42.39	−5.14	1.56	0.49
Pennsylvania	40.7	+2.2	51.6	+1.6	73	12	2.67	−1.46	38.88	−6.75	4.52	0.23
Delaware	45.8	+1.2	56.5	+0.8	74	23	2.76	−1.94	39.98	−2.72	1.12	0.53
Maryland	44.7	+1.5	55.4	+1.2	75	14	2.46	−1.81	38.24	−2.06	1.27	0.40
Virginia	46.2	+1.3	57.2	+1.1	87	5	2.37	−1.80	39.60	+1.51	1.62	0.07
West Virginia	42.7	+1.1	54.2	+1.2	80	2	2.55	−1.40	39.36	−2.77	2.49	0.17
North Carolina	49.2	+0.8	59.4	+1.2	88	4	2.47	−1.84	45.66	+5.67	1.82	T.
South Carolina	53.9	+0.9	64.5	+0.7	88	17	2.28	−1.67	44.53	+8.74	1.29	0.00
Georgia	54.7	+2.3	65.4	+1.4	87	15	2.65	−1.73	45.31	+4.49	2.32	0.00
Florida	65.2	+2.6	71.8	+1.2	92	26	2.89	−1.29	51.73	+2.90	3.52	0.00
Ohio	41.1	+2.8	52.9	+1.8	79	10	2.69	−1.13	35.18	−1.43	2.75	0.76
Indiana	42.1	+2.9	54.2	+2.1	86	12	3.06	−0.81	36.47	−1.92	3.57	1.19
Illinois	41.9	+3.1	54.0	+2.3	82	11	2.40	+0.38	34.28	−2.75	5.88	1.60
Michigan	35.8	+3.6	46.0	+1.9	70	8	2.44	−0.10	28.38	+2.21	5.78	0.54
Wisconisn	33.5	+5.6	45.5	+1.8	70	4	1.79	+1.32	29.71	+.96	4.96	1.76
Minnesota	29.6	+6.3	42.9	+2.5	76	2	.91	+2.41	25.02	−2.72	5.41	1.61
Iowa	35.0	+7.2	49.6	+3.0	74	11	1.51	+2.03	30.75	−1.14	5.28	1.96
Missouri	44.9	+2.9	56.8	+1.9	87	15	2.37	+1.45	37.90	+1.12	6.75	1.11
North Dakota	26.6	+5.2	41.1	+1.4	65	−8	0.58	+1.75	17.40	+1.63	5.33	0.40
South Dakota	32.3	+2.8	46.2	+1.3	69	−2	0.54	+2.46	21.41	−.43	5.50	1.00
Nebraska	36.5	+3.0	50.8	+1.6	78	3	0.76	+1.79	22.86	−2.41	5.02	0.54
Kansas	44.1	+1.5	56.3	+1.4	80	7	1.20	+1.57	26.86	+2.93	7.08	T.
Kentucky	46.1	+2.2	58.0	+2.0	87	10	3.35	−1.42	41.19	−2.45	4.55	0.73
Tennessee	48.4	+1.6	60.1	+1.6	82	11	3.35	−0.96	46.15	+1.56	5.56	0.57
Alabama	54.3	+3.0	65.1	+1.6	92	18	3.15	−1.27	48.16	+3.24	4.73	0.20
Mississippi	54.8	+3.5	65.8	+1.4	90	25	3.43	+0.35	48.48	+3.89	7.55	1.58
Louisiana	58.9	+4.0	68.4	+1.4	91	29	3.31	+0.97	48.25	+10.56	17.96	0.58
Texas	57.0	+1.4	67.6	+0.8	95	11	2.39	+0.18	28.42	+3.90	7.14	0.07
Oklahoma	50.5	+0.9	62.0	+1.2	89	12	2.44	+1.14	31.29	+1.82	9.69	0.31
Arkansas	51.5	+1.4	62.7	+1.3	88	20	3.57	+0.32	43.84	−1.98	8.82	0.86
Montana	29.3	+1.5	44.0	−0.2	72	−18	0.93	−0.09	14.61	−0.84	3.26	0.03
Wyoming	31.6	−3.2	43.2	−0.7	69	−15	0.71	+0.53	13.76	−.51	3.64	T.
Colorado	34.9	−2.3	45.8	+0.3	78	−23	0.87	+0.81	16.31	−1.94	4.95	T.
New Mexico	42.5	−2.3	54.3	0.0	82	−2	0.66	+0.42	14.65	−4.06	5.81	0.11
Arizona	51.4	−3.9	62.4	−0.6	90	−2	.99	+0.32	12.83	−.59	4.00	0.20
Utah	38.2	−2.5	49.6	−0.9	75	−5	1.05	+0.47	12.78	+.09	5.45	T.
Nevada	40.5	−3.7	52.4	−1.5	80	−8	0.52	+0.15	7.62	+.61	2.30	0.00
Idaho	35.5	−2.7	46.6	−0.9	68	−8	2.17	−1.35	16.23	−3.46	2.40	0.15
Washington	41.0	−3.7	49.9	−0.8	67	3	4.87	−3.36	27.21	−8.65	6.34	0.22
Oregon	41.2	−3.3	50.6	−0.7	69	−4	4.64	−2.55	26.67	−5.28	6.51	0.13
California	52.8	−3.4	59.9	−1.3	91	8	2.60	+0.73	22.38	−0.76	9.55	0.00

METEOROLOGICAL STATISTICS—Continued.

TABLE 563.—*Temperature and precipitation statistics as recorded by the Weather Bureau*—Continued.

DECEMBER, 1922.

State.	Temperature (° F.).						Precipitation (inches).					
	Dec., 1922.		Jan. 1 to Dec. 31, 1922.		Extremes, Dec., 1922.		Dec., 1922.		Jan. 1 to Dec. 31, 1922.		Extremes, monthly totals.	
	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine	18.2	.....	42.1	.....	.....	.....	3.13	.....	39.92	.....	.....	.....
New Hampshire	22.4	.....	43.1	.....	.....	.....	3.07	.....	38.95	.....	.....	.....
Vermont	21.7	.....	42.6	.....	.....	.....	2.60	.....	37.02	.....	.....	.....
Massachusetts	30.2	.....	47.7	.....	.....	.....	3.62	.....	42.57	.....	.....	.....
Rhode Island	33.4	.....	49.0	.....	.....	.....	4.05	.....	46.43	.....	.....	.....
Connecticut	30.3	.....	47.9	.....	.....	.....	4.05	.....	46.95	.....	.....	.....
New York	26.2	+0.6	46.1	+1.1	66	−27	3.01	−0.32	39.31	+0.22	5.31	0.51
New Jersey	32.9	−0.4	51.6	+1.1	65	−8	3.97	−0.11	46.36	−5.25	5.26	3.09
Pennsylvania	30.7	+0.8	49.9	+1.5	69	−9	3.31	−0.56	42.19	−7.31	4.55	1.19
Delaware	36.3	+0.8	54.8	+0.8	66	13	3.63	+0.55	43.61	−2.17	5.71	2.53
Maryland	34.4	+1.8	53.6	+1.3	71	3	3.36	+0.43	41.60	−1.63	7.72	2.32
Virginia	37.2	+3.8	55.5	+1.4	77	7	3.49	+0.55	43.09	+2.06	8.28	2.39
West Virginia	33.4	+3.2	52.5	−1.4	75	2	3.48	+1.23	42.84	−1.54	7.27	1.03
North Carolina	41.6	+4.9	57.9	+1.5	78	12	4.02	+1.05	49.68	+6.72	12.03	2.86
South Carolina	46.4	+4.6	63.0	+1.0	86	22	3.40	+1.50	47.93	+10.24	9.81	2.61
Georgia	47.1	+6.7	63.9	+1.9	89	22	4.23	+1.35	49.54	+5.84	12.40	2.03
Florida	59.3	+5.3	70.8	+1.5	91	29	2.97	−0.07	54.70	+2.83	12.19	0.35
Ohio	30.9	+1.6	51.0	+1.8	72	−13	2.81	+0.48	37.99	−0.95	6.34	1.42
Indiana	31.9	+1.4	52.3	+2.1	69	−19	2.74	+1.48	39.21	−0.44	10.17	1.28
Illinois	30.2	+1.9	52.1	+2.3	70	−16	2.14	+0.48	36.42	−2.27	7.02	0.51
Michigan	25.0	−1.3	44.3	+1.6	61	−36	2.04	−0.56	30.42	+1.65	5.57	0.41
Wisconsin	20.1	−1.5	43.4	+1.6	64	−35	1.31	−0.56	31.02	+0.40	1.67	0.10
Minnesota	14.7	−2.1	40.6	+2.1	60	−35	0.88	−0.21	25.90	−2.93	3.10	T.
Iowa	23.9	+0.1	47.4	+2.8	65	−25	1.22	−0.85	31.97	−1.99	0.97	T.
Missouri	33.4	+2.9	54.8	+2.0	75	−6	2.25	−0.14	40.15	+0.98	5.25	0.00
North Dakota	13.0	−4.5	38.8	+1.0	55	−34	0.54	+0.13	17.94	+1.76	2.43	0.00
South Dakota	20.9	−3.4	44.1	+0.9	60	−34	0.64	−0.11	22.05	−0.54	1.90	T.
Nebraska	25.9	+0.5	48.7	+1.5	68	−31	0.72	−0.56	23.58	−2.97	1.17	0.00
Kansas	31.2	+3.2	54.2	+1.6	75	−5	0.92	−0.85	27.78	+2.08	1.17	0.00
Kentucky	37.1	+4.4	56.2	+2.2	77	5	3.94	+1.70	45.13	−0.75	9.30	3.79
Tennessee	39.9	+6.2	58.5	+2.0	77	14	4.56	+3.12	50.71	+4.68	12.17	4.42
Alabama	46.7	+7.7	63.6	+2.1	84	20	5.12	+2.30	53.28	+5.54	11.55	3.95
Mississippi	47.2	+7.7	64.3	+1.9	85	20	5.27	+1.80	53.75	+5.69	11.93	3.19
Louisiana	51.5	+8.2	67.0	+2.0	87	22	4.89	+1.79	53.14	+12.35	12.82	1.40
Texas	49.5	+5.1	66.1	+1.1	93	2	2.16	−1.57	30.58	+2.33	9.93	0.00
Oklahoma	39.4	+4.8	60.1	+1.5	84	2	1.61	−0.83	32.90	+0.99	5.08	0.00
Arkansas	42.1	+5.7	61.0	+1.7	86	12	4.09	+0.50	47.93	−1.48	8.28	1.00
Montana	23.2	−6.6	42.3	−0.8	60	−46	0.96	+0.39	15.57	−0.45	8.10	0.10
Wyoming	21.3	−0.5	41.4	−0.6	61	−34	0.73	+0.18	14.49	−0.33	3.21	0.00
Colorado	24.5	+3.5	44.1	+0.6	75	−36	1.05	+0.21	17.36	−1.73	7.42	0.00
New Mexico	33.8	+4.5	52.6	+0.3	84	−7	0.72	−0.45	15.37	−4.51	4.95	0.00
Arizona	43.4	+3.3	60.8	−0.2	82	−3	1.13	−0.61	13.96	−1.20	2.00	0.00
Utah	26.6	+4.2	47.7	−0.5	71	−14	1.12	+0.83	13.90	+0.92	9.96	0.07
Nevada	31.4	+3.1	50.6	−1.1	79	−12	0.81	+0.49	8.43	+1.10	3.03	0.00
Idaho	26.2	−2.1	44.9	−1.0	60	−28	1.83	+0.99	18.06	−2.47	8.06	0.33
Washington	33.4	−5.5	48.5	−1.2	69	32	4.90	+1.19	32.11	−7.46	28.90	0.71
Oregon	31.2	−1.9	49.0	−0.8	69	−27	4.28	+2.03	30.95	−3.25	20.46	0.98
California	46.5	+1.2	58.8	−1.1	84	−10	3.97	+3.36	26.35	+2.60	21.65	0.00

TABLE 566.—*Summary of work factors for operations with field implements in the United States.*

Operation or implement.	Power unit (number of horses).	Daily[1] duty per foot of width.	Range of reported widths.	Most usual width per horse.
		Acres.		*Feet.*
Walking plow	2	1.7	8 to 14 inches	0.50
Do	3	2.1	10 to 16 inches	.44
Sulky plow	2	1.7	do	.58
Do	3	2.2	12 to 16 inches	.44
Do	4	2.3	14 to 18 inches	.33
Gang plow	4	2.2	18 to 28 inches	.58
Do	5	2.3	24 to 28 inches	.47
Do	6	2.3	24 to 32 inches	.39
Traction engine gang	15-60 H. P.	2.1	4 to 30 feet	
Spike-tooth harrow:				
On fresh plowing	2	1.5	6 to 12 feet	4.00
On well-packed land		1.7		
On fresh plowing	3	1.6	8 to 16 feet	3.50
On well-packed land		1.9		
On fresh plowing	4	1.8	10 to 26 feet	4.25
On well-packed land		2.1		
Spring-tooth harrow:				
On fresh plowing	2	1.2	4 to 8 feet	3.00
On well-packed land		1.5		
On fresh plowing	3	1.4	5 to 10 feet	2.33
On well-packed land		1.7		
On fresh plowing	4	1.6	6 to 12 feet	2.00
On well-packed land		1.8		
Disk harrow:				
On fresh plowing	2	1.1	4 to 8 feet	3.00
On well-packed land		1.2		
On fresh plowing	3	1.2	6 to 10 feet	2.25
On well-packed land		1.6		
On fresh plowing	4	1.7	do	2.00
On well-packed land		2.0		
Land roller	2	1.7	5 to 12 feet	4.00
Do	3	1.7	do	2.00
Do	4	1.8	8 to 16 feet	2.50
Grain drill	2	1.46	4 to 8 feet	3.25
Do	3	1.56	6 to 10 feet	2.50
Do	4	1.82	6 to 12 feet	2.25
Do	6	1.98	8 to 12 feet	1.75
Corn or cotton planter:				
1-row	1	2.28	36 to 48 inches between rows	3.00
Do	2	3.10	do	1.50
2-row	2	3.88	do	1.50
Covering seed potatoes	1	2.10	24 to 32 inches between rows	2.00
Do	2	2.62	do	2.33
Marking planting rows	1	1.57	3 to 12 feet	3.00
Do	2	2.10	do	6.00
Potato planter:				
1-man	2	2.47	24 to 32 inches between rows	2.33
2-man		2.20	do	2.33
Lime spreader	2	1.15	6 to 12 feet	4.00
Fertilizer drill	2	1.36	5 to 10 feet	3.00
Do	3	1.46	6 to 12 feet	2.66
Field sprayer	1	1.15	3 to 4 rows each trip	11.00
Do	2	1.30	do	6.00
Mowing hay	2	1.68	4 to 7 feet	2.50
Raking hay	1	1.78	6 to 12 feet	9.00
Do	2	1.90	8 to 16 feet	6.00
Tedding hay	1	1.69	6 to 8 feet	7.00
Do	2	2.06	6 to 10 feet	4.25
Grain binder	3	1.79	4 to 7 feet	2.00
Do	4	2.08	5 to 8 feet	2.00
Do	5	2.18	do	1.66
Grain header	4	2.03	10 to 12 feet	3.00
Do	5	2.13	do	2.25
Do	6	2.23	12 to 14 feet	2.33
Corn binder	3	2.09	Rows 36 to 48 inches (average yields)	1.50
Cultivating	1	4.34		
Do	2	6.89		
Knapsack sprayer		1.04		
Wheelbarrow seed sower		1.45	10 to 16 feet	
Hand corn planter		1.34	36 to 48 inches between rows	

[1] 10-hour day

PLOWING WITH HORSES.

TABLE 567.—*Acres plowed with horses per 10-hour day.*

Location and item.	Crew.[1]	Rate.
Central Illinois:		
Spring—		*Acres.*
24-inch gang	1—4	4.94
Do	1—5	4.64
28-inch gang	1—4	4.84
Do	1—5	5.06
Do	1—6	5.31
Fall—		
24-inch gang	1—5	4.63
28-inch gang	1—4	4.33
Do	1—5	4.80
Do	1—6	4.96
Spring—		
14-inch sulky	1—3	2.91
16-inch sulky	1—3	2.97
Do	1—4	3.29
Fall—		
14-inch sulky	1—3	2.61
Do	1—4	2.89
16-inch sulky	1—3	2.72
Do	1—4	3.04
Do	1—5	3.3[illegible]
Pennsylvania—Chester County:		
14-inch walking	1—2	1.80
24-inch gang	1—4	3.60
Corn Belt:		
8-inch walking	1—2	1.6
10-inch walking	1—2	1.7
11-inch walking	1—2	1.7
12-inch walking	1—2	1.8
14-inch walking	1—2	1.9
16-inch walking	1—2	2.0
8-inch walking	1—3	1.8
10-inch walking	1—3	2.0
11-inch walking	1—3	2.1
12-inch walking	1—3	2.2
14-inch walking	1—3	2.4
16-inch walking	1—3	2.6
12-inch sulky	1—2	1.7
14-inch sulky	1—2	1.8
16-inch sulky	1—2	1.9
12-inch sulky	1—3	2.3
14-inch sulky	1—3	2.5
16-inch sulky	1—3	2.7
12-inch sulky	1—4	2.4
14-inch sulky	1—4	2.6
16-inch sulky	1—4	2.9
24-inch gang	1—4	4.1
28-inch gang	1—4	4.4
24-inch gang	1—5	4.6
28-inch gang	1—5	4.9
24-inch gang	1—6	4.9
28-inch gang	1—6	5.4
Idaho:		
In orchard—		
12-inch	1—2	1.38
Western Colorado:		
In orchard	1—2	1.44
Louisiana:		
Sod, flat breaking—		
10-inch walking	1—2	1.65
12-inch walking	1—2	2.11
Minnesota:		
Fall plowed—		
Spring wheat	1—3	2.70
Spring plowed—		
Corn	1—3	2.74
Corn fodder	1—3	2.71
Corn silage	1—3	2.70
Oats	1—3	2.75
Barley	1—3	2.75
Fall plowed—		
Hemp	1—3	3.20
Old sod—		
Flax	1—3	2.79
Minnesota—Marshall:		*Acres.*
Spring wheat	1—4	3.46
Corn	1—3	3.33
Corn fodder	1—3	3.33
Oats	1—4	3.46
Barley	1—3	3.16
Fall rye	1—4	3.33
Old sod—		
Flax	1—4	3.43
Minnesota—Halstead:		
Spring wheat	1—5	4.03
Corn	1—5	4.05
Corn fodder	1—4	3.83
Corn silage	1—5	3.13
Oats	1—4	4.02
Barley	1—4	3.77
Fall rye	1—5	3.83
Flax	1—5	4.06
Minnesota—North River Valley:		
Potatoes	1—5	4.65
Montana—Gallatin Valley:		
Wheat	1—5	3.97
Western New York:		
Sod—		
10-inch walking	1—2	1.52
12-inch walking	1—2	1.53
14-inch walking	1—2	1.54
10-inch walking	1—3	1.76
12-inch walking	1—3	1.81
14-inch walking	1—3	1.85
16-inch walking	1—3	1.97
Stubble—		
10-inch walking	1—2	1.72
12-inch walking	1—2	1.71
14-inch walking	1—2	1.79
10-inch walking	1—3	1.89
12-inch walking	1—3	1.92
14-inch walking	1—3	2.00
16-inch walking	1—3	2.02
Sod—		
12-inch sulky	1—3	2.02
14-inch sulky	1—3	2.16
16-inch sulky	1—3	2.35
Stubble—		
12-inch sulky	1—3	2.19
14-inch sulky	1—3	2.28
16-inch sulky	1—3	2.46
North Dakota:		
28-inch gang	1—4	5.0
Do	1—5	5.2
Do	1—6	5.5
Georgia:		
Laurens County (cotton)	1—1.8	1.6
Greene County (cotton)	1—1.7	1.5
Sumter County (cotton)	1—1.9	2.0
Alabama:		
Tallapoosa County (cotton)	1—1.2	1.2
Marshall County (cotton)	1—1.7	1.6
Dale County (cotton)	1—1.7	1.6
South Carolina:		
Anderson County (cotton)	1—1.8	1.8
Barnwell County (cotton)	1—1.4	1.6
Texas:		
Ellis County (cotton)	1—3.3	2.1
Rusk County (cotton)	1—1.9	2.0
Utah:		
Irrigated—		
Potato and sugar beets	1—2	2.78
West Virginia:		
Wheat	1—2	1.33
Corn	1—2	1.43
Washington—Wenatchee:		
Orchard—		
12-inch	1—2	1.49
Washington—Yakima:		
Orchard	1—2	1.58

[1] First figure refers to number of men and second figure to number of horses in crew.

PLOWING WITH TRACTORS.

TABLE 568.—*Acres plowed with tractors per 10-hour day.*

Location, size, and type.	Size of plow.	Depth.	Rate.
	Inches.	*Inches.*	*Acres.*
South:			
2-bottom disk	.....	[1] 8.75	4.7
2-bottom moldboard	.....	.....	5.3
3-bottom disk	.....	.....	6.5
3-bottom moldboard	.....	.....	7.3
Corn Belt:			
2-plow (spring)	.....	.....	6.6
2-plow (fall)	.....	.....	6.5
3-plow (spring)	.....	.....	8.6
3-plow (fall)	.....	.....	8.6
Illinois:			
2-plow	.....	.....	6.5
3-plow	.....	.....	8.7
2-plow (spring)	.....	.....	7.0
2-plow (fall)	.....	.....	6.4
3-plow (spring)	.....	.....	8.7
3-plow (fall)	.....	.....	8.1
North Dakota:			
15 horsepower, gasoline	77.1	5.9	14.0
15 horsepower, kerosene	80.6	6.2	15.0
30 horsepower, gas	110.8	6.1	21.0
30 horsepower, kerosene	123.3	6.3	23.0
Illinois:			
2-plow	.....	.....	6.5
3-plow	.....	.....	8.8
4-plow	.....	.....	10.0
Illinois—Corn Belt:			
2-plow	.....	.....	6.7
3-plow	.....	.....	8.2
4-plow	.....	.....	10.4
5-plow	.....	.....	12.6
6-plow	.....	.....	15.3
8-plow	.....	.....	20.2
10-plow	.....	.....	23.6
North Dakota:			
2-plow	.....	.....	6.3
3-plow	.....	.....	8.5
4-plow	.....	.....	10.9
New York:			
2-plow	.....	.....	4.5
3-plow	.....	.....	6.3
Northwestern United States:			
22 horsepower, break	78.0	.....	15.1
22 horsepower, plow	122.0	.....	22.6
30 horsepower, break	78.0	.....	13.2
Northwestern United States—Continued.	*Inches.*	*Inches.*	*Acres.*
30 horsepower, plow	113.0	.....	18.2
20 horsepower, break	59.0	.....	10.6
20 horsepower, plow	84.0	.....	13.8
General United States:			
Stubble, 6–7 inches deep—	*Feet.*		
15 horsepower	7.4	.....	14.0
20 horsepower	7.9	.....	16.7
22 horsepower	9.7	.....	19.1
25 horsepower	11.3	.....	20.6
30 horsepower	11.5	.....	22.5
32 horsepower	14.6	.....	29.6
40 horsepower	15.3	.....	30.4
45 horsepower	10.0	.....	20.0
60 horsepower	12.3	.....	24.8
Sod, depth 4.2–4.7 inches—			
15 horsepower	5.2	.....	9.1
20 horsepower	6.1	.....	11.9
22 horsepower	7.9	.....	13.9
25 horsepower	9.8	.....	16.2
30 horsepower	9.7	.....	17.9
32 horsepower	13.0	.....	23.9
40 horsepower	13.8	.....	24.9
45 horsepower	8.4	.....	15.2
60 horsepower	9.3	.....	15.9
Central Illinois:	*Inches.*		
2-plow (spring)	28.0	.....	6.9
3-plow (spring)	42.0	.....	8.5
2-plow (fall)	28.0	.....	6.3
3-plow (fall)	42.0	.....	7.9
Minnesota:			
Clay County	.....	.....	11.4
Anoka County, 3-plow	.....	.....	6.5
Wisconsin:			
Barron County, 3-plow	.....	.....	9.0
Waupaca County, 2-plow	.....	.....	7.0
Michigan:			
2-plow	.....	.....	6.0
New York—Monroe County:			
2-plow	.....	.....	3.0
Maine—Aroostook County:			
2-plow	.....	.....	5.2

[1] Average depth for region.

HARROWING WITH HORSES.

TABLE 569.—*Acres harrowed with horses in 10-hour day.*

(Spike and spring tooth.)

Location and item.	Crew.[1]	Rate.
Central Illinois:		*Acres.*
15-foot, spike tooth	1—4	32.5
16-foot, spike tooth	1—4	38.7
18-foot, spike tooth	1—4	36.6
20-foot, spike tooth	1—4	40.0
22-foot, spike tooth	1—4	41.2
General United States:		
Freshly plowed—		
8-foot, spike tooth	1—2	11.2
10-foot, spike tooth	1—3	15.9
16-foot, spike tooth	1—4	29.3
Well packed—		
8-foot, spike tooth	1—2	13.4
10-foot, spike tooth	1—3	19.7
16-foot, spike tooth	1—4	36.4
Freshly plowed—		
6-foot, spring tooth	1—2	7.7
Do	1—3	8.5
8-foot, spring tooth	1—4	13.6
Well packed—		
6-foot, spring tooth	1—2	8.9
Do	1—3	10.6
8-foot, spring tooth	1—4	15.3
Idaho:		
In orchard—		
7-foot, spring tooth	1—2	5.52
9-foot, spike tooth	1—2	10.42
Louisiana:		
8-foot	1—2	12.0
Log, 7½-foot	1—2	12.5
Michigan:		
Spring tooth	1—2	9.8
Minnesota:		
Spike tooth—		
Rice County (spring wheat)	1—2	20.8
Lyon County (spring wheat)	1—3.7	28.6
Norman County (spring wheat)	1—3.8	23.8
Rice County, flax	1—2.3	14.3
Lyon County, flax	1—3.4	20.8
Norman County, flax	1—3.5	13.9
Western New York:		*Acres.*
5-foot, spike tooth	1—2	11.6
6-foot, spike tooth	1—2	11.5
7-foot, spike tooth	1—2	12.5
8-foot, spike tooth	1—2	13.5
9-foot, spike tooth	1—2	14.3
10-foot, spike tooth	1—2	16.7
12-foot, spike tooth	1—2	15.4
5-foot, spike tooth	1—3	11.4
6-foot, spike tooth	1—3	12.4
7-foot spike tooth	1—3	13.7
8-foot, spike tooth	1—3	14.6
9-foot, spike tooth	1—3	17.0
10-foot, spike tooth	1—3	18.0
12-foot, spike tooth	1—3	19.8
6-foot, spring tooth	1—2	9.3
7-foot, spring tooth	1—2	9.7
8-foot, spring tooth	1—2	10.1
6-foot, spring tooth	1—3	10.6
7-foot, spring tooth	1—3	11.3
8-foot, spring tooth	1—3	13.8
Do	1—4	15.3
9-foot, spring tooth	1—4	18.7
Washington—Wenatchee district:		
Orchards—		
6-foot, spring tooth	1—2	5.90
7-foot, spike tooth	1—2	9.60
Washington—Yakima district:		
In orchards—		
Spring tooth	1—2	7.30
Spike tooth	1—2	9.26
Western Colorado:		
In orchards—		
Spring tooth	1—2	6.67
Spike tooth	1—2	8.47
Wisconsin:		
Spike tooth	1—2	15.5
Do	1—3	16.0
Do	1—4	21.0

[1] First figure refers to number of men and second figure to number of horses in crew.

DISKING WITH HORSES.

TABLE 570.—*Acres disked with horses per 10-hour day.*

Location and item.	Crew.[1]	Rate.
Central Illinois:		
Well-packed land—		*Acres.*
7-foot single disk	1—4	15.1
8-foot single disk	1—4	17.1
9-foot single disk	1—4	18.6
10-foot single disk	1—6	23.1
Freshly plowed:		
7-foot single disk	1—4	14.1
8-foot single disk	1—4	15.2
9-foot single disk	1—4	16.6
10-foot single disk	1—6	22.3
Colorado:		
Rocky Ford District	1—3.6	9.1
Fort Morgan District	1—3.8	11.4
Greely District	1—3.8	7.4
In orchards	1—2	5.3
Corn Belt:		
Well packed soil—		
6-foot	1—2	7.8
Do	1—3	9.4
8-foot	1—4	15.9
Do	1—5	13.9
Do	1—6	18.6
Freshly plowed—		
6-foot	1—2	7.5
Do	1—3	7.8
8-foot	1—4	13.3
Do	1—5	11.7
Do	1—6	15.9
Dakotas:		
Grand Forks County	1—4	13.0
Morton County	1—4	9.3
Spink County	1—4.8	13.7
Great Plains	1—4	8.0
Idaho:		
Idaho Falls and Blackfoot district	1—3.7	6.9
Idaho Falls district	1—3.88	6.5
Twin Falls district	1—3	6.2
Provo district	1—3.25	9.3
Garland district	1—3.93	14.1
Payette district, in orchards, 7-foot riding	1—2	5.6
Kansas:		
Ford County	1—5.2	9.3
Pawnee County	1—4.8	11.0
McPherson County	1—4.4	10.0
Louisiana:		
6 to 8 foot	1—2	5.4
Do	1—4	11.6
Maine:		
Aroostook County	1—2	7.6
Michigan:		
Caro County, 6-foot	1—2.5	8.2
Alma County, 6 foot	1—2.6	8.6
Grand Rapids County, 6 foot	1—3.5	7.4
Grand Traverse County	1—3	6.3
Montcalm County	1—3	7.6
Minnesota:		*Acres.*
Rice County (wheat)	1—3	18.5
Lyon County (wheat)	1—4	15.9
Norman County (wheat)	1—4	18.5
Rice County (flax)	1—3.4	7.1
Lyon County (flax)	1—3.7	7.7
Norman County (flax)	1—4	16.4
Missouri:		
Saline County	1—4	10.0
Jasper County	1—4	8.6
St. Charles	1—3.6	7.4
Montana:		
Gallatin district (wheat)	1—4.3	18.2
Judith district (wheat)	1—4.5	20.4
Billings district, 12 to 16 disks	1—4	10.8
Nebraska:		
Phelps County (wheat)	1—4.5	12.5
Saline County (wheat)	1—4	10.0
Keith County (wheat)	1—4.2	9.1
Western New York:		
Well packed land—		
5-foot	1—2	8.7
6-foot	1—2	9.4
7-foot	1—2	10.0
8-foot	1—2	10.4
5-foot	1—3	9.8
6-foot	1—3	10.2
7-foot	1—3	10.3
8-foot	1—3	10.7
6-foot	1—4	9.5
7-foot	1—4	12.7
8-foot	1—4	13.8
Freshly plowed—		
5-foot	1—2	7.4
6-foot	1—2	7.8
7-foot	1—2	8.1
8-foot	1—2	8.1
5-foot	1—3	8.4
6-foot	1—3	8.5
7-foot	1—3	8.4
8-foot	1—3	9.1
6-foot	1—4	7.9
7-foot	1—4	10.2
8-foot	1—4	11.5
Ohio:		
6-foot	1—3.1	9.7
Pennsylvania—Chester County:		
8-foot single	1—2	9.1
8-foot double	1—4	9.5
Utah	1—4	8.6
Washington:		
In orchards, 5-foot	1—2	4.4
Wisconsin	1—2	12.5
	1—3	13.2

[1] First figure refers to number of men and second figure to number of horses in crew.

HAULING AND DISTRIBUTING MANURE AND FERTILIZERS.

TABLE 571.—*Normal day's work per 10-hour day.*

MANURE AND FERTILIZER OPERATIONS.

Location.	Item.	Distance.	Crew.[1]	Rate.
		Rods.		*Loads.*
General, United States	Haul with spreader on sod	75	1—2.6	14.5
Do	Haul with spreader on stubble	75	1—2.6	13.3
Do	Haul with spreader on sod	80	1—2.9	13.7
Do	Haul with spreader on stubble	80	1—2.9	12.2
New York	Haul with spreader	61	1—2	15.1
Do	do	70	1—3	15.3
Central Illinois	do	75		13.2
Minnesota:				
Clay County	do		1—4	18.8
Anoka County	do		2—4	20.6
Wisconsin:				
Barron	do		2—3	21.5
Waupaca	do		1—2	16.9
Michigan:				
Grand Traverse County	do		1—2	20.2
Montcalm County	do		2—8	20.8
New York:				
Steuben County	do		1—2	12.5
Monroe County	do		2—8	19.1
Maine, Aroostook County	do		2—2	12.8
Utah, Garland			1.6—2.8	13.3
Idaho:				
Blackfoot Falls			1.6—2.7	15.1
Twin Falls			1.4—2.5	12.8
General, United States	Haul in piles with wagon	99	1—2	6.0
	do	77	1—2	9.6
	do	69	1—2	13.4
	do	67	1—2	21.7
Do	Size of piles spread by hand:			
	3 bushels		1—0	14.8
	5.7 bushels		1—0	21.0
	10.2 bushels		1—0	26.0
Central Illinois	Haul and spread from wagon	74	1—2	8.8

OTHER FERTILIZER.

Location.	Item.	Operation.	Size of load.	Crew.[1]	Rate.
			Bushels.		*Loads.*
General, United States.	Lime	Spread from wagon	22	1-2	9.74
			34	1-2	8.13
			49	1-2	6.88
			64	1-2	8.23
			106	1-2	4.98
			Size of pile (bu.).		*Bushels.*
Do	do	Spread from piles	1	1-0	239
			3.5	1-0	503
			25.6	1-0	967
			Range of width (ft.).		*Acres.*
Do	do	Lime spreader	8	1-2	10.8
Do	Commercial fertilizer	Fertilizer drill	6	1-2	8.6
			8	1-3	10.6
			Width of row (ft.).		
Louisiana	do	Distributor	3	1-1	5.4
			3½	1-1	6.6
			4	1-1	7.3
			4½	1-1	7.3
			5	1-1	8.3
			6	1-1	9.1
	do	By hand	3½	1-0	5.7
			4	1-0	5.9
			4½	1-0	6.2
Monroe County, N. Y	Fertilizer	Distributor		1-2	9.9
Steuben County, N. Y	do	do		1-2	7.2

[1] First figure refers to number of men and second figure to number of horses in crew.

HAYING OPERATIONS.

TABLE 572.—*Normal day's work per 10-hour day for various operations in haying.*

CUTTING.

Location and item.	Crew.[1]	Rate.
General United States:		*Acres.*
5-foot	1—2	9.3
New York—Steuben County:		
5.1-foot	1—2	10.7
Pennsylvania—Washington County:		
5.9-foot	1—2	10.8
Iowa—Wayne County:		
6-foot	1—2	12.1
Nebraska—Hall County:		
5.5-foot	1—2	11.1
Kansas—Jewell County:		
5.3-foot	1—2	11.2
Oklahoma—Craig County:		
5.6-foot	1—2	11.9
Georgia—Augusta section:		
5.5-foot	1—2	10.0
Alabama:		
Montgomery County—		
5.4-foot	1—2	8.9
Alabama—Continued.		*Acres.*
Perry County—		
6-foot	1—2	9.3
Demopolis section—		
6.5-foot	1—2	10.8
Mississippi—West Point section:		
6-foot	1—2	10.8
Louisiana:		
4.5-foot	1—1	5.8
Central Illinois:		
5-foot	1—2	10.5
6-foot	1—2	12.0
Western New York:		
4.5-foot	1—2	8.5
5-foot	1—2	9.2
6-foot	1—2	10.4
Wisconsin:		
5.5-foot	1—2	7.5

RAKING.

Location and item.	Crew.[1]	Rate.
General United States:		
8-foot rake	1—1	14.2
10-foot rake	1—2	21.2
Central Illinois:		
10-foot rake	1—2	21.0
11-foot rake	1—2	22.2
12-foot rake	1—2	23.6
10-foot rake	1—2	20.6
Side delivery	1—2	.....
Louisiana:		
10-foot rake	1—1	12.65
Western New York:		
10-foot rake	1—1	15.3
	1—2	17.9
New York—Steuben County:		
10.8 3-foot sulky rake	1—2	22.9
Pennsylvania—Washington County:		
10.65-foot sulky rake	1—2	19.3
Iowa—Wayne County:		
10.52-foot sulky rake	1—2	23.6
Nebraska—Hall County:		
10.75-foot sulky rake	1—2	23.8
Kansas—Jewell County:		
10.86-foot sulky rake	1—2	25.3
Oklahoma—Craig County:		
11.03-foot sulky rake	1—2	22.0
Georgia—Augusta section:		
10.73-foot sulky rake	1—2	20.1
Alabama:		
Montgomery County—		
9.67-foot sulky rake	1—2	17.6
Perry County—		
10.60-foot sulky rake	1—2	19.9
Demopolis section—		
11.65-foot sulky rake	1—2	22.0
Mississippi—West Point section:		
11.94-foot sulky rake	1—2	27.2

PUSH-RAKING AND COCKING.[2]

Location and item.	Crew.[1]	Rate.
Iowa—Wayne County [3]	1—2	9.1
Nebraska—Hall County [3]	1—2	11.1
Kansas—Jewell County [3]	1—2	12.7
Georgia—Augusta section [4]	1—2	10.9
Alabama:		
Montgomery County [5]	1—2	11.8
Perry County [6]	1—2	23.7
Demopolis section	1—2	19.3
West Point section	1—2	9.8
New York—Western:		
Bunching	1—1	13.3
Do	1—2	16.6
Cocking by hand	1—0	6.4
General United States:		
Cocking by hand	1—0	6.9

TEDDING.

Location and item.	Crew.[1]	Rate.
General United States:		
6-foot tedder	1—1	11.8
10-foot tedder	1—2	19.2
Central Illinois:		
8-foot tedder	1—2	17.1
10-foot tedder	1—2	21.0
Western New York	1—2	14.6
New York—Steuben County:		
8.76-foot tedder	1—2	16.2
Pennsylvania—Washington County:		
6.58-foot tedder	1—2	12.8

[1] First figure refers to number of men and second figure to number of horses in crew.
[2] Also known as "sweep rake," "go-devil," "buck rake," "bull rake."
[3] Hauled from windrow to stacker in field.
[4] Hauled from cock to barn or stack in field.
[5] Hauled from cock to stack or press in field.
[6] Hauled from cock to press in field.

HAYING OPERATIONS—Continued.

TABLE 572.—*Normal day's work per 10-hour day for various operations in haying*—Continued.

STACKING HAY.

Location and item.	Crew.[1]	Rate.
General United States:		
Stacking in field with sweep rakes		*Acres.*
	2—2	10.0
	2—4	14.18
	3—2	10.07
	3—4	15.96
	3—6	15.00
	4—2	11.67
	4—4	15.69
	4—6	19.33
	5—4	13.20
	5—6	20.31
	5—8	24.23
	6—6	25.42
	6—8	20.96
In field, by hand	2—2	5.00
	2—4	5.00
	3—2	5.55
	3—4	8.28
General United States—Contd.		
In field, by hand—Contd.		*Acres.*
	4—2	8.56
	4—4	9.81
	4—6	14.49
	5—2	9.28
	5—4	9.66
	5—6	12.87
	6—4	7.73
	6—6	12.58
	6—8	10.31
Iowa::		
Wayne County—		
Over-shot stacker, yield, 1.1 tons	2—5	6.0
Hall County—		
Over-shot stacker, yield, 1.0 ton	2—5	8.3

LOADING, HAULING, AND UNLOADING.

Location and item.	Crew.[1]	Rate.
Louisiana:		
Oat hay to barn—		*Acres.*
½ to 1½ tons per acre	2—2	7.45
Meadow hay to barn—		
1 ton and less	2—2	4.07
1⅛ to 2 tons	2—2	3.03
General, United States:		
Hauling hay, load by hand, cocks to barn, unload by hand	2—2	4.6
	2—4	5.56
	3—2	4.77
	3—4	6.44
	4—4	7.52
	4—6	9.79
	5—4	7.70
	5—6	10.19
	6—4	8.43
	6—6	9.56
	6—8	5.25
General, United States:		
Loading, hauling, and unloading, cocks to barn, unload with hayfork or sling.	2—2	6.44
	2—4	8.33
	3—2	6.76
	3—4	8.56
	4—4	10.64
	4—6	14.95
	5—4	11.23
	5—6	12.94
	6—4	11.04
	6—6	12.10
	6—8	12.17
General, United States:		
Hauling with loader—		
Unloading by hand	2—2	5.55
	2—4	6.82
	3—2	6.15
	3—4	7.40
	4—4	8.20
	4—6	8.04
General, United States—Contd.		
Hauling with loader—Con.		*Acres.*
Unloading with sling or fork	2—2	8.04
	2—4	6.97
	3—2	8.23
	3—4	9.42
	4—4	10.66
	4—6	10.88
Western New York:		
Loading, hauling, and unloading to barn, unload by hand—		
1 wagon	2—2	5.0
Do	3—2	5.4
2 wagons	3—4	5.7
Do	4—4	7.8
Do	5—4	8.9
Western New York:		
Loaded by hand—		
Unload with sling or fork—		
1 wagon	2—2	6.7
Do	3—2	7.6
2 wagons	3—4	9.5
Do	4—4	10.0
Do	5—4	11.9
		Minutes per load.
Central Illinois:		
Loading only by hand	1—0	42.2
Do	2—0	31.4
Load with loader—		
Swath	3—2	21.9
Windrow	3—2	22.0
Central Illinois:		
Unloading only, unloading into mow by hand	(2)	43.4
	(3)	41.0
	(4)	33.2
Central Illinois:		*Minutes to unload*
Unloading only; unload with hayfork into mow	(5)	20.2
	(6)	18.2
	(7)	16.4

[1] First figure refers to number of men and second figure to number of horses in crew.
[2] 1 man in wagon, 1 in mow.
[3] 1 man in wagon, 2 men in mow.
[4] 2 men in wagon, 2 in mow.
[5] 1 man in mow, 1 on load, 1 driving team.
[6] 2 men in mow, 1 on load, 1 driving team.
[7] 3 men in mow, 1 on load, 1 driving team.

HAYING OPERATIONS—Continued.

TABLE 572.—*Normal day's work per 10-hour day for various operations in haying*—Continued.

BALING.

Location and item.	Crew.[1]	Rate.
General, United States:		
From stack or barn with sweep		*Tons.*
	2—1	3.56
	3—1	7.13
	4—1	9.01
	5—1	12.38
	2—2	9.90
	3—2	8.51
	4—2	9.50
	5—2	10.59
	6—2	10.79
	7—2	15.35
	8—2	15.35
Oklahoma—		
Craig County	[2]3.4—2	2.9
In South[3]	[4]4—2	1.7
General, United States:		
Engine (horsepower)—		
5.44	3—0	13.43
6.28	4—0	10.52
8.29	5—0	13.07
General, United States—Contd.		
Engine (horsepower)—Con.		*Tons.*
10.41	6—0	16.10
12.09	7—0	19.97
12.53	8—0	20.09
16	9—0	26.40
11.9	10—0	27.32
14	11—0	30.94
Oklahoma—Craig County:		
Gasoline engine	5.2—0	[5]4.3
Georgia—Augusta section:		
Gasoline engine	6.33—0	[6]1.9
Alabama:		
Montgomery County—		
Gasoline engine	6.00—0	[6]2.0
Perry County—		
Gasoline engine	5.93—0	[6]2.5
Demopolis section:		
Gasoline engine	5.57—0	[6]2.3
Mississippi—West Point section:		
Gasoline engine	6.30—0	[6]2.3

[1] First figure refers to number of men and second figure to number of horses in crew.
[2] Hay brought from windrow to press with push rake.
[3] Augusta section, Ga., 7 records; Montgomery County section, Ala., 8 records; Perry County, Ala., 2 records; Demopolis section, Ala., 4 records.
[4] Hay brought from cock to press with push rake.
[5] Hay brought from windrow to press with push rakes.
[6] Hay brought from cock to press with push rakes.

SMALL GRAIN OPERATIONS.

TABLE 573.—*Normal day's work per 10-hour day for various operations in small grain production.*

SOWING.

Location and item.	Crew.[1]	Rate.
General United States:		*Acres.*
6-foot drill	1—2	9.1
8-foot drill	1—3	12.2
Do	1—4	14.6
Do	1—6	16.9
Western New York:		
9-hoe drill	1—2	9.6
10-hoe drill	1—2	10.0
11-hoe drill	1—2	10.4
Central Illinois:		
8-foot drill	1—4	14.7
Utah	1—2	11.1
Kansas:		
Ford County—		
8, 12 foot drill	1—4.8	18.2
Pawnee County—		
8, 12 foot drill	1—4.5	17.4
McPherson County—		
8, 12 foot drill	1—4	15.6
Missouri:		
Saline County—		
7, 8 foot drill	1—3.5	12.5
Jasper County—		
6, 7, 8 foot drill	1—3.2	11.7
St. Charles County—		
8, 10 foot drill	1—3.1	10.5
Nebraska:		*Acres.*
Phelps County—		
7, 8 foot drill	1—3.5	11.4
Saline County—		
7, 8 foot drill	1—4.3	11.9
Keith County—		
3-6, 7 foot drill	1—3.3	10.8
Kansas:		
Pawnee (tractor) 12, 16 hoe drill	3—0	35.0
Nebraska:		
Phelps drill (tractor)	1—0	17.8
Keith drill (tractor)	1.7	36.4
Central Illinois:		
End gate seeder—		
20.2 feet	1—2	38.5
25.8 feet	1—2	43.3
30.0 feet	1—2	48.6
34.9 feet	1—2	51.3
39.0 feet	1—2	58.2
General United States:		
Knapsack	.....	23.0
Wheelbarrow, 14-foot	.....	21.0
Louisiana:		
Broadcast by hand—		
1½ bushels per acre	.....	12.50
2 bushels per acre	.....	14.11

[1] First figure refers to number of men and second figure to number of horses in crew.

SMALL GRAIN OPERATIONS—Continued.

TABLE 573.—*Normal day's work per 10-hour day for various operations in small grain production*—Continued.

CUTTING.

Location and item.	Crew.[1]	Rate.
General United States:		
5-foot binder	1—3	8.96
6-foot binder	1—3	10.61
7-foot binder	1—4	14.75
8-foot binder	1—4	17.61
Central Illinois:		
6-foot binder	1—3	13.40
7-foot binder	1—3	14.11
Do	1—4	15.32
8-foot binder	1—4	18.04
Western New York:		
5-foot binder	1—2	7.74
6-foot binder	1—2	9.47
5-foot binder	1—3	9.78
6-foot binder	1—3	10.59
7-foot binder	1—3	11.51
Kansas:		
Ford County—		
Binder	1—4.7	15.7
Pawnee County—		
Binder	1—4.8	13.7
McPherson County—		
Binder	1—4.4	13.4
Missouri:		
Saline County—		
Binder	1—5	10.9
Jasper County—		
Binder	1—4.1	11.4
St. Charles County—		
Binder	1—3.9	11.2
Nebraska:		
Phelps County—		
Binder	1—4.8	13.8
Saline County—		
Binder	1—4.4	11.3
Keith County—		
Binder	1—4.0	13.1
General United States:		
10-foot header	1 —6	23.41
12-foot header	1 —6	27.65
14-foot header	1 —6	27.55
Kansas:		
Ford County—		
14-foot header	6.9—10.8	22.4
Pawnee County—		
14-foot header	6.6—10.4	19.2
Louisiana:		
Hand	1 —0	3.24
Binding by hand	1 —0	3.34
Utah:		
Binder	1 —3	10.0
Kansas:		
Ford County—		
Binder (tractor)	2.7—0	32.5
Pawnee County—		
Binder (tractor)	1.6—0	24.0
McPherson County—		
Binder (tractor)	1.8—0	17.1
Missouri:		
Saline County—		
Binder (tractor)	1.5—0	20.0
St. Charles County—		
Binder (tractor)	2.0—0	15.0
Nebraska:		
Phelps County—		
Binder (tractor)	3 —0	20.0
Saline County—		
Binder (tractor)	2 —0	16.0
Kieth County—		
Binder (tractor)	2.9—0	35.1

SHOCKING.

Location and item.	Crew.[1]	Rate.
General United States:		
1-20 bushels per acre	1—0	10.18
21-40	1—0	8.81
41-60	1—0	8.54
61 and over	1—0	7.43
Utah	1—0	5.6
Central Illinois	2—0	[2] 8.8
	3—0	[2] 6.8
	4—0	[2] 5.9
Western New York (yield per acre):		
20 bushels per acre	1—0	7.8
25 do	1—0	7.7
30 do	1—0	7.5
35 do	1—0	7.4
Louisiana	1 —0	7.06
Kansas:		
Ford County	2 —2	[2] 7.4
Pawnee County	2 —0	[2] 6.5
McPherson County	1.6—0	[2] 9.4
Missouri:		
Saline County	2.4—0	[2] 4.9
Jasper County	2.5—0	[2] 4.8
St. Charles County	2.3—0	[2] 5.0
Nebraska:		
Phelps	1.6—0	[2] 9.9
Saline County	1.6—0	[2] 6.2
Keith County	2.7—0	[2] 8.6

STACKING.

Location and item.	Crew.[1]	Rate.
General United States:		
In field	2—2	8.09
	2—4	10.74
	3—2	8.40
	3—4	14.48
	4—4	13.84
	4—6	23.46
	5—4	14.18
	5—6	19.17
	6—4	14.13
	6—6	18.16
General United States:		
At farmstead	2—2	6.75
	2—4	7.23
	3—2	7.29
	3—4	11.45
	4—4	11.19
	4—6	19.75
	5—4	12.34
	5—6	15.34
	6—4	12.23
	6—6	18.37

[1] First figure refers to number of men and second figure to number of horses in crew.
[2] Per man.

SMALL GRAIN OPERATIONS—Continued.

TABLE 573.—*Normal day's work per 10-hour day for various operations in small grain production*—Continued.

THRESHING.

Location and item.	Crew.[1]	Rate.	Location and item.	Crew.[1]	Rate.
General United States:			United States:		
From stack or barn (yield per acre)—		*Bushels.*	From shock (yield per acre)—		*Bushels.*
Wheat, 22	12—0	1,094	Wheat, 23	20—0	1,405
Oats, 40	12—0	1,877	Oats, 40	20—0	2,456
Flax, 11	10—0	719	Flax, 13	16—0	872
Alfalfa clover, 10	4—0	52	Alfalfa clover, 3.5	9—0	57
Timothy, 7	13—0	273	Timothy, 6.5	12—0	208
Western New York:			Western New York:		
From stack or barn (yield per acre)—			From shock (yield per acre)—		
Wheat—			Wheat—		
20 bushels per acre	(2)	746	0-20	(3)	572
25 do	(2)	871	21-30	(4)	728.4
30 do	(2)	931	31 and over	(5)	926.5
Oats—			Central Illinois (average per load 85.3 bushels):		
35 do	(2)	1,116	Unloading only, by hand—		*Minutes per load.*
45 do	(2)	1,292	Oats		25.6
55 do	(2)	1,365	Portable elevator—		
			Oats		7.9

[1] First figure gives number of men and second number of horses in crew.
[2] 8 or 9 men, 2 or 4 horses.
[3] 8 or 9 men, 4 or 6 horses.
[4] 9 or 10 men, 6 horses.
[5] 10 or 11 men, 4 or 6 horses.

CORN OPERATIONS.

TABLE 574.—*Normal day's work, for 10-hour day, for various operations in corn production.*

CUTTING STALKS.

Location and item.	Width of row.	Number of furrows per row.	Crew.[1]	Rate.	Location and item.	Width of row.	Number of furrows per row.	Crew.[1]	Rate.
Louisiana:	*Feet.*			*Acres.*	Louisiana—Contd.	*Feet.*			*Acres.*
By hand			1—0	3.6	By stalk cutter			1—2	7.7

BEDDING.

Louisiana:					Louisiana—Contd.				
Middle buster	3½	1	1—2	5.9	Rebedding	3	2	1—1	2.9
	3½	1	1—2	6.7		3½	2	1—1	3.4
	4	1	1—2	7.4		4	2	1—1	3.9
Turn plow	3	2	1—1	2.8		4½	2	1—1	4.1
	3½	2	1—1	3.5		3½	4	1—1	1.7
	4	2	1—1	3.7		4	4	1—1	1.9
	3½	2	1—2	3.4	Breaking middles—middle buster	3½	1	1—2	7.0
	4	2	1—2	4.0		4½	1	1—2	7.7
	3	4	1—1	1.5	Shovel cultivator	3	1	1—1	6.1
	3½	4	1—1	1.6		3½	1	1—1	7.2
	4	4	1—1	1.9		4	1	1—1	7.5
	4½	4	1—1	2.0					
	4	6	1—1	1.2					

LAY OFF ROWS.

Louisiana:					Louisiana—Contd.				
Shovel cultivator	2½	.....	1—1	4.9	Shovel cultivator	4	.....	1—1	7.5
	3	.....	1—1	6.0		4½	.....	1—1	7.8
	3½	.....	1—1	6.7					

[1] First figure refers to number of men and second figure to number of horses in crew.

CORN OPERATIONS—Continued.

Table 574.—*Normal day's work, for 10-hour day, for various operations in corn production*—Continued.

HARROWING BEDS BEFORE PLANTING.

Location and item.	Width of row.	Number of furrows per row.	Crew.[1]	Rate.	Location and item.	Width of row.	Number of furrows per row.	Crew.[1]	Rate.
Louisiana:	*Feet.*			*Acres.*	Louisiana—Contd.	*Feet.*			*Acres.*
Spike tooth	4	.....	1—1	7.9	Log	6	.....	1—1	13.1
	4	.....	1—2	8.1		6½	.....	1—2	13.5
	8	.....	1—2	13.3	A-harrow	3½	.....	1—1	7.0
					Shovel cultivator	3¾	.....	1—1	7.0

PLANTING.

General United States:					Western New York:				
One row	3½	.....	1—1	7.1	Grain drill	3	.....	1—2	11.7
	3½	.....	1—2	11.3		3½	.....	1—2	12.0
	3½	.....	1—1	6.7	General United States:				
	4	.....	1—1	7.4	By hand	3½	.....	1—0	4.6
	4½	.....	1—1	8.1	Louisiana:				
	5	.....	1—1	9.7	By hand	3½	.....	1—0	6.8
	6	.....	1—1	10.3		4	.....	1—0	7.4
Western New York:						4½	.....	1—0	7.7
One row	3	.....	1—1	4.8	Wisconsin:				
	3½	.....	1—1	5.4	By hand	3½	.....	1—0	5.7
General United States:					Western New York:				
Two row	3½	.....	1—2	14.1	Hand planter	3	.....	1—0	3.0
Western New York:						3½	.....	1—0	3.5
Two row	3	.....	1—2	9.4	Louisiana:				
	3½	.....	1—2	11.1	Covering after planting—shovel cultivator or turn plow	3½	1	1—1	7.1
Central Illinois:						4	1	1—1	8.0
Two row	3½	.....	1—2	19.3		4½	1	1—1	8.2
	3½	.....	1—2	19.7					
Wisconsin	3½	.....	1—2	9.9					
Two row	3½	.....	1—2	17.7					
	3½	.....	1—2	17.5					

CULTIVATING.

General United States	.....	.....	1—1	4.9	Louisiana—Contd.				
	.....	.....	1—2	7.9	Without barring off	4	1	1—1	7.9
Louisiana:						4	1	1—2	7.2
Barring off (turn plow)	3½	2	1—1	3.4		3½	2	1—1	3.6
	4	2	1—1	3.8		4	2	1—1	3.8
	4½	2	1—1	4.1		4½	2	1—1	4.1
Central Illinois:						5	2	1—1	4.7
Cultivating—1-row riding	3½	.....	1—2	7.8		6	2	1—1	4.9
	3½	.....	1—2	7.7	Cultivate	3½	1	1—1	7.0
2-row riding	3½	.....	1—3	13.8	Middles	4	1	1—1	7.6
	3½	.....	1—4	14.0		4½	1	1—1	8.3
	3½	.....	1—3	13.3		4	2	1—2	3.8
	3½	.....	1—4	14.9	Thinning	3½	.....	1—0	1.8
Western New York:						4	.....	1—0	2.4
Walking cultivator	.....	.....	1—1	4.3		4½	.....	1—0	2.5
	.....	.....	1—2	6.4	Hoeing	3½	.....	1—0	1.6
Louisiana:						4	.....	1—0	2.1
Before and after barring off	3½	2	1—1	3.4		4½	.....	1—0	2.4
	4	2	1—1	4.1					
	4½	2	1—1	4.1					

[1] First figure refers to number of men and second figure to number of horses in crew.

CORN OPERATIONS—Continued.

TABLE 574.—*Normal day's work, for 10-hour day, for various operations in corn production*—Continued.

CUTTING.

Location and item.	Yield per acre.	Crew[1]	Rate.	Location and item.	Yield per acre.	Crew[1]	Rate.
General United States:	*Bushels.*		*Acres.*	Central Illinois:	*Bushels.*		*Acres.*
Binder	1 to 40	1—2	7.5	Binder		1—2	7.5
	41 to 60	1—2	6.8			1—3	8.2
	61 and over	1—2	5.6			1—4	8.3
	1 to 40	1—3	7.7	Western New York:			
	41 to 60	1—3	7.2	Binder		1—2	5.4
	60 and over	1—3	6.4			1—3	5.8
	1 to 40	1—4	8.2	General United States:			
	41 to 60	1—4	8.3	Platform cutter		2—1	5.3
	61 and over	1—4	7.3			2—2	6.0
						3—1	5.9
						3—2	4.7
						4—2	8.4
						4—4	9.4

SHOCKING AND CUTTING BY HAND.

General United States:				General United States:			
After binder	1 to 40	1—0	4.9	Cut and shock by hand			
	41 to 60	1—0	3.9		1 to 40	1—0	1.7
	61 and over	1—0	3.3		41 to 60	1—0	1.6
Western New York:					60 and over	1—0	1.5
After binder	50	1—0	3.6	Central Illinois:			
	75	1—0	3.5	Cut and shock by hand		1—0	1.4
	100	1—0	3.4	Western New York:			
Central Illinois:				Cut by hand	Under 40	1—0	1.3
After binder		2—0	[2] 3.6		41 to 60	1—0	1.2
		3—0	[2] 2.8		61 to 80	1—0	1.1
		4—0	[2] 2.3		81 and over	1—0	1.1

HUSKING.

General United States:							
From shock by hand			*Bush.*	General United States:	1 to 40	1—2	*Bush.* 52.5
	1 to 40	1—0	44.5	Husking, standing stalks by hand.	41 to 60	1—2	71.0
	41 to 60	1—0	47.9		61 and over	1—2	72.8
	61 and over	1—0	56.9	Louisiana:			
Western New York:				Pull and throw in piles.	11 to 20	1—0	3.5
From shock by hand					21 to 40	1—0	2.5
	Under 41	1—0	37.0	Haul from piles	11 to 26	1—2	4.8
	40 to 60	1—0	32.8		11 to 20	2—2	7.5
	61 to 80	1—0	33.2		11 to 20	3—2	9.0
	81 and over	1—0	36.7	Pull and haul	11 to 26	2—2	5.7
Central Illinois:					11 to 20	3—2	6.6
Husking from standing stalks by hand.	42.6	1—2	83.8				
	50.2	1—2	87.7				
	60.2	1—2	93.4				
From standing stalks by mechanical picker.		1—5	360.0				
		1—6	376.0				

[1] First figure refers to number of men and second figure to number of horses in crew.
[2] Per man.

CORN OPERATIONS—Continued.

TABLE 575.—*Labor requirements: Planting and cultivating corn by size of field on heavy loam soil, Illinois.*

[Based on daily work reports.]

PLANTING: CHECK ROW PLANTER, 2-ROW. CREW, 1 MAN, 2 HORSES

Number of cases.	Size group of fields.	Total acreage.	Average size of fields.	Hours per acre.		
				Average.	Highest.	Lowest.
10	10 acres or less	54.50	5.45	1.52	2.16	0.85
28	11 to 20 acres	460.97	16.46	.83	1.44	.59
16	21 to 30 acres	388.01	24.25	.79	1.15	.55
20	31 to 40 acres	761.08	38.05	.74	.93	.58
8	41 acres and upward	507.26	63.53	.70	.83	.56
82	All acreages	2,171.82	26.49	.89	2.16	.55

CULTIVATING: 1-ROW RIDING CULTIVATOR.

[First cultivation: Usual dates June 9–27; extreme beginning May 25, extreme ending July 8.]

10	10 acres and less	54.60	5.46	2.53	3.08	1.50
31	11 to 20 acres	522.99	16.87	2.01	2.80	1.32
10	21 to 30 acres	249.00	24.90	1.89	2.86	1.32
17	31 to 40 acres	663.10	39.01	1.87	2.98	1.30
8	41 acres and upward	507.26	63.41	2.10	2.80	1.12
76	All acreages	1,996.95	26.28	2.04	3.08	1.12

CULTIVATING: 1-ROW RIDING CULTIVATOR—Continued.

[Second cultivation: Usual dates June 19–July 6; extreme beginning June 4, extreme ending July 24.]

9	10 acres and less	52.61	5.85	2.31	3.08	1.04
31	11 to 20 acres	522.90	16.87	2.02	2.93	1.37
11	21 to 30 acres	278.51	25.32	1.87	2.64	1.35
19	31 to 40 acres	735.16	38.69	1.87	3.24	1.37
7	41 acres and upward	428.25	61.18	1.91	2.12	1.67
77	All acreages	2,017.43	26.20	1.98	3.24	1.04

[Third cultivation: Usual dates July 1–16; extreme beginning June 10, extreme ending July 24.]

8	10 acres and less	42.79	5.35	2.12	3.04	1.73
26	11 to 20 acres	436.95	16.81	1.67	2.93	.91
10	21 to 30 acres	254.68	25.47	1.60	2.54	.66
18	31 to 40 acres	697.27	38.74	1.59	2.79	1.14
5	41 acres and upward	296.25	59.25	1.80	2.16	.48
67	All acreages	1,727.94	25.79	1.75	3.04	.66

[Fourth cultivation: Dates June 16, 17; July 2, 3, 7, 8, 9, 12, 13, 16–20, 22, 23, 30; Aug. 1–5.]

8	All acreages	189.79	23.72	1.47	1.90	1.23

SILAGE OPERATIONS.

TABLE 576.—*Normal rate per 10-hour day at which various operations are performed in corn-silage production.*

PLANTING AND CUTTING.

Location and item.	Crew.[1]	Rate.	Location and item.	Crew.[1]	Rate.
		Acres.			*Acres.*
New York:			New York:		
2-row drill	1—2	8.5	1-row drill	1—1	4.3
Wisconsin:			Hand planter	1—0	2.9
2-row drill	1—2	11.8	Cutting binder	1—3	4.9
Iowa:			Wisconsin:		
2-row drill	1—2	14.5	Cutting binder	1—3	6.1
New York:			Iowa:		
2-row planter	1—2	8.2	Cutting binder	1—3	6.3
Wisconsin:			New York:		
2-row planter	1—2	8.7	Cutting by hand	1	.9
Iowa:					
2-row planter	1—2	13.3			

HAULING.

Location and item.	Man-hours per acre.	Location and item.	Man-hours per acre.
New York:		New York:	
Loading in field	7.7	Running engine and cutter	3.17
Wisconsin:		Wisconsin:	
Loading in field	1.39	Running engine and cutter	2.40
Iowa:		Iowa:	
Loading in field	.41	Running engine and cutter	2.45
New York:		New York:	
Hauling from field and unloading	6.54	Packing in silo	3.72
Wisconsin:		Wisconsin:	
Hauling from field—crew 1—2	6.86	Packing in silo	2.27
Iowa:		Iowa:	
Hauling from field	7.40	Packing in silo	3.01

[1] First figure refers to number of men and second figure to number of horses in crew.

POTATO OPERATIONS.

TABLE 577.—*Normal day's work per 10-hour day for various operations in potato production.*

SPROUTING SEED.

Location and item.	Crew.[1]	Rate.	Location and item.	Crew.[1]	Rate.
		Bushels.			*Bushels.*
Minnesota:			Wisconsin—Waupaca County	1—0	30
Clay County—			New York—Steuben County	1—0	60
Turned by machine	1—0	310			
Anoka County—					
Turned by hand	1—0	50			

CUTTING SEED.

Minnesota:			New York:		
Clay County	1—0	30	Steuben County	1—0	22
Anoka County	1—0	25	Monroe County	1—0	18
Wisconsin			Maine—Aroostook County	1—0	23.38
Barron County	1—0	20	General United States:		
Waupaca County	1—0	20	By hand	.....	16.85
Michigan:			By cutter	.....	34.01
Grand Traverse County	1—0	25			
Montcalm County	1—0	21			

TREATING SEED.

Minnesota:			Michigan—Montcalm County	1—0	125
Clay County	1—0	168	New York:		
Anoka County	1—0	96	Steuben County	1—0	98
Wisconsin—Barron County	1—0	78	Monroe County	1—0	106

[1] First figure refers to number of men and second figure to number of horses in crew.

POTATO OPERATIONS—Continued.

TABLE 577.—*Normal day's work per 10-hour day for various operations in potato production*—Continued.

PLANTING.

Location and item.	Crew.[1]	Rate.
		Acres.
Utah:		
Planting with planter	1—2	2.2
Minnesota:		
Clay County—		
Planting with planter	1—4	6.4
Anoka County—		
Planting with planter	1—2	5.2
Wisconsin:		
Barron County—		
Planting with planter	1—2	4.7
Waupaca County—		
Planting with planter	1—2	4.2
Michigan:		
Grand Traverse County—		
Planting with planter	1—2	5
Montcalm County—		
Planting with planter	1—2	5.1
New York:		
Steuben County—		
Planting with planter	1—2	3.6
Monroe County—		
Planting with planter	1—2	3.8
Maine—Aroostook County:		
Planting with planter	2—2	3.7
General United States:		
Planting with planter	1—2	5.75
Do	2—2	5.15
Minnesota—Anoka County:		
Planting by hand	1—0	2.1
Wisconsin:		
Barron County—		
Planting by hand	1—0	1.7
Waupaca County—		
Planting by hand	1—0	1.7
Michigan:		
Grand Traverse County—		
Planting by hand	1—0	1.5
Montcalm County—		
Planting by hand	1—0	2.2
New York:		
Steuben County—		
Planting by hand	1—0	2.7
Monroe County—		
Planting by hand	1—0	3.0
General United States:		
Planting by hand	1—0	1.9
Cover after planting	1—1	4.86
Do	1—2	6.25

CULTIVATING.

General United States:		
1 row	1—1	4.34
Wisconsin:		
Barron County—		
1 row	1—1	4.8
Waupaca County—		
1 row	1—1	4.5
Michigan:		
Grand Traverse County—		
1-row	1—1	4.4
Montcalm County—		
1-row	1—1	5.3
New York:		
Steuben County		
1-row	1—1	4.5
Monroe County—		
1-row	1—1	4.2
Maine—Aroostook County:		
1-row	1—1	4.6
Uath:		
1-row	1—1	4.4
Minnesota:		
Clay County—		
1-row	1—2	5.8
Anoka County—		
1-row	1—2	5.9
Wisconsin:		
Barron County:		
1 row	1—2	5.3
Waupaca County—		
1-row	1—2	6.6
Michigan:		
Grand Traverse County—		
1-row	1—2	5.3
Montcalm County—		
1-row	1—2	5.6
New York:		
Steuben County—		
1-row	1—2	5.5
Monroe County—		
1-row	1—2	4.6
Maine—Aroostook County:		
1-row	1—2	6.4
General United States:		
1-row	1—2	6.6
Minnesota:		
Clay County—		
2-row	1—3	10.0
Anoka County—		
2-row	1—3	11.0
Minnesota—Clay County:		
2-row	1—4	10.3
Minnesota:		
Clay County—		
Weeder	1—2	21.2
Anoka County—		
Weeder	1—2	15.1
Wisconsin—Waupaca County:		
Weeder	1—1	9.9
New York:		
Steuben County—		
Weeder	1—1	13.2
Monroe County—		
Weeder	1—2	14.3

HOEING.

Minnesota:		
Clay County	1—0	4
Anoka County	1—0	2.1
Wisconsin:		
Barron County	1—0	1.7
Waupaca County	1—0	2.3
Michigan:		
Grand Traverse County	1—0	4.5
Montcalm County	1—0	3.1
New York	1—0	3.1
Maine—Aroostook County	1—0	2.3
Utah	1—0	1.1

[1] First figure refers to number of men and second figure to number of horses in crew.

POTATO OPERATIONS—Continued.

TABLE 577.—*Normal day's work per 10-hour day for various operations in potato production*—Continued.

SPRAYING.

Location and item.	Crew.[1]	Rate.
Minnesota:		
Clay County—		*Acres.*
Spraying by machine	1—2	27.2
Anoka County—		
Spraying by machine	1—2	16.6
Wisconsin:		
Barron County—		
Spraying by machine	1—2	12.4
Waupaca County—		
Spraying by machine	1—1	19.2
Michigan:		
Grand Traverse County—		
Spraying by machine	1—2	14.0
Montcalm County—		
Spraying by machine	1—2	14.2
New York:		
Steuben County—		
Spraying by machine	1—2	12.2
Monroe County—		
Spraying by machine	1—2	13.8
Maine—Aroostook County—		
Spraying by machine	1—2	11.9
Wisconsin:		
Barron County—		*Acres.*
Spraying by hand	1—0	2.9
Waupaca County—		
Spraying by hand	1—0	5.3
Michigan:		
Grand Traverse County—		
Spraying by hand	1—0	3.7
Montcalm County—		
Spraying by hand	1—0	3.8
New York:		
Steuben County—		
Spraying by hand	1—0	4.6
Monroe County—		
Spraying by hand	1—0	3.0
General United States:		
Spraying with knapsack (3-foot width, 1 row)	.....	3.17
Field sprayer—		
11, 4 rows	1—1	12.76
11, 4 rows	1—2	14.10

DUSTING.

Minnesota—Clay County:		
By machine	1—1	32.5
Wisconsin—Waupaca County:		
By machine	1—1	20.0
Michigan—Grand Traverse County:		
By machine	1—2	11.5
New York—Monroe County:		
By machine	1—2	11.1
Minnesota—Clay County—		
By hand	1—0	8.0
Wisconsin:		
Barron County—		
By hand	1—0	4.6
Wisconsin—Continued.		
Waupaca County—		
By hand	1—0	10.2
Michigan:		
Grand Traverse County—		
By hand	1—0	3.0
Montcalm County—		
By hand	1—0	7.0
New York:		
Steuben County—		
By hand	1—0	7.0
Monroe County—		
By hand	1—0	1.3

HARVESTING.

DIGGING.		
General, United States—with plow	1—2	2.85
	1—2	4.01
	1—3	4.24
	1—4	5.44
Minnesota:		
Clay County—by machine	1—4	5.2
Anoka County—by machine	1—4	3.8
Wisconsin:		
Barron County—by machine	1—4	3.1
Waupaca County—by machine	1—2	2.4
Michigan:		
Grand Traverse County—by machine	1—2	2.0
Montcalm County—by machine	1—4	2.3
New York:		
Steuben County—by machine	1—2	2.1
Monroe County—by machine	1—4	1.9
Maine—Aroostook County—by machine	1—2	2.0
Minnesota—Anoka County—by hand	1—0	.2
Wisconsin:		
Barron County—by hand	1—0	.2
Waupaca County—by hand	1—0	.6
DIGGING—continued.		
Michigan:		
Grand Traverse County—by hand	1—0	.5
Montcalm County—by hand	1—0	1.0
New York—Steuben County—by hand	1—0	.8
Utah	1—2	.6
PICKING UP AFTER DIGGING.		
Minnesota:		
Clay County—after digger	1—0	1.2
Anoka County—after digger	1—0	1.7
Wisconsin:		
Barron County—after digger	4—0	2.1
Waupaca County—after digger	1—0	.6
Michigan:		
Grand Traverse County—after digger	1—0	1.1
Montcalm County—after digger	2—0	1.3
New York:		
Steuben County—after digger	2—0	1.3
Monroe County—after digger	1—0	.6
Maine—Aroostook County—after digger	3—0	1.3

[1] First figure refers to number of men and second figure to number of horses in crew.

POTATO OPERATIONS—Continued.

TABLE 577.—*Normal day's work per 10-hour day for various operations in potato production*—Continued.

HARVESTING—Continued.

Location and item.	Crew.[1]	Rate.
PICKING UP AFTER DIGGING—continued.		
General, United States:		*Bushels.*
After plow—		
75 bushels	1—0	61.91
125 bushels	1—0	79.37
200 bushels and over	1—0	99.38
After digger—		
75 bushels	1—0	85.63
125 bushels	1—0	108.30
After digging by hand—		
1-125 bushels	1—0	33.73
126-200 bushels	1—0	44.54
201 bushels and over	1—0	43.38
SORTING AND GRADING.		
Minnesota:		
Clay County—sorting and grading	3—0	390.0
Anoka County—sorting and grading	1—0	288.0
Wisconsin—Waupaca County—sorting and grading	1—0	243.0
Michigan—Montcalm County—sorting and grading	1—0	263.0
New York:		
Steuben County—sorting and grading	1—0	215.0
Monroe County—sorting and grading	2—0	360.0
Maine—Aroostook County—sorting and grading	2—0	270.0
HAULING.		
General, United States:		
To barn (size of load)—		
1-30 bushels	1—2	202.67
40 bushels	1—2	233.14
50 bushels	1—2	288.25
60 bushels	1—2	369.22
65-75 bushels	1—2	480.03
HAULING—continued.		
Minnesota:		*Bushels.*
Clay County—to barn	1—2	396.0
Anoka County—to barn	1—2	448.0
Wisconsin:		
Barron County—to barn	1—2	281.0
Waupaca County—to barn	1—2	393.0
Michigan:		
Grand Traverse County—to barn	1—2	396.0
Montcalm County—to barn	1—2	304.0
New York:		
Steuben County—to barn	1—2	432.0
Monroe County—to barn	1—2	399.0
Maine—Aroostook County—to barn	1—2	660.0
Minnesota:		
Clay County—to market	1—2	279.0
Anoka County—to market	1—2	158.0
Wisconsin:		
Barron County—to market	1—2	122.0
Waupaca County—to market	1—2	159.0
Michigan:		
Grand Traverse County—to market	1—2	159.0
Montcalm County—to market	1—2	159.0
New York:		
Steuben County—to market	1—2	482.0
Monroe County—to market	1—2	399.0
Maine—Aroostook County—to market	1—2	264.0
Minnesota—Anoka County—with truck	1—0	151.0
Michigan—Montcalm County—with truck	1—0	270.0
Maine—Aroostook County—with truck	1—0	660.0

[1] First figure refers to number of men and second figure to number of horses in crew.

COTTON OPERATIONS.

TABLE 578.—*Normal day's work per 10-hour day for various operations in cotton production.*

CLEAN DITCHES AND TERRACES.

Location and item.	Crew.[1]	Rate.
Georgia:		*Acres.*
Laurens County	1.8—1.8	6.7
Green County	2.1—0.9	2.6
Sumter County	2.3—0.7	5.0
Alabama:		
Tallapoosa County	1.3—0.8	2.2
Marshall County	1.1—1.7	3.6
Dale County	1—1	3.0
South Carolina:		*Acres.*
Anderson County	2.6—2.0	4.2
Barnwell County	2.3—0.7	3.1
Texas:		
Ellis County	1—1	10.0
Rusk County	2.0—1.3	7.7

[1] First figure refers to number of men and second figure to number of horses in crew.

COTTON OPERATIONS—Continued.

TABLE 578.—*Normal day's work per 10-hour day for various operations in cotton production*—Continued.

CUT STALKS.

Location and item.	Crew.[1]	Rate.	Location and item.	Crew.[1]	Rate.
Georgia:		*Acres.*	South Carolina:		*Acres.*
Laurens County	1—2	7.7	Anderson County	1—2	8.3
Green County	1—2	7.7	Barnwell County	1—2	9.1
Sumter County	1—2	8.3	Texas:		
Alabama:			Ellis County	1—2.4	10.0
Tallapoosa County	1—1.7	4.5	Rusk County	1—2	8.3
Marshall County	1—2	8.3	Louisiana:		
Dale County	1—2	7.1	By hand	1—0	3.6
			By stalk cutter (1-row)	1—2	7.7

LAY-OFF ROWS.

Georgia:			Louisiana:		
Laurens County—			With shovel cultivator—		
With shovel plow	1—1.2	5.6	2½-foot	1—1	4.9
Green County—			3-foot	1—1	5.9
With shovel plow	1—1.6	4.8	3½-foot	1—1	6.6
Sumter County—			4-foot—	1—1	7.4
With shovel plow	1—1.4	6.7	4½-foot	1—1	7.7
Alabama:			Georgia:		
Tallapoosa County—			Laurens County—		
With shovel plow	1—1	4.8	Open rows[2]	1—1	6.7
Marshall County—			Sumter County—		
With shovel plow	1—1.2	6.7	Open rows	1—1.3	5.6
Dale County—			Alabama:		
With shovel plow	1—1.2	5.3	Tallapoosa County—		
South Carolina:			Open rows	1—1	5.0
Anderson County—			Marshall County—		
With shovel plow	1—1.5	5.0	Open rows	1—1	5.9
Barnwell County—			Dale County—		
With shovel plow	1—1	7.1	Open rows	1—1	5.9
Texas:			South Carolina:		
Ellis County—			Anderson County—		
With shovel plow	1—2.1	12.5	Open rows	1—1.1	5.6
Rusk County—			Barnwell County—		
With shovel plow	1—1.2	7.1	Open rows	1—1	7.1
			Texas: Rusk County—		
			Open rows	1—1.1	6.7

DRAG OR SMOOTH (LOG DRAG OR FLOAT).

Georgia:			Georgia:		
Laurens County	1—1.8	7.1	Laurens County—		
Green County	1—1.8	6.2	Bed and rebed	1—1.1	3.8
Sumter County	1—2.0	7.1	Green County—		
Alabama:			Bed and rebed	1—1.2	2.6
Tallapoosa County	1—1	5.6	Sumter County—		
Marshall County	1—1.8	5.9	Bed and rebed	1—1.1	3.0
Dale County	1—2	5.9	Alabama:		
South Carolina:			Tallapoosa County—		
Anderson County	1—1.7	8.3	Bed and rebed	1—1	2.1
Barnwell County	1—1.8	8.3	Marshall County—		
Texas:			Bed and rebed	1—1.1	2.0
Ellis County	1—2.7	20.0	Dale County—		
Rusk County	1—3	11.1	Bed and rebed	1—1	1.7
Louisiana:			South Carolina:		
Harrowing after bedding—			Anderson County—		
Spiketooth, 4-foot row	1—1	7.87	Bed and rebed	1—1.3	2.3
Do	1—2	8.11	Barnwell County—		
Spiketooth, 8-foot row	1—2	13.30	Bed and rebed	1—1	3.6
Log, 6-foot row	1—1	13.07	Texas:		
Log, 6½-foot row	1—2	13.49	Ellis County—		
A-harrow, 3½-foot row	1—1	6.98	Bed and rebed	1—3.9	6.7
Shovel cultivator, 3¾-foot row	1—1	7.06	Rusk County—		
			Bed	1—1.7	4.2
			Rebed	1—1.5	3.7

[1] First figure refers to number of men and second figure to number of horses in crew.
[2] Stripper or middle buster; heel sweep, bull tongue, scooter attached to Georgia stock.

COTTON OPERATIONS—Continued.

TABLE 578.—*Normal day's work per 10-hour day for various operations in cotton production*—Continued.

DRAG OR SMOOTH (LOG DRAG OR FLOAT)—Continued.

Location and item.	Width of row.	Number of furrows.	Crew.[1]	Rate.
BEDDING.				
Louisiana:	*Feet.*			*Acres.*
With middle buster	3	1	1-2	5.92
Do	3½	1	1-2	6.69
Do	4	1	1-2	7.39
Turn plow	3	2	1-1	2.84
	3½	2	1-1	3.52
	4	2	1-1	3.67
	3½	2	1-2	3.41
	4	2	1-2	3.96
	3	4	1-1	1.53
	3½	4	1-1	1.64
	4	4	1-1	1.93
	4½	4	1-1	2.05
	4	6	1-1	1.18
Louisiana:				
Rebedding turn plow	3	2	1-1	2.86
	3½	2	1-1	3.43
	4	2	1-1	3.88
	4½	2	1-1	4.14
	3½	4	1-1	1.71
	4	4	1-1	1.88
Georgia:				
Green County—				
Run middles	.....	.....	1-1.5	5.9
BEDDING—continued.				
Georgia—Continued.	*Feet.*			*Acres.*
Sumpter County—				
Run middles	.....	.....	1-1.0	4.8
Alabama:				
Tallapoosa County—				
Run middles	.....	.....	1-1.0	3.4
Marshall County—				
Run middles	.....	.....	1-1.0	5.6
Dale County—				
Run middles	.....	.....	1-1.0	5.6
South Carolina—Barnwell County:				
Run middles	.....	.....	1-1.0	7.1
Texas—Rusk County:				
Run middles	.....	.....	1-1.2	7.7
Louisiana:				
Breaking middles—				
Middle buster	3½	1	1-2	7.00
	4	1	1-2	7.74
Shovel cultivator	3	1	1-1	6.08
	3½	1	1-1	7.18
	4	1	1-1	7.52

PLANTING.

Location and item.	Width of row.	Crew.[1]	Rate.
General, United States:	*Feet.*		*Acres.*
1-row planter	3½	1-1	7.1
	3½	1-2	11.3
Louisiana:			
1-row planter	3	1-1	5.95
	3½	1-1	6.83
	4	1-1	7.50
Georgia:			
Laurens County—			
1-row planter	.....	1-1	6.7
Green County—			
1-row planter	.....	1-1	5.0
Sumpter County—			
1-row planter	.....	1-1	5.9
Alabama:			
Tallapoosa County—			
1-row planter	.....	1-1	5.0
Marshall County—			
1-row planter	.....	1-1	5.9
Alabama—Continued:	*Feet.*		*Acres*
Dale County—			
1-row planter	.....	1-1	5.0
South Carolina:			
Anderson County—			
1-row planter	.....	1-1	5.6
Barnwell County—			
1-row planter	.....	1-1	6.7
Texas:			
Ellis County—			
1-row planter	.....	1-2	7.1
Rusk County—			
1-row planter	.....	1-1.1	6.7
General, United States:			
2-row planter	3½	1-2	14.1
General, United States:			
By hand in rows	3½	1-0	4.6

CULTIVATING.

HARROW OR WEED.			
Georgia:			
Laurens County	.....	1-1	6.7
Greene County	.....	1-1.2	6.2
Sumpter County	.....	1-1.4	7.1
Alabama:			
Tallapoosa County	.....	1-1	4.6
Marshall County	.....	1-1	6.7
Dale County	.....	1-1	5.0
South Carolina—Anderson County	.....	1-1.1	5.9
Texas:			
Ellis County	.....	1-2	20.0
Rusk County	.....	1-1.4	7.7
BARR OFF.			
Georgia:			
Laurens County	.....	1-1.1	3.4
Greene County	.....	1-1	2.9
Sumpter County	.....	1-1	3.1
Louisiana:			
Scraping, 2 furrows	3½	1-2	3.34
Do	4	1-2	3.62
Alabama—			
Tallapoosa County	.....	1-1	2.7
Marshall County	.....	1-1	3.2
Dale County	.....	1-1	2.9
South Carolina—Anderson County	.....	1-1	2.6

[1] First figure refers to number of men and second figure to number of horses in crew.

COTTON OPERATIONS—Continued.

TABLE 578.—*Normal day's work per 10-hour day for various operations in cotton production*—Continued.

CULTIVATION—Continued.

Location and item.	Width of row.	Crew.[1]	Rates.
BARR OFF—continued.	*Feet.*		*Acres.*
Texas—Rusk County		1-1.2	3.4
Louisiana:			
Without scraping, 1 furrow	3½	1-1	6.75
Single plow or harrow—1 furrow	4	1-1	7.80
Do	4	1-2	6.85
2 furrows	3½	1-1	3.48
Do	4	1=1	3.35
Following scraping, 2 furrows	3½	1-1	3.33
Single plow or harrow, 2 furrows	4	1-1	3.70
CULTIVATING.			
Georgia:			
Laurens County		1—1	3.4
Greene County		1—1.2	5.6
Sumter County		1—2	5.6
Alabama:			
Tallapoosa County		1—1	2.6
Marshall County		1—1	3.1
Dale County		1—1	2.8
South Carolina: Anderson County		1—1	4.8
Texas:			
Ellis County		1—2	7.1
Rusk County		1—2	5.9
General, United States		1—1	4.8
		1—2	7.5
Louisiana:			
Middles 1 furrow	3	1—1	6.00
Do	3½	1—1	6.97
Do	4	1—1	7.28
RUN, OR SWEEP MIDDLES.			
Georgia:			
Laurens County		1—1	6.7
Greene County		1—1	5.6
Sumter County		1—1	5.9
Alabama:			
Tallapoosa County		1—1	5.0
Marshall County		1—1	5.9
Dale County		1—1	5.3
RUN, OR SWEEP MIDDLES—continued.	*Feet.*		*Acres.*
South Carolina:			
Anderson County		1—1	5.6
Barnwell County		1—1	7.7
Texas:			
Ellis County		1—1.8	6.2
Rusk County		1—1	6.2
CHOP.			
Louisiana	3	1—0	0.8
	3½	1—0	1.0
	4	1—0	1.0
Georgia:			
Laurens County		1—0	1.1
Greene County		1—0	.8
Sumter County		1—0	.8
Alabama:			
Tallapoosa County		1—0	.7
Marshall County		1—0	.9
Dale County		1—0	.9
South Carolina:			
Anderson County		1—0	.8
Barnwell County		1—0	.9
Texas:			
Ellis County		1—0	1.3
Rusk County		1—0	1.0
HOE.			
Louisiana:			
Hoeing	3	1—0	1.18
Do	3½	1—0	1.38
Do	4	1—0	1.40
Second hoeing	3½	1—0	1.38
Georgia:			
Laurens County		1—0	1.4
Greene County		1—0	1.0
Sumter County		1—0	1.1
Alabama:			
Tallapoosa County		1—0	.9
Marshall County		1—0	1.1
Dale County		1—0	1.1
South Carolina:			
Anderson County		1—0	1.2
Barnwell County		1—0	1.5
Texas:			
Ellis County		1—0	2.4
Rusk County		1—0	1.7

[1] First figure refers to number of men and second figure to number of horses in crew.

PICKING COTTON.

Location and item.	Yield per acre (pounds).	Pounds per day.
Georgia:		
Laurens County	781	152
Greene County	743	151
Sumter County	725	157
Alabama:		
Tallapoosa County	484	155
Marshall County	632	155
Dale County	574	143
South Carolina:		
Anderson County	696	159
Barnwell County	723	142
Texas:		
Ellis County	510	236
Rusk County	533	183

COTTON OPERATIONS—Continued.

TABLE 578.—*Normal day's work per 10-hour day for various operations in cotton production*—Continued.

HAULING COTTON—ONE MAN AND TWO MULES.

Location and item.	Length of haul.	Bales per day.	Location and item.	Length of haul.	Bales per day.
Louisiana:			Louisiana—Continued.		
Hauling to gin	Less than 1 mile.	2.24	Hauling to gin and market	1 to 2 miles	2.00
Do	1 to 2 miles	1.94	Do	2 to 3 miles	1.66
Do	2 to 3 miles	1.77	Do	4 to 5 miles	1.08
Do	3 to 4 miles	1.68			
Do	4 to 5 miles	1.00			
Do	5 to 10 miles	1.45			

HAUL TO GIN.

State and county.	Crew.[1]	Miles.	Man-hours per acre.	State and county.	Crew.[1]	Miles.	Man-hours per acre.
Georgia:				South Carolina:			
Laurens County	1—1.9	4.07	5.3	Anderson County	1—2	2.46	5.0
Greene County	1.1—2.2	3.25	4.6	Barnwell County	1—1.9	3.65	7.2
Sumter County	1—2	5.31	4.0	Texas:			
Alabama:				Ellis County	1—2	3.65	1.8
Tallapoosa County	1—2	5.06	3.4	Rusk County	1—2	1.97	2.5
Marshall County	1—2	2.68	3.9				
Dale County	1—2	3.78	3.2				

SUGAR-BEET OPERATIONS.

TABLE 579.—*Normal day's work per 10-hour day for various operations in the production of sugar beets.*

PLANTING.

Location and item.	Crew.[1]	Rate.	Location and item.	Crew.[1]	Rate.
Michigan and Ohio:		*Acres.*	Utah and Idaho—Contd.		*Acres.*
Caro County	1—2	9.1	Provo district	1—2	11.2
Alma County	1—2	8.9	Idaho Falls district	1—2	10.9
Grand Rapids district	1—2	8.4	Twin Falls district	1—2	8.6
Northwestern Ohio	1—2	9.8	Montana:		
Colorado:			Billings district	1—2	10.0
Rocky Ford district	1—2	8.8	California:		
Fort Morgan district	1—2	9.7	Los Angeles district	1—2	11.1
Greeley district	1—2	9.4	Oxnard district	1—2	11.2
Utah and Idaho:			Salinas district	1—2	10.0
Garland district	1—2	13.5	Utah	1—2	11.1

CULTIVATING.

Michigan and Ohio:			California:		
Caro district	1—1	5.0	Los Angeles district	1—2	10.4
Alma district	1—1	5.3	Oxnard district	1—2	10.0
Grand Rapids district	1—1	4.2	Salinas district	1—2	10.2
Northwestern Ohio	1—1	5.3	Utah	1—2	8.9
Colorado:			Michigan and Ohio:		
Rocky Ford district	1—2	8.3	Caro district—		
Fort Morgan district	1—2	10.3	Hoeing	1—0	.9
Greeley district	1—2	9.1	Alma district—		
Utah and Idaho:[2]			Hoeing	1—0	.6
2-row cultivator	1—1	5.9	Grand Rapids district—		
4-row cultivator	1—2	9.1	Hoeing	1—0	.4
Lehi district	1—1.1	4.9	Northwestern Ohio—		
Twin Falls district	1.1—1.9	7.7	Hoeing	1—0	1
Montana—Billings district	1—2	2.2			

[1] First figure refers to number of men and second figure to number of horses in crew.
[2] Garland, Provo, Idaho Falls.

SUGAR-BEET OPERATIONS—Continued.

TABLE 579.—*Normal day's work per 10-hour day for various operations in the production of sugar beets*—Continued.

CULTIVATING—Continued.

Location and item.	Crew.[1]	Rate.
Utah and Idaho:		
Lehi district—		*Acres.*
Hoeing	1—0	.8
Twin Falls district—		
Hoeing	1—0	1.1
Lehi district—		
Block and thin	1—0	.29
Twin Falls district—		
Block and thin	1—0	.3
Garland district—		
Block and thin	1—0	.5
Provo district—		
Block and thin	1—0	.4
Idaho Falls district—		
Block and thin	1—0	.4
Utah:		
Block and thin	1—0	1.1
Weeding	1—0	1.6
Colorado:		
Rocky Ford district—		
Furrowing for irrigation	1—2	9.1
Fort Morgan district—		
Furrowing for irrigation	1—2	11.1
Colorado—Continued.		
Greeley district—		*Acres.*
Furrowing for irrigation	1—2	9.4
Utah and Idaho:		
Lehi district—		
Furrowing for irrigation	1—1	5.7
Twin Falls district—		
Furrowing for irrigation	1—2	8.3
Montana:		
Billings district—		
Furrowing for irrigation	1—2	10.0
Garland district—		
Furrowing for irrigation	1—2	8.8
Provo district—		
Furrowing for irrigation	1—1.5	5.5
Idaho Falls district—		
Furrowing for irrigation	1—2	9.7

IRRIGATION.

Location and item.	Crew.[1]	Rate.
Colorado:		
Rocky Ford district	1—0	4.2
Fort Morgan district	1—0	3.2
Greeley district	1—0	3.4
Utah and Idaho:		
Garland district	1—0	5.3
Provo district	1—0	5.6
Idaho Falls district	1—0	5.0
Utah and Idaho—Contd.		
Lehi district	1—0	5.1
Twin Falls district	1—0	3.0
Montana—Billings district	1—0	1.3
California:		
Los Angeles district	1—0	1.5
Salinas district	1—0	2.0
Utah	1—0	6.7

LIFTING.

Location and item.	Crew.[1]	Rate.
Colorado:		
Rocky Ford district	1—3.4	1.8
Fort Morgan district	1—3	2.4
Greeley district	1—3	2.0
Michigan and Ohio:		
Caro district	1—2.3	2.2
Alma district	1—2	2.4
Grand Rapids district	1—2	2.3
Northwestern Ohio	1—2	2.2
Utah and Idaho:		
Garland district	1—3	2.1
Utah and Idaho—Contd.		
Provo district	1—2.5	1.7
Idaho Falls district	1—2.9	2.1
Lehi district	1—2.8	1.4
Twin Falls district	1—2.8	2.2
Montana—Billings district	1—3	2.3
California:		
Los Angeles district	1—4	2.4
Oxnard district	1—6.5	2.8
Salinas district	1-6	2.2

TOPPING.

Location and item.	Crew.[1]	Rate.
Utah and Idaho:		
Garland district	1—0	.4
Provo district	1—0	.3
Utah and Idaho—Contd.		
Idaho Falls district	1—0	.4

HAULING.

Location and item.	Crew.[1]	Rate.
Colorado:		*Tons.*
Rocky Ford district, (1.81 miles)	1.1—3.56	9.6
Fort Morgan district (1.8 miles)	1—2.59	11.1
Greeley district (1.54 miles)	1—2.53	12.5
Utah and Idaho:		
Garland district	1—3.5	12.5
Provo district	1—2.93	10.5
Idaho Falls district	1—3.67	15.4
Utah and Idaho—Contd.		*Tons.*
Lehi district	1—2.9	9.8
Twin Falls district	1—3	13.1
Montana—Billings district	1—2.9	10.4
Califonia:		
Los Anegles district (1.20 miles)	1—5.4	25
Oxnard district (1.76 miles)	1—6.7	20
Salinas district (1.06 miles)	1—6.2	33.3

[1] First figure refers to number of men and second figure to number of horses in crew.

FRUIT OPERATIONS.

TABLE 580.—*Normal day's work per 10-hour day for pruning and spraying fruit trees.*

PRUNING.

Location and item.	Trees per acre.	Crew.[1]	Rate.
			Acres.
New York:			
Apples	35	1—0	0.4
Washington:			
Wenatchee district—			
Apples	81	1—0	.2
Yakima district—			
Apples	74	1—0	.2
Oregon—Hood River Valley district:			
Apples	72	1—0	.4
Western Colorado:			*Acres.*
Apples	74	1—0	0.2
Idaho—Payette Valley distrist:			
Apples	.....	1—0	.2
Utah:			
Apples	.....	1—0	.4
Pears	.....	1—0	.3
Prunes	.....	1—0	.4
Peaches	.....	1—0	.3

SPRAYING APPLES.

Location and item.	Crew.[1]	Rate.
FIRST SPRAY.		
		Acres.
New York:		
Dormant spray	2—2	3.94
	3—2	4.76
Washington:		
Wenatchee district—		
Lime sulphur	3—2	1.14
Yakima district—		
Lime-sulphur—		
Owned rig	3—2	3.34
Hired rig	3—2	4.35
Western Colorado:		
Lime-sulphur	3—2	4.4
	2—2	3.3
Idaho—Payette district:		
Lime-sulphur	.....	3.31
Western New York:		
Pink spray	2—2	3.96
	3—2	4.52
Calyx spray	2—2	3.89
	3—2	4.50
Washington:		
Wenatchee district—		
Lead arsenate	3—2	1.1
Yakima district—		
Calyx lead arsenate—		
Owned	3—2	3.4
Hired	3—2	4.52
Western Colorado:		
Lead arsenate	3—2	3.8
	2—2	3.2
Idaho—Payette district:		
Calyx lead arsenate	.....	3.69
SECOND SPRAY.		
Washington:		
Wenatchee district—		
Lead arsenate	3—2	1.2
Yakima district—		
Lead arsenate—		
Owned rig	3—2	3.69
Hired rig	3—2	5.39
Western Colorado:		
Lead arsenate	3—2	3.9
	2—2	3.6
THIRD SPRAY.		
Washington:		
Wenatchee district—		
Lead arsenate	3—2	1.2
Yakima district—		
Lead arsenate—		
Owned	3—2	3.88
Hired	3—2	5.03
THIRD SPRAY—continued.		
Western Colorado:		*Acres.*
Lead arsenate	3—2	3.9
	2—2	3.6
FOURTH SPRAY.		
Western New York	2—2	3.88
	3—2	4.35
Washington:		
Wenatchee district—		
Lead arsenate	3—2	1.0
Yakima district—		
Lead arsenate—		
Owned rig	3—2	3.8
Hired rig	3—2	5.2
Western Colorado:		
Lead arsenate	3—2	3.8
	2—2	3.7
FIFTH SPRAY.		
Western New York	2—2	4.5
	3—2	5.4
Washington—Yakima district:		
Owned rig	3—2	3.9
Hired rig	3—2	4.4
Western Colorado	2—2	3.8
	3—2	3.8
SIXTH SPRAY.		
Western New York	2—2	3.7
	3—2	4.1
Washington—Yakima district:		
Owned rig	3—2	5.1
Hired rig	3—2	8.9
Western Colorado	3—2	3.8
	2—2	4.0
MISCELLANEOUS SPRAY.		
Oregon—Hood River district:		
General spraying—		
Owned rig	.....	5.4
Hired rig	.....	5.9
Utah:		
Apples	1—2	4.4
Pears	1—2	3.3
Prunes	1—2	1.9
Peaches	1—2	3.3
Western New York:		
Spraying apples with "spray gun"—		
Delayed dormant	2—2	5.7
Pink	2—2	5.5
Calyx	2—2	5.3
2-week	2—2	5.8
Aug. 1 spray	2—2	5.2

[1] First figure refers to number of men and second figure to number of horses in crew.

FRUIT OPERATIONS—Continued.

TABLE 581.—*Normal day's work per 10-hour day for various fruit harvesting and marketing operations.*

PICKING APPLES.

Location and item.	Crew.[1]	Rate.
		Barrels.
Western New York	1—0	22
Washington:		*Boxes.*
Wenatchee district	1—0	74.6
Washington—Continued.		*Boxes.*
North Yakima district	1—0	64.98
Zillah district	1—0	57.26
Western Colorado	1—0	57.82
Idaho—Payette district	1—0	67

PICKING.

Location and item.	Crew.[1]	Rate.
		Boxes.
Oregon—Hood River district	1—0	59.4
Showing influence of yield on picking apples—		
150 boxes and under	1—0	58.1
151-200	1—0	68.0
201-250	1—0	63.6
251-300	1—0	53.7
301-400	1—0	57.3
Washington—Yakima district:		
Showing influence of yield on picking apples—		
200 and under	1—0	66.60
201-300	1—0	56.57
301-400	1—0	60.00
401-500	1—0	63.14
501-600	1—0	64.65
Over 600	1—0	60.78
Western New York:		*Bushels.*
Peaches (yield per tree)—		
1 bushel	1—0	22.6
2 bushels	1—0	34.2
3 bushels	1—0	35.2
4 bushels	1—0	39.0
5 bushels	1—0	40.5
8 bushels	1—0	46.7
10 bushels	1—0	55.3
Utah:		*Cases.*
Peaches [2]	1—2	33.3
		Tons.
Prunes [3]	1—2	0.6
Pears [3]	1—2	.8

SORTING AND PACKING.

Location and item.	Crew.[1]	Rate.
Western New York:		*Barrels.*
Apples	1—0	29
Washington:		*Boxes.*
Wenatchee district	1—0	69
Yakima district	1—0	59
Western Colorado	1—0	41
Idaho—Payette district:		
Sorting	1—0	75 to 80
Oregon—Hood River district:		
Sorting by machine	1—0	82
Sorting by hand	1—0	53
Packing sorted apples	1—0	77.5
Washington—Wenatchee district:		
Packing sorted apples	1—0	76
Idaho—Payette district:		
Packing sorted apples	1—0	55.7
Western New York:		*Baskets.*
Packing peaches—		
¼-bushel basket	1—0	89.8
⅓-bushel basket	1—0	99.5
½-bushel basket	1—0	81.0
1-bushel basket	1—0	58.7
Western New York:		
Apples—		*Barrels.*
	[4] 1—[5] 1	57.7
	[4] 1—[5] 2	66.6
	[4] 2—[5] 1	78.8
	[4] 2—[5] 2	90.3
	[4] 3—[5] 1	100.2
	[4] 3—[5] 2	117.1
	[4] 4—[5] 2	127.2

[1] First figure refers to number of men and second figure to number of horses used.
[2] Includes packing and hauling.
[3] Pick and haul.
[4] Sorters.
[5] Packers.

FRUIT OPERATIONS—Continued.

TABLE 581.—*Normal day's work per 10-hour day for various fruit harvesting and marketing operations*—Continued.

HAULING TO STATION.

Location and item.	Distance hauled.	Size of load.	Rate.
Western New York (1 man and team):	*Miles.*	*Barrels.*	*Barrels.*
Wayne County	2.68	24	84.5
Ontario County	1.82	22	101.0
Monroe County	2.04	22	106.4
Orleans County	2.51	24	97.5
Niagara County	2.26	20	84.6
Washington:			
Wenatchee district—		*Boxes.*	*Boxes.*
With 1-2 crew [1]	1.78	89.69	378
With 1-1 crew [1]	1.32	46.53	328
North Yakima district, with 1-2 crew [1]	2.49	96	325
Zillah district, with 1-2 crew [1]	1.18	86	419
Western Colorado, with 1-2 crew:	*Miles.*	*Barrels.*	*Barrels.*
Mesa district, with 1-2 crew [1]	2.1	76	279
Delta district, with 1-2 crew [1]	2.53	71	195
Montrose district, with 1-2 crew [1]	3.3	76	194
Idaho, Payette district, with 1-2 crew [1]	1.32	72	309
Oregon, Hood River district, with 1-2 crew [1]	4.00	87	189

Location and item.	Size of load.	Crew.[1]	Rate.
Washington, Wenatchee district:			
Hauling to packing house—	*Boxes.*		*Boxes.*
With sled	30.2	1—2	559
	15.6	1—1	387
With wagon	42.2	1—2	566
	29.5	1—1	437
Western Colorado (hauling to and from packing shed):	*Boxes.*		*Boxes.*
Mesa district	33	1—2	649
Delta district	40	1—2	449
Montrose district	42	1—2	403
Mesa district	20	1—1	490
Delta district	21	1—1	267
Idaho, Payette district:			
Haul empty boxes out	99	1—2	1,276
Haul full boxes in	53	1—2	649
Oregon, Hood River district: Haul full boxes in	42	1—2	472

Location and item.	Size of load.	Distance.	Rate.
HAULING SHOOKS 1—2 CREW.[1]			
Washington, Wenatchee district	*Shooks.* 477	*Miles.* 1.83	*Shooks.* 2,385
Western Colorado:			
Mesa district	428	3.03	4,468
HAULING SHOOKS, 1—2 CREW [1]—continued.			
Western Colorado—Con.	*Shooks.*	*Miles.*	*Shooks.*
Delta district	383	3.13	3,305
Montrose district	400	3.3	3,054
Idaho, Payette Valley	471	1.24	1,852

[1] First figure refers to number of men and second figure to number of horses used.

MINOR CROP OPERATIONS.

TABLE 582.—*Normal day's work per 10-hour day for various operations of several minor crops.*

Location and item.	Crop.	Width of row.	Crew.[1]	Rate.
PLANTING.				
General, United States:		*Feet.*		*Acres.*
Planting by hand	Sweet potatoes	3	1—1	1.0
Do	Cabbage	3⅛	2—1	1.6
Do	Tomatoes	2⅔	2—2	1.9
Do	do	3⅔	3—2	2.4
Dropping by hand	Sweet potatoes	3	1—0	1.3
Do	do	3½	1—0	1.13
Do	do	3	1—0	1.17
Do	do	3½	1—0	1.04
Western New York:				
Setting with machine	Cabbage		3—2	3.5
Do	do		4—2	3.5
Do	do		5—2	3.6
Do	do		4—3	3.6
Do	do		5—3	3.8
Do	do		4—4	3.9
Do	do		5—4	4.2
Louisiana:				
One-row planter	Peas in corn	4	1—1	7.55
Do	Cowpeas	2½	1—1	4.87
Do	do	3	1—1	5.69
Planting by hand	Peas in corn	3½	1—0	6.23
Do	do	4	1—0	7.18
Do	do	4½	1—0	6.80
Do	Peanuts	2½	1—0	3.05
Do	do	3	1—0	3.81
Western New York:				
Planting with grain drill	Beans		1—2	11.3
Louisiana:				
Planting by hand	Peas in corn			15.53
Do	Cowpeas			13.50
CULTIVATION.				
General, United States:				
Cultivating	Beans		1—1	3.95
Do	do		1—2	6.44
Do	Cabbage		1—1	4.17
Do	do		1—2	6.19
Louisiana:				
Cultivating	Peanuts	2½	1—1	2.45
Do	do	3	1—1	2.88
Do	do	3½	1—1	3.30
Barring off with turn plow	Sweet potatoes	3	1—1	3.00
Do	do	3½	1—1	3.16
With cultivator	do	3	1—1	3.00
Do	do	3½	1—1	3.14
Do	Sugar cane	5	1—1	4.75
With hoe	Sweet potatoes	3	1—0	.70
Do	do	3½	1—0	.74
Do	Sugar cane	5	1—0	.65
HARVESTING.				
Pulling up	Peanuts	2	1—0	1.08
		2½	1—0	1.44
Shocking	do		1—0	1.62
Stacking	do		1—0	1.63
Hauling to barn	do		2—3	5.03
			3—2	6.33
Grinding cane—				
40-100 gallons	Sugar cane		3—2	73.2
60-100 gallons	do		4—2	76.0
Western New York:				
Harvesting beans with bean harvester	Beans		1—2	7.73
Bunching with fork	do		1—0	2.85
Forking	do		1—0	2.75
Hauling from field—				
1 wagon			2—2	5.6
1 wagon			3—2	6.6
2 wagons			4—4	10.5
2 wagons			6—4	12.4
2 wagons			5—4	11.1

[1] First figure refers to number of men and second figure to number of horses in crew.

MINOR CROP OPERATIONS—Continued.

TABLE 582.—*Normal day's work per 10-hour day for various operations of several minor crops*—Continued.

HARVESTING SWEET POTATOES.

Location and item.	Width of row.	Crew.[1]	Rate.
Louisiana:	*Feet.*		*Acres.*
Cutting vines	3–4	1—0	0.93
Dragging vines—turn plow	3–4	1—1	2.79
Plowing up—middle burster	3	1—2	4.38
Do	3½	1—2	4.57
Picking up (yield per acre, 135 bushels)		1—0	.42
Louisiana—Continued.	*Feet.*		*Acres.*
Hauling to barn (yield per acre)—			
40–200 bushels		2—2	1.62
40–210 bushels		3—2	1.87
General United States:			
Digging—sweet-potato plow		1—2	4.20

HARVESTING CABBAGE.

Location and item.	Distance.	Implement.	Crew.[1]	Rate.
Western New York:		*Wagon.*		*Loads.*
Harvesting cabbage and sorting in barn		1	2—2	7.5
		1	3—2	8.1
		1	4—2	9.6
		2	4—4	12.5
		2	6—4	15.2
Hauling direct to market	1 mile	1	2—2	5.2
	do	1	3—2	5.9
	do	1	4—2	4.8
	do	2	4—4	10.6
	do	2	6—4	11.3
	2 miles	1	2—2	4.0
	do	1	3—2	4.7
	do	1	4—2	4.8
	do	2	4—4	7.0
	do	2	6—4	7.1
	3 miles	1	2—2	3.2
	do	1	3—2	3.6
	do	1	4—2	3.7
	do	2	4—4	6.1
	do	2	6—4	6.6
	4 miles	1	2—2	2.5
	do	1	3—2	3.6
	do	1	4—2	3.6
	do	2	4—4	4.8
	do	2	6—4	7.1
	5 miles	1	2—2	2.5
	do	1	3—2	2.4
	do	1	4—2	3.7
	do	2	4—4	4.1
	do	2	6—4	4.2

BERRY OPERATIONS.

Location and item.	Crew.[1]	Rate.
UTAH.		*Acres.*
Pruning and thinning raspberries.	1—0	0.1
Cultivating—		
Strawberries	1—1	4.4
Raspberries	1—1	4.4
Hoeing—		
Strawberries	1—0	.7
Raspberries	1—0	.7
Irrigating—		
Strawberries	1—0	6.6
Raspberries	1—0	6.6
UTAH—continued.		*Acres.*
Weeding—		
Strawberries	2—0	5.5
Raspberries	2—0	1.1
Picking and hauling—		*Crates.*
Strawberries	1—(1–2)	10.0
Raspberries	1—2	8.4

[1] First figure refers to number of men and second figure to number of horses in crew.

MINOR CROP OPERATIONS—Continued.

TABLE 582.—*Normal day's work per 10-hour day for various operations of several minor crops*—Continued.

RICE OPERATIONS.

Operation and State.	Crew.[1]	Rate.
Hauling seed to farm:		*Loads.*
Texas	1—2	20
Louisiana	1—2	20
Arkansas	1—2	20
Seeding drill:		*Acres.*
Texas	1—4	10
Louisiana		15
Arkansas		10
		15
Endgate seeder:		
Texas	1—2	20
		25
Arkansas	1—2	20
		40
Cutting, 6-foot binder:		
Texas	2—6	6
Louisiana	2—6	8
Arkansas	2—6	7
Shocking:		
Texas	2—0	6
		7
Shocking—Continued.		*Loads.*
Louisiana	.....	8
		6
Arkansas	2—0	10
Texas	3—0	8
		10
Louisiana	3—0	8
Arkansas	3—0	10
Texas	4—0	8
Louisiana	4—0	10
		12
Arkansas	4—0	6
Seeding (tractor) drill:		
Texas	2—0	15
Cutting (tractor), 6-foot binder:		
Texas	2—0	10
Louisiana	2—0	10
Arkansas	2—0	10

[1] First figure refers to number of men and second figure to number of horses in crew.

FARM LABOR.

TABLE 583.—*A normal day's work in hauling to market with wagon for 1 man and 2 horses (loading, hauling, and unloading), giving the number of loads per day, by distance hauled, for each commodity.*

Distance hauled, etc.	Baled cotton.	Corn from crib.	Bareled crops.	Bagged crops.	Baled hay.	Small grain from bin.	Cabbage.	Loose cotton.	Potatoes from cellar.	Loose hay.	All commodities,
1 mile	6.57	5.00	4.57	5.29	5.25	4.51	3.87	2.50	3.17	3.64	4.39
2 miles	3.86	3.75	3.89	3.91	3.92	3.37	3.27	2.53	3.02	2.69	3.43
3 miles	3.63	2.95	3.20	3.23	3.05	2.93	2.58	2.50	2.29	2.19	2.79
4 miles	2.62	2.47	2.80	2.64	2.51	2.52	2.34	2.09	2.06	1.99	2.37
5 miles	2.29	2.15	2.11	2.11	2.19	2.14	1.89	1.81	1.78	1.72	2.02
6 miles	2.55	1.99	2.06	2.04	2.03	1.99	1.80	2.00	1.66	1.82	1.94
7 miles	2.33	1.79	1.57	1.87	1.87	1.71	1.70	2.50	1.46	1.48	1.72
8 miles	1.66	1.31	1.12	1.27	1.44	1.40	1.15	1.14	1.22	1.22	1.30
9 miles	1.00	1.18	1.33	1.25	1.50	1.42	1.25	1.00	1.10	1.30	1.26
10 miles	1.33	1.17	1.09	1.19	1.60	1.16	1.00	1.21	1.10	1.09	1.14

FARM LABOR—Continued.

TABLE 584.—*Normal day's work in building wire fence: Amount of fence that 2 men can build in a day, both when setting the posts and when driving them, and when they are spaced at various distances.*

Kind of fence.	Day's work, posts spaced—				Kind of fence.	Day's work, posts spaced—			
	12 feet or less.	13 to 16½ feet.	17 to 24 feet.	25 to 37 feet.		12 feet or less.	13 to 16½ feet.	17 to 24 feet.	25 to 37 feet.
Barbed wire:	*Rods.*	*Rods.*	*Rods.*	*Rods.*	Narrow woven wire with 2 or more barbed wires:	*Rods.*	*Rods.*	*Rods.*	*Rods.*
2 strands—					Posts driven	48.7	53.0	74.1	89.8
Posts driven	.....	89.5	95.0	166.9	Posts set	26.3	33.0	37.9	47.1
Posts set	58.7	71.5	75.0	121.5	Wide woven wire with 1 barbed wire:				
3 strands—					Posts driven	50.9	55.3	77.2	94.2
Posts driven	64.0	89.1	116.4	156.0	Posts set	27.2	33.9	39.9	49.7
Posts set	43.7	58.7	68.3	95.4	Wide woven wire without barbed wire:				
4 strands—					Posts driven	61.3	65.4	80.2	108.5
Posts driven	76.6	83.2	92.4	95.0	Posts set	30.6	39.0	45.8	56.7
Posts set	39.3	47.9	50.6	70.8					
5 strands—									
Posts driven	52.2	56.7	70.9	100.0					
Posts set	25.3	34.1	38.7	46.2					
6 strands—									
Posts driven	29.5	56.7	67.5	.....					
Posts set	19.4	26.4	32.0	34.1					

TABLE 585.—*Sources of farm labor (in terms of hours).*

State.	Total per farm.	Unpaid.		Hired.		Exchanged with neighbors.	Per cent of distribution.			
							Unpaid.		Hired.	
		Proprietor.	Family.	By month.	By day.		Proprietor.	Family.	Month.	Day.
Minnesota—Mixed farms	9,401.8	3,326.9	13.5	5,000.1	701.3	113.0	36.8	0.1	55.3	7.8
Wisconsin—Dairy farms	10,360.0	3,400.0	1,180.0	4,500.0	1,280.0	294.0	33.0	11.5	43.0	12.5
Illinois—Corn farms	6,881.3	2,880.5	9.8	3,119.9	871.1	94.4	41.9	.1	45.3	12.7
New York:										
Fruit farms	7,755.9	2,725.2	65.9	3,493.3	1,471.5	95.3	35.1	.9	45.0	19.0
Fruit and live-stock farms	9,919.5	2,776.6	119.2	4,976.1	2,047.6	62.3	28.0	1.2	50.2	20.6
Ohio:										
Live-stock farms	8,352.0	3,405.0	1,064.4	3,010.2	872.4	100.6	40.8	12.7	36.0	10.5
Crop farms	6,636.9	3,326.7	95.8	2,130.4	1,084.0	57.4	50.1	1.4	32.2	16.3

FARM LABOR—Continued.

TABLE 586.—*Average length of day required of hired labor, by States.*

[Estimates based upon reports of crop correspondents of the Bureau of Statistics (Agricultural Forecasts).]

State and division.	Spring.		Summer.		Fall.		Winter.		Average, four seasons.	
	Hours.	Minutes.	Hours.	Minutes.	Hours.	Minutes.	Hours.	Minutes.	Hours.	Minutes.
Maine	9	50	10	20	9	35	8	40	9	39
New Hampshire	9	55	10	.....	9	50	9	10	9	44
Vermont	10	15	10	40	10	5	9	15	9	45
Massachusetts	9	45	10	.....	9	40	8	55	9	35
Rhode Island	9	40	10	10	10	.....	8	50	9	40
Connecticut	9	50	10	30	9	40	8	55	9	44
New York	10	5	10	30	9	50	8	35	9	45
New Jersey	10	.....	10	15	9	35	8	40	9	37
Pennsylvania	10	.....	10	40	9	40	8	40	9	45
Delaware	9	50	11	10	9	25	8	30	9	44
Maryland	9	55	11	45	10	.....	8	50	10	7
Virginia	9	45	10	55	9	50	8	35	9	46
West Virginia	9	45	10	25	9	55	8	50	9	44
North Carolina	9	45	10	55	9	50	8	40	9	47
South Carolina	9	35	11	5	9	35	8	25	9	40
Georgia	9	45	11	10	9	45	8	35	9	49
Florida	9	45	10	35	9	50	9	20	9	52
Ohio	9	45	10	35	9	40	8	20	9	30
Indiana	9	40	10	50	9	40	8	5	9	34
Illinois	10	10	11	5	9	50	8	15	9	50
Michigan	9	55	10	20	9	35	8	25	9	34
Wisconsin	10	40	11	15	10	10	9	.....	10	16
Minnesota	10	30	11	20	10	25	8	45	10	15
Iowa	10	.....	10	45	9	50	8	15	9	42
Missouri	10	.....	11	15	9	55	8	25	9	54
North Dakota	10	50	11	5	11	.....	8	5	10	15
South Dakota	10	15	10	55	10	15	8	30	9	59
Nebraska	10	5	10	50	9	55	8	15	9	46
Kansas	9	45	10	55	10	.....	8	25	9	46
Kentucky	9	40	11	15	9	50	8	15	9	45
Tennessee	9	40	11	5	9	45	8	15	9	41
Alabama	9	50	11	15	9	50	8	40	9	54
Mississippi	9	45	11	.....	9	45	8	40	9	47
Louisiana	9	30	10	40	9	50	8	50	9	44
Texas	9	50	11	.....	10	.....	8	45	9	54
Oklahoma	10	.....	11	25	10	15	8	30	9	47
Arkansas	9	50	11	.....	10	.....	8	35	9	51
Montana	10	15	10	25	9	55	8	20	9	44
Wyoming	10	.....	10	20	9	35	8	10	9	31
Colorado	9	55	10	20	9	50	8	30	9	39
New Mexico	9	45	10	30	10	.....	8	40	9	44
Arizona	9	30	10	15	9	40	8	20	9	26
Utah	9	.....	9	30	9	.....	7	55	8	51
Nevada	9	30	10	.....	9	30	8	25	9	21
Idaho	9	55	10	25	9	45	8	10	9	44
Washington	9	50	10	25	9	55	8	20	9	37
Oregon	9	55	10	35	10	.....	8	25	9	44
California	9	45	10	25	9	45	8	55	9	42
United States	9	54	10	54	9	52	8	33	9	48

FARM LABOR—Continued.

TABLE 587.—*Length of work by proprietor and hired labor, average number of hours worked by proprietors and hired men.*

OHIO FARMS.

Month.	Week days.				Sunday.			
	Live-stock farms.		Crop farms.		Live-stock farms.		Crop farms.	
	Proprietor.	Hired man.	Proprietor.	Hired man.	Proprietor.	Hired man.	Proprietor.	Hired man.
	Hours.	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hou.s.*	*Hours.*	*Hours.*
January	10.6	9.3	8.8	8.9	4.8	3.9	3.5	3.0
February	10.0	10.0	8.9	9.9	5.1	4.5	3.5	2.4
March	10.9	10.2	10.2	10.3	6.0	4.3	3.9	2.0
April	10.6	11.0	10.2	10.2	4.2	3.9	3.3	2.2
May	11.5	11.1	11.3	11.1	4.7	3.2	3.3	1.8
June	11.6	11.8	11.3	11.1	5.0	2.9	3.1	1.3
July	11.6	11.3	11.2	10.7	3.1	2.5	2.7	1.5
August	10.7	10.9	11.1	11.0	3.6	3.2	2.8	1.6
September	10.9	10.6	11.1	10.7	3.9	3.5	2.9	1.3
October	10.6	10.1	10.5	10.4	3.8	2.8	2.6	1.6
November	10.8	10.6	10.2	10.4	4.6	4.1	2.9	1.7
December	10.2	9.8	9.4	9.7	5.2	4.0	3.4	2.4
Average	10.8	10.5	10.4	10.5	4.5	3.6	3.1	1.9

NEW YORK FARMS.

Month.	Week days.				Sunday.			
	Fruit farms.		Live-stock farms.		Fruit farms.		Live-stock farms.	
	Proprietor.	Hired man.	Proprietor.	Hired man.	Proprietor.	Hired man.	Proprietor.	Hired man.
January	6.8	9.0	6.4	9.1	2.8	3.3	2.7	3.2
February	6.6	8.6	6.9	9.1	2.7	2.6	2.8	3.0
March	7.4	10.0	7.7	10.3	2.6	2.1	2.6	2.8
April	10.4	10.7	9.8	11.4	1.8	2.3	2.4	2.9
May	10.1	10.9	10.2	11.8	2.0	1.8	2.1	2.7
June	10.2	11.0	9.9	11.9	2.7	2.3	2.2	2.8
July	10.0	11.1	10.3	11.5	1.9	2.0	2.1	2.7
August	9.5	10.8	9.5	11.4	1.7	1.4	2.2	2.7
September	9.8	11.2	10.3	11.5	2.5	2.5	2.5	2.6
October	10.6	10.8	11.0	11.5	1.8	1.7	2.3	2.4
November	8.8	10.1	9.5	10.5	2.0	1.9	2.6	2.6
December	6.8	9.4	7.3	9.7	2.2	2.9	3.4	3.1
Average	9.0	10.5	9.2	10.9	2.2	2.2	2.5	2.8

FARM LABOR—Continued.

TABLE 587.—*Length of work by proprietor and hired labor, average number of hours worked by proprietors and hired men*—Continued.

ILLINOIS AND MINNESOTA FARMS.

Month.	Illinois farms.				Minnesota farms.			
	Week days.		Sunday.		Week days.		Sunday.	
	Proprietor.	Hired man.	Proprietor.	Hired man.	Proprietor.	Hired man.	Proprietor.	Hired man.
	Hours.	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*
January	7.6	9.2	2.5	3.6	8.9	10.1	6.2	5.3
February	7.6	9.0	2.6	3.2	9.5	9.3	6.0	5.3
March	7.8	10.8	2.3	3.2	10.2	10.1	6.3	5.2
April	10.4	11.8	2.4	2.8	11.4	12.0	5.3	4.7
May	11.2	12.4	2.2	2.2	11.4	12.4	4.4	4.0
June	11.5	12.3	2.3	1.5	10.6	12.3	4.0	3.7
July	10.8	12.0	2.3	1.6	11.7	12.2	3.4	3.3
August	10.9	11.7	2.2	1.6	11.6	12.4	3.8	3.5
September	10.2	11.5	2.2	1.6	11.1	11.6	4.2	3.8
October	9.3	10.8	2.3	2.0	11.6	12.0	4.5	4.4
November	9.2	10.3	2.4	2.1	10.6	11.3	4.8	4.2
December	7.8	9.4	2.2	2.7	9.5	10.3	5.2	4.8
Average for year	9.6	11.0	2.3	2.3	10.7	11.4	4.8	4.3

TABLE 588.—*Average week-day and Sunday hours of work for hired men and proprietors on 10 general farms and 12 dairy farms in Wisconsin.*

Months.	Average week-day hours.						Average Sunday hours.					
	Hired men.			Proprietors.			Hired men.			Proprietors.		
	General farms.	Dairy farms.	Both.	General farms.	Dairy farms.	Both.	General farms.	Dairy farms.	Both.	General farms.	Dairy farms.	Both.
	Hrs.	*Hrs.*	*Hrs.*	*Hrs.*	*Hrs.*	*Hrs.*	*Hrs.*	*Hrs.*	*Hrs.*	*Hrs.*	*Hrs.*	*Hrs.*
April	11.7	11.9	11.8	10.8	11.0	10.9	6.1	5.0	5.5	5.3	5.5	5.4
May	12.2	11.9	12.0	11.5	11.3	11.4	6.0	5.7	5.8	4.8	5.8	5.3
June	11.5	11.8	11.7	10.6	11.9	11.3	4.5	4.9	4.7	3.8	5.6	4.8
July	11.3	11.8	11.6	10.1	11.6	10.9	4.4	4.3	4.3	3.6	4.5	4.1
August	12.0	12.0	12.0	11.4	11.1	11.2	4.6	4.7	4.7	3.9	3.9	3.9
September	11.1	12.0	11.6	11.1	10.7	10.9	4.1	5.0	4.6	4.0	5.1	4.6
October	11.9	12.3	12.1	10.9	11.4	11.1	4.8	4.5	4.6	4.1	5.1	4.6
November	11.0	11.6	11.3	10.5	10.4	10.4	5.0	6.3	5.7	4.2	4.9	4.6
December	11.0	11.2	11.1	10.2	10.5	10.4	5.2	5.8	5.5	4.8	5.8	5.3
January	10.8	11.2	11.5	10.1	10.2	10.2	5.0	6.0	5.5	5.3	6.4	5.9
February	10.6	11.6	11.1	9.7	9.3	9.5	5.4	5.0	5.2	5.3	5.7	5.5
March	11.9	10.3	11.0	10.4	9.5	9.1	6.2	3.3	4.6	5.2	6.1	5.6
Average for year	11.42	11.63	11.52	10.61	10.71	10.68	4.77	5.02	4.91	4.56	5.33	4.98

HORSE LABOR.

TABLE 589.—*Number of hours that different-sized teams were used.*

ILLINOIS—14 FARMS. (Average number of horses per farm, 8.4.)

Size of teams.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
	Hours.	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*
1	17.5	14.6	15.5	18.3	27.3	27.1	41.5	47.3	43.5	30.3	21.9	25.9	330.7
2	108.8	118.3	117.4	154.2	205.2	434.4	378.7	242.5	184.6	181.7	358.8	194.5	2,679.1
3	.9	.8	.6	24.4	65.2	25.6	16.1	8.1	17.8	13.5	7.4	4.1	184.5
4	1.4	2.9	1.3	102.3	226.9	63.1	37.8	21.1	54.9	45.1	5.5	.5	562.8
5	.....	.....	.....	.....	9.6	1.3	1.0	3.0	.....	.....	.....	.....	14.9
6	.....	.....	.....	.....	1.1	.....	.....	.....	.3	.7	2.5	5.4	10.0

WISCONSIN—26 FARMS. (Average number of horses per farm, 4.5.)

1	20.8	21.6	22.8	25.2	25.6	36.6	70.2	42.2	37.4	34.6	30.4	29.5	396.9
2	88.2	104.6	108.8	130.6	155.2	245.7	262.2	195.5	188.9	173.5	166.7	103.2	1,923.1
3	4.0	3.0	1.8	46.8	81.5	37.9	36.9	22.1	27.0	37.5	27.3	9.7	335.5
4	1.7	1.2	3.2	37.1	49.1	18.0	9.5	3.8	11.3	29.0	10.5	.7	175.1
5	.....	.....	.....	1.0	2.4	1.9	.....	.....	.....	.....	.....	.....	5.3
6	.....	.....	.....	1.2	3.0	.....	.....	.....	.3	2.6	1.6	.....	8.7

NEW YORK—14 FARMS. (Average number horses per farm, 5.3.)

1	22.9	11.5	23.0	17.4	32.7	60.1	56.5	45.3	20.7	24.8	20.4	19.1	354.4
2	49.3	81.1	78.4	160.0	250.8	280.4	289.9	183.4	188.6	219.8	176.8	94.9	2,053.4
3	.....	.....	1.6	32.0	97.4	63.6	26.9	26.9	16.7	2.6	10.9	3.6	282.2
4	.....	.....	.....	16.4	23.2	11.4	3.1	7.4	9.7	11.9	4.9	3.1	91.1

MINNESOTA—16 FARMS. (Average number horses per farm, 6.8.)

1	9.6	7.4	9.3	6.6	15.1	19.2	18.9	16.3	18.0	20.1	16.0	17.4	173.9
2	102.1	122.0	128.6	104.3	147.6	279.3	308.1	314.5	200.1	225.1	217.8	136.3	2,285.8
3	3.4	2.3	2.6	27.8	42.7	49.6	45.3	41.9	52.6	21.7	22.6	6.3	318.8
4	1.7	2.8	16.4	91.3	132.8	40.6	37.6	60.4	50.4	42.4	21.7	8.9	507.0
5	.....	.....	1.1	16.3	22.6	8.2	3.0	5.8	27.3	44.2	18.7	2.6	149.8
6	.....	.....	.....	.2	6.2	.....	2.8	8.9	7.2	9.5	10.6	.....	45.4

AVERAGE HOURS WORKED PER HORSE PER MONTH.

State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total per year.
Wisconsin	36.7	40.4	44.4	92.5	129.0	112.7	118.1	77.7	75.7	95.6	77.2	43.7	944
Minnesota	35.2	39.9	49.9	105.7	157.1	136.6	137.2	144.9	134.2	143.0	109.8	52.2	1,245
Illinois	28.0	31.0	31.1	93.7	181.2	143.9	116.9	64.1	78.9	72.8	92.7	54.5	989
New York	23.6	32.9	34.9	96.6	163.1	154.1	135.5	98.4	91.3	96.2	81.7	45.0	1,053

INDEX.

Page.

Abandoned farms, relation to forest depletion 99
"Accredited-herd plan," usefulness 341
Africa, grain sorghums, production 525–527
Agricultural—
  Conference, National, attendance and work 13–14
  Economics Bureau, formation and work 17, 57–58
  Inquiry, Joint Commission, work 13
  products—
    exports, statistics 955–964, 968, 970–976, 982
    foreign trade, 1852–1921 982
    imports, statistics 949–955, 961, 965–968, 977–982
  statistics—
    Appendix 569–1078
    census of 1920 1003–1009
    miscellaneous 983–1078
Agriculture—
  conditions, review by Secretary 1–10
  Department—
    appropriations, 1922 61, 65–68
    building program 49–51
    cooperation with States in tick eradication 343
    economies effected, review 53–60
    estimates on hogs, numbers 189–190, 192
    inspection of butter, location of offices 374
    market reports, daily 380
    part of Market News Service in making prices 371, 380, 386
    receipts from Forest Service and other sources 62, 63–64
    Secretary, report for 1922 1–82
    See also Farm.
Air-cured tobacco, nature, production and uses 406–408
Alabama—
  cold-storage space, 1922 1019
  farm—
    expenses 1005, 1006, 1007
    mortgage debt 1004
    operators, nativity 1003
    population, lands, etc., in 1920 1009
  farmer's, food supply sources 999, 1000
  farms, classification by size 1008
  food supply of farm, sources 1000
  forest fires, causes, size, damage, and area, 1921 932, 936
  rice production, in 1849–1919 515–517
  wages on farm 1913 and 1922 996
Alaska, cold-storage space, 1922 1019
Alcohol, industrial, use of grain sorghums in manufacture 531
Alfalfa—
  harvest season 988
  hay, farm prices by months 691, 693
  seed—
    harvest season 988
    prices, farm and market 700, 704
    quantity per acre 990
  usefulness in dairy feeding 332
Almonds, imports, statistics 953
Animal—
  Industry Bureau, economies effected 58
  matter—
    exports, statistics 955–956, 961–963, 969–972
    imports, statistics 949–950, 961, 967, 977–978
  products, statistics, production, prices, etc 804–811

Page.
Animals—
farm—
and products, statistics 795–913
See also Live stock.
live—
exports, statistics 955, 961, 969
imports, statistics 949, 961, 977
predatory, control work 28–29, 59
Apples—
cold-storage holdings, by months 738
commercial crops of 1920–1922, summary 984
crop losses, cause and extent, 1912–1921 733
crops of 1920–1922, summary 984
exports, statistics 958, 963, 972
freight rates for several routes, 1900–1923 1017
harvest season 988
prices, by States and by months 730, 733
production, by States, 1889–1922 730–732
shipments, carlot, by States and by months 736–738
statistics—
of day's work 1068
production, prices, etc 730–738
total, crops of 1920–1922, summary 984
Appropriations, Agriculture Department, 1922 61, 65–68
Apricots, exports, statistics 958, 972
Argentina—
flaxseed, production and exports 533–535
hogs, increase, graph 185
Argentine, pesos, exchange rates, 1912–1922 1010
Argols, imports, statistics 950, 961, 965
Arizona—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmer's food supply, sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 938
grain sorghum, acreage, etc., 1922 528, 529
wages on farm, 1913 and 1922 996
Arkansas—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmer's food supply, sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 932, 937
rice—
growing, development 567
production in 1859–1919 516–517
wages on farm, 1913 and 1922 996
Ash, lumber production, by States, 1920 927
Asia—
grain sorghums, production 525
rice production, principal countries 512–514
Asses, world, numbers by countries 795–801
Auctioning, tobacco, methods and practices 434–437
Auctions, sales of hogs, advantages 239

Page.
Australia, exports of pork 273
Austria-Hungary, rye production, 1910–1914 501
Avena—
byzantina, value for warm climate 476
sativa. *See* Oats.
Ayrshire cow, champion butter-fat producer 328

Bacon—
exports, statistics 908, 956, 962, 971
market prices, wholesale and retail, 1913–1922 894
Bacteriology, relation to dairy sanitation 336
BAKER, O. E.—
E. Z. RUSSEL, S. S. BUCKLEY, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280
O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, C. E. CHAMBLISS, A. C. DILLMAN, O. C. STINE, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469–568
BALL, C. R., T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, C. E. CHAMBLISS, A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469–568
Bananas, imports, statistics 952–979
Barberry, eradication for control of black stem rust of wheat 26–28
Barley—
acreage, production and value, by States 632
bushel weights 565–566, 992
cost of production, discussion 553–556
crop—
condition and estimates, by months 632–633
losses, causes and extent, 1909–1922 496
value rank 470
crops of 1920–1922, summary 983
exports, statistics 958
foods, feeds, and feeding 498–500
harvest season 988
introduction and production development 488–490
loss from diseases, 1917–1921 496–497
market—
grades, discussion 497–498
types 497–498
marketings by farmers, monthly 634
planting dates, by States 989, 990
position in American agriculture 565–566
prices, farm and market 633–635
production—
factors affecting 490, 496–497
importance of crop, etc., discussion 486–500
outlook by States 499–500
prices, exports, etc., 1849–1922 631
quality variation 498
seed, quantity per acre 990
seed-bed requirements and manner of growing 555
statistics—
acreage, exports, and production, 1910–1922 69, 70, 73
production, prices, etc 489–490, 629–636
trade—
effect of prohibition 496
international, by countries 636
world production—
and distribution, discussion 486–490
by countries 629–631
Barns, tobacco, construction and upkeep 428–429
Basswood, lumber production, by States, 1920 926
Bay settlements, rye growing, historical notes 503

Page.
Beans—
acreage, production and value, by States 754
crops of 1920–1922, summary 984
exports, statistics 960
harvest season 988
imports, statistics 954
lima, harvest season 988
prices, farm and wholesale, by months, 1910–1922 754, 755, 756
production increase, suggestion 1001
seed, quantity per acre 990
shipments, carlot, by States 756
soy. *See* Soy beans.
statistics, production, prices, etc 752–756
world acreage and production, by countries 752–754
Beech, lumber production, by States, 1920 925
Beef—
consumption—
per capita 182
total and per capita, 1907–1922 810–811
dairy, grades produced 338–339
exports—
1910–1922, destination 838
statistics 956, 962, 970
imports, statistics 950
prices by cuts, Chicago and New York, 1913–1922 830–831
production—
and per cent of all meats, 1907–1922 809
from discarded dairy stock 338
products, exports, 1910–1922 837
trade, international, by countries 837
Beeswax—
exports, statistics 955
imports, statistics 949, 967
Beet—
sugar, seed imports, statistics 954
sugar. *See* Sugar, beet.
Beetle—
Engelmann spruce, distribution 163
Japanese, destructiveness and control work 32
tobacco—
flea, injury and control 423
injury to manufactured tobacco 423
Western pine, distribution, damage, and control work 162–163
Beetles, pine, distribution of species 163
Beets, sugar—
crops of 1920–1922, summary 984
seed, quantity per acre 990
statistics, production, prices, etc., 1856–1923 778–779
world production, 1909–1922, by countries 786
BELL, W. B., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, G. S. JAMIESON, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280
Berries, statistics of day's work 1072
Binders, statistics of manufacture and sale 1024
Bins, grain, statistics of manufacture and sale 1026
Birch, lumber production, by States, 1920 925
Blackberries, harvest season 988
Blackleg vaccine manufacture, discontinuance 59
Blister rust, white-pine, distribution and control 28, 165
Blue-grass seed—
harvest season 988
quantity per acre 990
Board of Awards, price reductions 54, 55
Boards, exports, statistics 957, 968

Page.
Boll weevil—
control work, progress 31
damage to cotton crop, 1909–1920 714
Bollworm pink, control work 31–32
Borer, corn, destructiveness and control work 33
Borers, stalk, insect enemies of grain sorghums 530
Bottles, milk, sterilization as health measure 336
Bovine tuberculosis, extent in United States 340
Boys' clubs, work, summary and details 44
Bran—
buckwheat, feed use 553
prices at Minneapolis, 1916–1922, by months 695
rice, feeding value 524
Brands—
butter, use in selling, note 362
condensed milk, note 364
Brazil nuts, imports, statistics 953
Bread grains, comparison of wheat and rye 507
Breakfast foods, rice 524
Breeding, dairy cattle, discussion 322–324
Breeds—
cattle, percentages in United States in 1920 324–325
hog, origin and description 193–194
Brewers, use of barley, annual consumption 496
Broom corn—
crops of 1920–1922, summary 984
exports, statistics 956
harvest season 988
production, 1917–1922 759
seed quantity per acre 990
statistics, production, prices, etc. 758–759
Brown Swiss cow, champion butter-fat producer 329
BUCKLEY, S. S., E. Z. RUSSELL, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280
Buckwheat—
acreage—
production and value, by States 644
production, yield and price, 1866–1922 547–549
cost of production, discussion 559
crop condition and forecast, by months, 1902–1922 645
crops of 1920–1923, summary 983
exports, statistics 958
food uses 552–553
growing—
in United States, history 549
season, shortness 567
harvest season 988
importance as a crop, comparisons 546–547
position in American agriculture 567
prices—
1866–1915, changes 547–549
on farm, by States and months 646
production—
and value, 1849–1922 644
discussion 546–553
factors 549–552
increase, suggestion 1001
seed quantity per acre 990
soil and climate requirements 549–552
statistics—
acreage and production 69–73
production, prices, etc. 644–646
world production 547
yield per acre 547

Page.
Budding, fruits, researches 26
Budworm—
spruce, distribution 163
tobacco, habits and control 423
Buffaloes, world, numbers, by countries 795–801
Building program for Department 49–51
Buildings, farm, expenses by States 1006
Bull—
grade, usefulness 322
pure-bred, usefulness 322, 325
selection as factor in dairying 322–324
Bulletins, Department, new, classified list 76–82
Bulls—
discard, reasons, and quality of meat 339
pure-bred—
percentage by States, in 1920 325
slaughter as calves, note 327
Burley tobacco, nature, production and uses 409
Bushel, weights for several crops, 1902–1922 992
Butter—
and cheese, freight tonnage of railways, 1916–1922 1012
consumption in several countries 288
creamery—
marketing methods and practices 361–362
seasonal cold storage 369
development of production 310, 312–314
Elgin board, suspension 385
exports—
and imports for 1909–1921, graph 392
early 302
statistics 955, 969
factories, location in United States 296
factory, production in 1921 314
farm—
percentage of total amount 296
production 310, 312–313
freight rates for several routes, 1900–1923 1018
imports, statistics 949
inspection and prices 372–375
market receipts, by months 847–850
movement into cold storage 368
prices—
basis of making 383–385
in large markets 379–381
method of fixing 381–386
relation of interrupted transportation 380
relation to milk prices 385
wholesale and retail, by months 845–846
wholesale, and storage movement 371
wholesale in New York, 1919–1923 372
wholesale, in 122 years 376
wholesale of 92 score product 378
production—
and consumption, by seasons 366
and receipts at principal markets 367
by months 853
in United States 292, 293
increase, suggestion 1001
quality, in relation to demand and prices 372
season of largest production 375
shipment forms 362
statistics 845–851
storage holdings 851
tariff rates, 1824–1922 389–390
temperature for holding in storage 368

Page.
Butter—Continued.
trade, international 847
wholesale and jobbing trades, distinction 362
By-products—
buckwheat, use as feed 553
rye, feed value 510–511
tobacco, utilization 454

Cabbage—
acreage and production, by States 763
crops of 1920–1922, summary 984
freight rates for several routes, 1900–1923 1018
harvest season 988
harvesting, statistics of day's work 1072
plants, quantity per acre 990
prices, 1910–1922, by months 763–764
shipments, car lot by States 764
statistics, production, prices, etc 763–764
California—
citrus fruits, production and value 745–747
cold-storage space, 1922 1019
cooperative creameries 387
durra introduction 527
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmer's food supply, sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 939
fruits and nuts, production and prices 747
grain sorghum, acreage, etc., 1922 528, 529
rice—
growing 567
introduction 518
production, 1919 517
wages on farm, 1913 and 1922 996
Calves—
bull, from dairy, quality and usefulness 339
dairy, use in veal production 338
prices on farm, by months and by States 822, 824, 830
relation to dairying 283
slaughter under inspection 913
weight, live and dressed 903
See also cattle.
Camphor, imports, statistics 951, 968
Canada—
barley growing, increase 500
flaxseed production and exports 533–535
pork exports 253, 273
Canal, Erie, relation to dairying 304
Cane—
acreage and production, by States 781, 782
mills, statistics of manufacture and sale 1026
Canker, flax, injury to crop, and control 542
Canned—
goods—
food products, freight tonnage of railways, 1916–1922 1012
production increase, suggestion 1001
milk. *See* Milk, condensed.
Cantaloupes—
harvest season 988
shipments, car lot, by States 773
Carload, weights for farm crops, etc 1011
Casein, production by States 297

Page.
Cattle—
and calves, freight tonnage of railways, 1916–1922 1012
dairy—
breeding in United States 322–324
feeding and feed crops 331–335
feeding discoveries 335
inspection 339
pasture as best source of feed 332
production 319–324
testing and registration 329
exports—
and prices, 1896–1922 818
statistics 955, 962, 969
first landings in United States, note 301
following by hogs, to save waste feed 204
freight rates for several routes, 1900–1923 1016
imports—
and prices, 1896–1922 818–819
statistics 949, 977
introduction in West by friars 302
losses from disease and exposure, 1890–1923 820
market receipts and shipments 833–834
number and value, 1870–1923, by States 821–824
prices—
by ages and classes 913
comparison with hogs and lambs, 1913–1922, graph 242
farm and market 818–831
increase 11
pure-bred—
dairy, discussion 324–331
numbers, by breeds and States 326
percentages of breeds in United States in 1920 324–325
sale as source of profit in dairying 284
shipments, cooperative, losses, shrinkage, etc 838–841
situation, monthly 831–832
slaughter under inspection 913
statistics, 1896–1922 818–845
stockyards—
receipts and shipments 913
receipts and shipments, monthly 834–836
testing for tuberculosis, remarks 341
ticks, eradication and cure of fever 342, 343
tuberculosis control 29–30
weight, live and dressed 903
world, numbers by countries 795–801
Cedar, lumber production, by States, 1920 922
Celery, shipments, carlot, by States 771
Centennial Exposition, sorghums exhibit 527–528
Cereal—
foods, exports, statistics 958
grains, food value 471
"Cereals," application of term 469
CHAMBLISS, C. E., A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469–568
Cheese—
American, marketing, remarks 363
boards, relation to making of cheese prices 385
consumption in several countries 289
exports—
and imports for, 1900–1921, graph 392
early 302
statistics 955
factories, location in United States 296
factory, production in 1921 311
farm—
percentage of total amount 296
production in period, 1839–1909 307–309

Cheese—Continued. Page.
imports, statistics 949, 965, 977
improvement by storage 368
making—
cooperation, early, in New York, note 310
development of industry 307–311
market receipts, by months 854–856
movement into cold storage 368
prices—
at New York, by months 853
basis for making 385–386
in large markets 379–381
method of fixing 381–386
production—
by months 853
in United States 292, 293
increase, suggestion 1001
protection from freezing 356
quality, in relation to demand and prices 372
seasonal cold storage 369
statistics, 1910–1922 853–857
storage holdings, 1916–1922, by months 857
tariff rate, 1789–1922 389–390
trade—
international, by countries 857
with several countries 391–394
warehouse system of handling 356
Chestnut—
blight disease, distribution 164–165
lumber, production by States, 1920 924
Chicago—
hogs, weight monthly, 1913–1922, graph 235
market center for dairying, note 300
meat-packing industry, development 230
Chickens—
prices on farm, 1909–1922, by months 863
world, numbers, by countries 802–803
(*See* also Poultry.)
Chicle, imports, statistics 951
Chilo plejadellus, habits 519
China—
grain sorghums, production and uses 525, 527
rice production 513, 514
Chinese nut oil, imports, statistics 953
Chloridea virescens, injury to tobacco and control 423
Chocolate—
exports, statistics 956, 961
imports, statistics 950, 961, 965
Cholera, hog, losses and control 215–217
Cigarettes—
production, growth of industry 453–454
production increase, 1881–1921 453–454
Cigar-leaf tobacco, nature, production, and uses 408–409
Cigars, production, increase 453
Cinchona bark, imports, statistics 951
Cincinnati, hog-packing center, development 229–230
Circulars, Department, new, classified list 76–82
Citrus fruits, statistics, production, prices, etc 745–747
Civil War—
effect on hog market 189–190
effect on hog prices 243
relation to dairying 310
Clapp, Earle H., W. B. Greeley, Herbert A. Smith, Raphael Zon, W. N. Sparhawk, Ward Shepard, and J. Kittredge, Jr., article on "Timber: Mine or crop?" 83–180
Cleaners, statistics of manufacture and sale 1025
Clearing, land, relation to forest depletion 84–86
Climatic conditions, relation to hog marketing 245–246

Page.
Clover—
hay, prices, by months 688
red, usefulness in dairy feeding 334
seed—
acreage, production and value, by States 698
crops of 1920–1922, summary 984
exports, statistics 960
harvest season 988
imports, statistics 954
market receipts and shipments 701–702
prices, farm and market 699–700, 702
production forecasts, monthly 699
quantity per acre 990
Clubs, boys and girls, enrollment and value of products 44
Coal strike, injury to farmers 7
Cocoa—
exports, statistics 956, 961
imports, statistics 950, 961, 965, 979
oil—
exports, statistics 959
imports, statistics 953
Coconuts, imports, statistics 953
Coffee—
exports, statistics 956, 961
imports, statistics 951, 961, 965, 979
world trade, by countries, 1909–1921 790
Cold storage—
financing 370
pork and lard holdings, 1916–1922, graph 254
space, totals by States, 1922 1018–1019
warehousing 367–371
Colonists, American, rye growing, early history 503
Colorado—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmer's food supply, sources 999, 1000
farms, classification by size 1008
flaxseed production, 1909 541
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 938
grain sorghums, acreage annually, etc., 1922 528, 529
wages on farms, 1913 and 1922 996
Commodity councils, composition and work 15–17
Condensed milk—
production in United States 292, 293
See also Milk, condensed.
Conifers, consumption 112
Connecticut—
buckwheat production, 1839–1859 550
cold-storage space, 1922 1018
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmer's food supply, sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 931, 935
rye production, 1839–1859 504
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Cooperage, wood consumption 109

Page.
Cooperation—
creamery, remarks 362
forest protection 35, 36, 39
marketing of hogs 237–241, 265–267
tobacco marketing, practices and advantages 439–442
Cooperative associations, marketing benefits to farmers 9, 12
Copal, imports, statistics 951
Cork, imports, statistics 951, 961
Corn—
acreage—
in Southwestern States 526
production, and value, by States, 1920–1922 572
and rice, by-products for fattenng hogs 524
and rye, fattening hogs with 511–512
area occupied by 562, 563
Belt, hog industry, development, 1812–1920 187–192
borer, destructiveness and control work 33
canned, production, 1905–1922, by States 761–762
comparison with grain sorghums 525–530, 531
crop—
condition, by months, 1902–1922 573
losses and causes, 1909–1921 575
relation to hog production 209–214
relation to hog production, 1919, graph 212
value rank 470
crops of 1920–1922, summary 983
Egyptian, introduction in 1874 527
equivalent of 100 pounds gain in pork 225–227
exports, statistics 958, 963, 973
feed—
for hogs, comparison with barley 499
for hogs, comparison with oats 485
freight—
rates for several routes, 1900–1923 1014
tonnage of railways, 1916–1922 1012
harvest season 988
imports, statistics 952, 965
inspection and grading, 1917–1922 580
Jerusalem, introduction in 1874 527
market—
price, 1899–1922 576
receipts and shipments, 1910–1922 578–579
marketing—
in form of hogs 182, 188
monthly by farmers, 1917–1922 575
meal, exports, statistics 959, 963
planting dates, by States 989
position in American agriculture, remarks 561, 562
prices—
and hog prices, relation to hog receipts, graph 260
at foreign markets, 1912–1922 577
farm, by months, 1908–1922 575
production—
and distribution, 1897–1922 573
1885–1920, and hogs packed following year 210–211
forecast, monthly, 1912–1922 573
increase, suggestion 1001
map, 1919 210
rice. *See* Milo.
seed, quantity per acre 990
statistics—
acreage, exports, and production, 1910–1922 69, 70, 73
acreage, yield, prices, etc 569–580
of days work, in several operations 1055–1059
supplies, by months, 1909–1922 579
trade, international, by countries 580

Corn—Continued. Page.
usefulness in dairy feeding 334
world production, by countries 569–570
yield, prices, and acre value, by States, 1913–1922 574
Cotton—
acreage and production, 1913–1922, by States 712
area occupied by 562, 563
council, composition and work 16
crop—
condition and forecasts, 1901–1922, by months 712–713
losses, causes and extent, 1909–1921 714
value rank 470
crops of 1920–1922, summary 983
exports, statistics 957, 961, 963, 972
farms, hog production 206–208
freight—
rates for several routes, 1900–1923 1015–1016
tonnage of railways, 1916–1922 1012
harvest season 988
imports, statistics 951, 961, 979
loss from boll weevil, 1909–1921 714
marketings by farmers, 1912–1922, by months 715
planting dates, by States 989, 990
position in American agriculture 564
price increase 10
prices, farm and market 713, 715, 720
production, value and exports, 1866–1922 711
seed, quantity per acre 990
standards for grade and color, revision 20
statistics—
acreage, exports, and production, 1910–1922 69, 72, 74
of day's work in several operations 1062–1066
production, prices, etc 708–721
trade, international, by countries 720
world production and acreage, 1910–1923, by countries 708–711
yield and acre value, by States 713
Cottonseed—
exports, statistics 960
infestation with pink bollworm, interception by inspector 32
meal—
prices at 17 markets 697
prices at Memphis, 1910–1923, by months 696
oil—
exports, statistics 959, 964, 974
international trade, by countries 722
prices at New York, by months 722
production, uses and exports 270, 271, 272
prices on farm, 1910–1922, by months 721
production and value by States, 1918–1922 721
Cottonwood, lumber production, by States, 1920 926
Councils, commodity and regional, nature and object 15–17
Cow, dairy—
place in economic development of United States 281–284
production average, note 321
rations in feeding 334
Cowpeas—
prices, by months 756
seeding, quantity per acre 990
usefulness in dairy feeding 334
See also Peas.
Cows—
dairy—
champion butter-fat producers, by breeds 328–331
discard, reasons 338
efficiency as factor in profits 319–322

Cows—Continued.
dairy—continued. Page.
numbers in relation to population, 1850–1920 315–319
numbers in United States 315–317
milch, numbers in several sections, 1850–1920 298–301
milk, number and value, 1870–1923 819–822
Cranberries—
crops of 1920–1922, summary 984
harvest season 988
statistics, acreage, production and value 748
Cream separators, statistics of manufacture and sale 1026
Creameries, types in United States 361–362
Credit, farm—
improvement in conditions 11
legislation needed 14–15
Cribs, corn, statistics of manufacture and sale 1026
Crop—
production, cost estimation, remarks 559
reporting service 18, 19
Crops—
acreage averages by States, 1920–1922 986
area occupied by corn, wheat, hay, and cotton severally 562, 563
grain, potatoes, forage, tobacco, cotton, fruits, and other leading kinds, summaries, 1920–1922 983–985
growth, relation to day's length 26
hogging down, advantages 182, 205
positions and cropping systems 560–568
prices, index numbers 993
statistics, acreage, exports, and production, 1910–1922 69–74
ten important, value per acre 985
value comparisons by States, 1919–1922 987
value, comparison of 11 principal 470
yields and conditions per acre, composite 991
Cross-ties, timber consumption 109
Cuba, demand for American pork products 251, 273
Cultivators, statistics of manufacture and sale 1023, 1024, 1027
Curing, tobacco, methods, development, and relation to type 406–409
Currants, imports, statistics 952, 967
Cut-over forests, settlement, etc 86–89
Cypress, lumber production, by States, 1920 922

Dairy—
by-product of meat from old stock and calves 338
cattle—
inspection 339
numbers, 1920 316
See also Cattle.
centers, 1919 318
cow, improvement by importations and care 307
See also Cows.
farms—
hog production 208–209
sanitary improvement 336
industry, article by C. W. Larson, L. M. Davis, O. A. Juve, O. C. Stine, A. E. Wight, A. J. Pistor, and C. F. Langworthy 281–394
products—
classes, grades and inspection 372, 373
comparison between several, illustration 285
consumption in several countries, discussion 287–291
control by laws 337
economic status as food 286
export trade, discussion 391–394
exports, statistics 955, 961
geography of production 295–297
imports, statistics 949, 961

Dairy—Continued.
products—Continued. Page.
inspection and grading 371–375
marketing, discussion 351–375
prices, discussion 375–386
prices, method of fixing 381–386
receipts from sales in 1919 318
relation of tariff 389–390
storage reports, monthly and daily 371
value for 1840 305
value on farm, comparisons 282
values for period, 1839–1909 305–309
sanitation, discussion 335–337
Dairying—
by-product from old cows and from calves 284
commercial districts, graphic statement 318
development in United States 297–319
exports, first statistics in United States 302
importance, discussion, with eight reasons 281–284
losses from tuberculosis 340
marketing organizations, cooperative feature 386–389
prices, advantage of uniformity 284
profits, relation to efficiency of cows 319–322
relation—
of Erie Canal 304
to New England and New York farming 307
stability as a business 283
Dairymen's League, milk producers for New York City, relation to milk marketing 388–389
Dates, imports, statistics 952, 967
DAVIS, L. M., O. A. JUVE, O. C. STINE, A. E. WIGHT, A. J. PISTOR, C. F. LANGWORTHY, C. W. LARSON, article on "The dairy industry" 281–394
Delaware—
cold storage space, 1922 1019
dairying, cost of keeping cow and producing milk 346, 347, 348
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmer's food supply, sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 932, 936
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Denmark, pork exports 253, 273
Depopulation, rural towns, relation of forest depletion 100–103
Diet, studies, disclosures on value of milk, etc. 285–287
Diggers, statistics of manufacture and sale 1024
DILLMAN, A. C., O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, C. E. CHAMBLISS, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469–568
Director of Extension Work, recommendation 46
Diseases—
flax, description and control 542–543
rice, important 519
rye, losses, 1917–1921 509
Disking, acreage in day's work 1049
District of Columbia—
cold storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004

District of Columbia—Continued.
farm—continued. Page.
operators, nativity 1003
population, lands, etc., in 1920 1009
farms, classification by size 1008
Diversification, crops, relation to hog industry in South 207
Dressed meats, freight tonnage of railways, 1916–1922 1012
Dried milk—
use and marketing 365
See also Milk, condensed.
Drills, statistics of manufacture and sale 1023
Ducks, world, numbers by countries 802–803
Duroc-Jersey hog, origin and characteristics 194, 196
Durra, introduction in 1874 527
Dyewoods, imports statistics 951, 961

Economics—
Home, proposed new bureau 34
research work, consolidation in one bureau 17, 57–58
Economy, record of Department for year 53–60
Education, graduate school for workers in Department 30
Eggs—
exports, statistics 955, 961
freight—
rates for several routes, 1900–1923 1018
tonnage of railways, 1916–1922 1012
imports, statistics 949, 961
market receipts, by months 860–862
prices, farm and market, 1909–1922 858–859
production increase, suggestion 1001
statistics, 1909–1922 858–863
storage holdings, by months 863
Egypt, talari exchange rates, 1912–1921 1010
Elevators, farm, statistics of manufacture and sale 1026
Elgin butter board, note 385
Elm, lumber production, by States, 1920 926
Engines, farm, statistics of manufacture and sale 1026
England—
sterling exchange rates, 1912–1922 1010
wheat prices, 1259–1921 605, 606
Ensilage, cutters, statistics of manufacture and sale 1025
Epitrix parvula, injury to tobacco and control 423
Equipment, Department, exchange and utilization 55
Erie Canal, relation to dairying, note 304
Ergot, rye, losses in 1917–1921, and danger to stock 509
Europe—
rye production and consumption, 1910–1914 501
western, flaxseed imports and use 535
Evaporated milk. *See* Milk, condensed.
Evaporators, statistics of manufacture and sale 1027
Exchange, foreign rates, 1912–1922 1010
Exhibits, Department, work of 1922 46, 59
Expenditures, Agricultural Department, 1922 62, 63, 66–68
Exports—
agricultural—
decrease 6
increase, 1921 250
products, statistics 955–964, 968, 970–976, 982
barley, statistics 631–958
beef, statistics 956, 962, 970
buckwheat, 1849–1922 644
cattle, statistics 818, 955, 962, 969
coffee, statistics 956, 961
corn, statistics 958, 963, 973
cotton, statistics 72, 957, 961, 963, 972
cottonseed 960
cottonseed oil, statistics 959, 964, 974

Exports—Continued.
dairy— Page.
for 1790, note 302
products, statistics 955, 961
flaxseed 537–538, 656
foodstuffs, 1910–1922 70–72
forest products, statistics 957–958, 961, 968, 975–976
fruit, statistics 958, 961, 972–973
grain and grain products, statistics 958, 961, 963, 964, 973
hides and skins, statistics 956
hogs, 1909–1922 902
hops, statistics 955, 959, 961, 964, 974
horses and mules, statistics 817, 955, 969
lamb and mutton, 1910–1922 882
lumber, statistics 957, 968, 975–976
meat and meat products, statistics 956, 962, 963, 970, 971
merchandise, increase 1921 250
mutton statistics 882, 956
oats, statistics 620, 958
oils, edible, 1916–1921 272
packing-house products, statistics 955, 961, 962–963
peanut oil, statistics 959
peanuts, statistics 959
pork—
and pork products trend, 1790–1922, review and maps 273–275, 277
statistics 906, 907–908, 956, 962, 963, 971
rice, statistics 959, 961, 964
rye, statistics 510, 958
sheep, statistics 955
sugar, molasses and sirup, statistics 960, 961, 964
tobacco—
historical notes 448–449
statistics 960, 961, 964, 975
trade in dairy products 391–394
vegetable oils 1029–1032
vegetables, statistics 960, 961
wheat, statistics 614, 958, 964, 973
wool, statistics 955, 961
Extension—
atcivities, club work, field agents, etc 43–44
work, reorganization 46–47

Families, farm, pork consumption 182, 201, 206
Farm—
credit, legislation needed 14–15
families, pork consumption 182, 201, 206
labor. *See* Labor.
products—
grades and standards 19–21
inspection at shipping point and receiving point 21–22
overproduction, discussion by Secretary 4
prices, discussion by Secretary 3–8, 10–12
shipments to and from Hawaii 969
shipments to and from Porto Rico 969
value, estimates, 1879–1922 985
See also Agricultural products.
systems, relation to hog production 199–209
taxes, per acre, by States, 1913 and 1921 1002
Farmer—
calculation of profits in dairying 349–351
failure to appreciate value of pure-bred cattle, note 327
Farmers—
cooperative marketing associations, act encouraging 12
Bulletins, new, classified list 76–82
food supplies, sources 999–1001
legislation helpful to 12–13
losses and conditions, discussion by Secretary 7–12
prices for purchases 994

Page.
Farming—
minor expenses 557
tobacco, cropping systems 413–415
Farms—
abandoned, relation of forest depletion 99
classification by size, by States 1008
development in West, relation to dairying 282
expenses by States 1005–1007
hogs, slaughter for meat supply 269–270
implements, statistics 1020–1028
mortgage debt reports, by States 1004
operators, nativity, by States, 1920 1003
population, land areas, woodland, etc., by States 1009
sales, percentages, by months 992–993
statistics of operations with field implements 1045–1074
value of plow lands, 1920–1923 998
Fats, necessity in diet 270
Feathers—
exports, statistics 955, 961
imports, statistics 949, 961
Federal Reserve Act, amendment in favor of farmers 12
Feed—
barley, value and use 499
carriers, statistics of manufacture and sale 1026
cost requirements in milk production 344–350
farm, expenses by States 1005
grinders and crushers, statistics of manufacture and sale 1025
live stock, linseed meal, use and value 545–546
oats, value 472
price index number, with milk and hay 382
prices, 1910–1922, by months 695–697
use of barley 565
Feeding—
barley to live stock, experiment with hogs 499
buckwheat by-products 553
dairy, new discoveries 335
live stock, with rye 511
oats, notes 483, 485
Feeds—
oat, value and uses 483, 485–486
rye, nature and uses 510–511
waste, utilization for hogs 181, 182, 204, 206, 207
Fence, building, statistics of day's work 1074
Fertilizer—
distribution, statistics of day's work 1050
distributors, statistics of manufacture and sale 1026
farm expenses, by States 1005
Fertilizers, tobacco—
production, requirements 429
requirements and use 420–422
Fever, cattle, control by eradication of ticks 343
Fibers—
animal, imports, statistics 949, 977
vegetable, imports, statistics 951, 961, 979
Field peas, seeding, quantity per acre 990
Figs, imports, statistics 952, 967
Filberts, imports, statistics 953
Fir—
balsam, lumber production, by States, 1920 923
Douglas—
lumber production, by States, 1920 921
stumpage prices 147
white, lumber production, by States, 1920 923
Fire, protection of forests, by States 160–162
Fire-cured tobacco, nature, production and uses 406–408

Page.

Fires—
forest—
causes and extent 37, 38–41
causes, by States and groups of States, 1921 931–933
occurrence, losses, etc 161–162
size, damage, and area, by States and groups of States, 1921 934–939
Firewood, consumption and sources 110
Fish, production increase, suggestion 1001
Fixed Nitrogen Research Laboratory, economies effected 56
Flavoring extracts, exports, statistics 957
Flax—
cost of production, variation with region 554
crop, value rank 470
diseases and insects, control 542–543
harvest method 558
imports, statistics 951, 965, 966, 979
industry in United States, history, 1620–1919 538–541
position in American agriculture 568
seed—
acreage, production, prices, imports and exports, trend 533–538
acreage, world countries, 1912, 1913 533–535
classes, commercial 543–544
cost of production, discussion 558
crop, importance, location, acreage, and production, 1919 533
production 533–546
production, factors 542–543
soils adaptable 542
statistics, production, prices, etc 647–656
world production and acreage, by countries 647–650
Flaxseed—
classes and grades 543, 545
crop—
condition and forecasts, by months 651
losses, causes and extent, 1910–1921 653
crops of 1920–1922, summary 983
crushing for oil and cake 535, 544, 545
exports, 1899–1922 537–538
food uses 546
harvest season 988
imports—
1899–1922 537–538
statistics 954, 965, 966, 980
market receipts, 1910–1923 655
marketing 543–545
marketings by farmers, monthly 653
prices—
1907–1909 538
farm and market 652, 654
production and value, by States 651
quality as shown by grade 545
seeding, quantity per acre 990
statistics, production, prices, etc., 1849–1922 650–656
trade—
and prices 568
international, by countries 655–656
uses in manufacture of paints, etc 535, 545
Flea beetle, tobacco, injury and control 423
Florida—
citrus fruits, production and value 745, 747
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators nativity 1003
population, lands, etc., in 1920 1009
farmer's food supply, sources 999, 1000

Page.
Florida—Continued.
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 932, 936
rice production in, 1849–1919 515–517
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Flour—
exports—
1800, 1840, 1845 615
statistics 959, 964, 974
freight tonnage of railways, 1916–1922 1012
output, daily, by States 615
Flours, rye and wheat, comparison 507
"Flu," hog disease, symptoms and losses 218
Flue-cured tobacco, nature, production, and use 408
Food—
cereal grains, composition and value 471
cereals, production increase, suggestion 1001
farmers' supplies, sources 999–1001
products, inspection by United States Government 374–375
Foods—
barley, forms 498
oat, forms and value 483
Foodstuffs, exports, 1910–1922 70–72
Forage, crops of 1920–1922, summary 984
Foreign—
countries—
barley, acreage and production 629–631
beans, production, 1909–1922 752–754
beets, production, 1909–1922 786
corn, acreage and production 569–570
cotton, acreage and production, 1910–1911 708–711
flax, acreage and production 647–650
hops, production, 1895–1922 749
live stock, number and kinds, by countries 795–801
oats, acreage, production, etc 618–620
peanuts, production, 1911–1921 760
peas, production, 1909–1922 757–758
potatoes, acreage and production 666–667
poultry, number and kinds, by countries 802–803
rye, production and acreage 637–638
silk, production, 1909–1921 794
sugar, production, 1909–1921 783–786
tobacco, production and acreage, 1909–1922 723–724
wheat, production, yield, etc 581–582, 584–587
wool, production, 1911–1921 884
exchange rates for 1912–1922 1010
Forest—
experiment stations, increase, recommendation 36
fires. *See* Fires, forest.
lands—
Government owned, area 159
management, practices and suggestions 166–170
ownership 159
legislation, recommendations by Secretary 36–38
planting, increase and need 168–169
problems, discussion by Secretary 34–41
products—
exports, statistics 957–958, 961, 968, 975–976
imports, statistics 951–952, 961, 968, 981, 982
Service—
economies effected 57
receipts, 1922 62
statistics 914–948
trees, insects and diseases, control 162–165

Page.
Forestry—
expenditures, Federal, State, and private, 1922 948
Federal cooperation with States and individuals 35, 36, 39
improved, increase of timber growth 141–144
National activities, education and research 171–172
needs and practices 166–180
waste lands, feasibility, timber growth, etc 138–145
white-pine, profitableness, examples 152–154
Forests—
depletion—
relation of land clearing 84–86
relation of timber mining 84
eastern area, original and depletion 84–86, 88
fires—
protection 37, 38–41
protection, by States 160–162
intensive management, relation to permanent settlements 107–108
municipal and county, by States 940
National—
administration, protection, and uses 34–41
area, by States, 1922 940
road and trail construction 43
timber, free use by residents, 1906–1921 947
timber sales, amount and value, 1904–1921 944
timber stand, by forests and by species, 1922 944–947
planting, by regions, and by classes of owners 941
State, parks and other State forest land, by States 940
trees, annual growth by species and by regions 942–943
western, area, orignal and depleted 84–86, 88
France—
buckwheat production, in 1909–1913 547
demand for American pork products 251
hogs, decrease, graph 185
prohibition of American pork, 1881 191
reforestation and reclamation work, cost and revenues 106–107
Friars, introduction of milk cattle 302
Freezing, danger to cheese 356
Freight—
charges, relation to lumber prices 119–121
lumber, charges in 1920 115
rates—
hogs and pork, Chicago to New York, 1896–1922, graph 252
index numbers for 1900–1922 1011
on lumber, hauls, etc 115–118
railway, changes for 1900 and 1923 1013–1018
relation to farm prices 4
relation to market movement of hogs 253
tonnage, railway, for farm products, 1916–1922 1012
Fruit—
and vegetables, freight tonnage of railways, 1916–1922 1012
statistics of day's work in several operations 1068–1070
Fruits—
budding, researches 26
exports, statistics 958, 961, 972–973
grading 20
imports, statistics 952, 961, 967
production, increase, suggestion 1001
receipts at principal markets, by months 776–777
shipments, carlot, by months 774–777
statistics, production, prices, etc 730–748
Fuel, wood, consumption 109
Funds—
Agriculture Department, appropriations and income 61–68
reserve, amount saved during year 54
Fungous diseases, rye, losses from 509

Page.
GARNER, W. W., E. G. MOSS, H. S. YOHE, F. B. WILKINSON, and O. C. STINE, article on "History and status of tobacco culture" 395–468
Geese, world, numbers, by countries 802–803
Gelatin, imports, statistics 949
Georgia—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmer's food supply, sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest—
fires, causes, size, damage, and area, 1921 932, 936
products, returns to State 105
kafir and milo, introduction 528
rice production, 1839–1919 515–517
rye growing, early history 503
Sumter County, farms organization 208
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Germany—
demand for American pork products 251, 273
hogs, increase, graph 185
pork production, consumption, and imports 273
prohibition of American pork, 1881 191
rye production, 1910–1914 501
timber production and requirements 126
GIBBONS, C. E., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280
Ginseng, exports, statistics 958, 961
Gipsy moth, distribution 163
Girls' clubs, work, summary and details 44
Glucose—
exports, statistics 958, 961, 963, 973
freight tonnage of railways, 1916–1922 1012
Glue—
exports, statistics 955
imports, statistics 949
Goats—
slaughter under inspection 913
world, numbers, by countries 795–801
Graders, statistics of manufacture and sale 1025
Grades—
flaxseed, State sets 545
rice 520
hogs and pork, need in marketing 261–264
Grading—
butter and cheese, remarks 373
farm products 19–21
Grain—
amount and cost for 100 pounds of milk 349
crops, statistics 569–665
Futures Act—
benefit to farmers 13
enactment, amendment and enforcement 48–49
imports, statistics 952, 961, 965
production, computation, example 570
products—
exports, statistics 958, 961, 963, 964, 973
imports, statistics 952, 961, 965

Grain—Continued.
seed— Page.
loans, 1922 51
loans collection 51–52
sorghums, crops of 1920–1922, summary 984
See also Sorghums.
Standards—
Act, enforcement, increased activity 23–24
revision 21
statistics of day's work in several operations 1053–1059
Grains—
cereal, food value and composition 471
coarse, application of term 469
exports, statistics 958, 961, 963, 964, 973
small—
article by C. R. Ball and others 469–568
application of term 469
Grape fruit—
imports, statistics 952
prices, wholesale, by months 747
shipments, by carlots 745
Grapes—
harvest season 988
imports, statistics 952
shipments, carlot, by States 773
Grass—
seed—
exports, statistics 960
imports, statistics 954, 980
worm, southern, injury to rice 519
Grasshoppers, control in rice fields 543
Grease, exports, statistics 956
Great Britain—
timber production and requirements 126
wheat supplies, source, 1845–1850 616
GREELEY, W. B., EARLE H. CLAPP, HERBERT A. SMITH, RAPHAEL ZON, W. N. SPARHAWK, WARD SHEPARD, and J. KITTREDGE, Jr., article on "Timber: mine or crop?" 83–180
Green bug, oat enemy, economic importance 482
Guernsey cow, champion butter-fat producer 330
Gum, lumber production, by States, 1920 924
Gums, imports, statistics 951, 961, 968

Hams, market prices, wholesale and retail, 1913–1922 894
Hardwoods—
production and consumption 113–114
stumpage prices 149–150
HARLAN, H. V., C. E. LEIGHTY, C. E. CHAMBLISS, A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, artiile on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469–568
Harrowing, statistics of acreage per day 1048
Harrows, statistics of manufacture and sale 1021
Harvest—
machinery statistics, manufacture and sale 1024–1025
seasons for important crops 988
Harvesters, statistics of manufacture and sale 1024, 1025
Hawaii—
farm-products shipments, 1919–1921 969
sugar production, 1913–1922 782
HAWTHORNE, H. W., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280

Page.
Hay—
acreage, production, and value, by States 685
amount and cost for 100 pounds of milk 349
area occupied by 562, 563
crop—
condition and forecasts, 1909–1922 686
losses, causes and extent, 1909–1921 692
value rank 470
crops of 1920–1922, summary 983
exports, statistics 959, 961
forks, statistics of manufacture and sale 1026
freight—
rates for several routes, 1900–1923 1015
tonnage of railways, 1916–1922 1012
grades, exhibit 21
harvest season 988
imports, statistics 953, 961
leguminous, production in United States, 1920 333
market shipments, 1910–1922, by months 691
position in American agriculture 562, 563, 564
price index numbers with milk and feed 382
prices, farm and market 684, 686–695
production and value, 1849–1922 684
statistics, production, price, etc 684–695
stocks on farms, 1910–1922 686
yield and acre value, by States 687
Haying, statistics of day's work 1051–1053
Headers, statistics of manufacture and sale 1024
Health, relation to dairying 335–337
Hemlock, lumber production, by States, 1920 921
Hemp, imports, statistics 951, 965, 966
Hickory, lumber production, by States, 1920 927
Hides—
and leather, freight tonnage of railways, 1916–1922 1012
exports, statistics 956
imports—
by months, 1910–1922 805
statistics 950, 967, 977
prices, by months 807
stocks on hand 806
trade, international, by countries 804–805
Highways—
improvement, relation to milk marketing 359
transportation of milk 356–359
Hog—
cholera, losses and control 215–217
"flu," symptoms and losses 218
industry, development, and changes since 1790 186–192
markets, location and annual receipts 231–233
Hogging-down crops, advantages 182, 205
Hogs—
auction sales, advantages 239
breeds and types, origin and description 193–199
demand, fluctuations 261
diseases, causes, and losses resulting 215–219
driving to market, early practices 228
exports—
1909–1922 902
statistics 955
fattening—
on rice by-products and corn 524
on rye and corn 511–512
on sorghums and other feeds 532–533
feeding—
barley, comparison with corn 499
oats and corn, experiments and comparisons 485
on dairy farms 209

Hogs—Continued.
feeding—continued. Page.
use of self-feeder 205
with rye 511
freight—
rates, Chicago to New York, 1896–1922, graph 252
rates for several routes, 1900–1923 1016–1017
tonnage of railways, 1916–1922 1012
gain of 100 pounds, equivalent in corn 225–227
importance as source of food 181–184
imports, statistics 949
industry, outlook 275–279
losses—
from cholera, 1913–1922 216
from disease, 1888–1923 890
from tuberculosis, 1907–1922 217–218
in shipments to market, graphs 266, 267
market—
movements, effect of climatic conditions 245–246
prices, by months 892–895
receipts and shipments, 1900–1922 898–899
marketing—
costs 264–268
history, methods, factors, and problems 227–264
number—
and value on farms, by States 889–890
relation to population, 1840–1920 276–279
numbers on farms, 1840–1920, discussion and statistics 186–192
price and purchasing power, 1845–1922, graph 244
prices—
and corn prices, relation to hog receipts, graph 260
and pork exports, 1915–1922, graph 249
compared to cattle and lambs, 1913–1922, graph 242
factor of marketing 241–245
fluctuations, problem of marketing 256–259
increase 10–11
on farm, by States and by months 891
ratio to corn prices, 1910–1921 905
variations, 1844–1922, graph 240
production—
and marketing, article by E. Z. Russell, S. S. Buckley, O. E. Baker, C. E. Gibbons, R. H. Wilcox, H. W. Hawthorne, S. W. Mendum, O. C. Stine, G. K. Holmes, A. V. Swarthout, W. B. Bell, G. S. Jamieson, C. W. Warburton, and C. F. Langworthy 181–280
cost 220–227
for market 201–202
for use on farms 182, 200–201, 209
in Corn Belt farming systems 202–206
in world countries, maps 183, 185
on farms in South 206–208
relation to corn crop, 1919, graph 212
relation to diversified farming 207
relation to farm systems 199–209
profits in Corn Belt farms 203
pure-bred, numbers on farms 194–196
raising, relation to corn crop 209–214
receipts—
at public stockyards, 1916–1921 232
monthly, at stockyards, graph 245
sales to local buyers, butchers, or packers, methods 236–237
shipments—
from producers 234–236
losses, shrinkage, etc 903–905
shipping, cooperative organizations, costs, statistics 265–267

Hogs—Continued.
shrinkage— Page.
in handling 255, 267
in shipment 905
situation, monthly 896–897
slaughter—
on farms for home meat supply 269–270
under inspection 913
standardization, need in marketing 261–264
statistics—
census figures, 1840–1920 192
number, prices, etc 889–908
stockyards, receipts and shipments 899–901, 913
tariff duties, summary 279–280
types, preferences and changes 196–197
weight—
at Chicago market, by months, 1913–1922 235, 902
live and dressed 903
weights, at leading markets, 1921, graphs 233
world, numbers by countries 795–801
HOLMES, G. K., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280
Holstein cow, champion butter-fat producer 330
Home—
Economics, proposed new bureau 34
meat supply, hog slaughter on farms 269–270
Honey—
exports, statistics 955
imports, statistics 949
plant, buckwheat 549
production increase, suggestion 1001
Hops—
consumption and movement, 1910–1922 750
crops of 1920–1922, summary 984
exports—
1910–1922 750
statistics 959, 961, 964, 974
foreign countries, production and trade 741, 751
harvest season 988
imports—
1910–1922 750
statistics 953, 961, 965
prices, wholesale, 1913–1922 751
statistics, acreage, production, etc 749–751
trade international, by countries 751
world production, by countries 749
Hornworms, tobacco species, crop injury, and control 422
Horses—
and mules, freight tonnage of railways, 1916–1922 1012
exports—
and prices, 1896–1921 817
statistics 955, 969
farm—
number and value, by States 812–814
statistics of day's work 1046, 1048–1049
feeding oats, value and ration 483, 485
imports—
and prices, 1896–1921 817
statistics 949, 977
market receipts, 1900–1922 815
prices—
by ages and classes 913
by States and by months 814
export and import, 1896–1921 817

Horses—Continued.
statistics— Page.
number, value, etc., 1870–1923 811–817
of day's work 1078
of plowing, etc 1047–1049
stockyard receipts, 1915–1922 816–817
world, numbers by countries 795–801
Hullers, statistics of manufacture and sale 1025
Huskers, statistics of manufacture and sale 1024
Husking, corn, statistics of day's work 1057

Ice cream—
marketing, remarks 365
production in United States 293, 297
use—
early, and factory production 319
increase 291
Idaho—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmer's food supply, sources 999, 1000
farms, classification by size 1008
flaxseed production, 1889–1899 540
forest fires, causes, size, damage, and area, 1921 933, 938
wages on farm, 1913 and 1922 996
Illinois—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
labor, hours in day 1077
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed, production, 1869 539
forest fires, causes, size, damage, and area, 1921 932, 937
hog—
production cost 220–223
shipments, 1918 231
rank in dairying 299
rye production, 1859–1889 504–505
statistics of day's work for horses 1078
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Implements, farm expenses, by States 1006
Imports—
agricultural products, statistics 949–955, 961, 965–968, 977–982
barley, 1849–1908 631
cattle, statistics 818–819, 949, 977
coffee, statistics 951, 961, 965, 979
cotton, statistics 951, 961, 979
dairy products—
rates of tariff duty, 1789–1922 389–390
statistics 949, 961
fibers, vegetable, statistics 951, 961, 979
flaxseed, statistics 537–538, 656, 954, 966, 980
forage plant seeds, 1911–1921, by kinds 701
forest products, statistics 951–952, 961, 968, 981, 982
fruits, statistics 952, 961, 967
grain, statistics 952, 961, 965
gums, statistics 951, 961, 968
hay, statistics 953, 961

Page.
Imports—Continued.
hides and skins, statistics 950, 967, 977
hops, statistics 953, 961, 965
horses, statistics 817, 949, 977
lumber, statistics 952, 968, 981
meat, statistics 950
nuts, statistics 953, 961
oats, 1849–1922 620
oils, vegetable, statistics 272, 953, 961, 980
seed, statistics 954, 961, 980
sheep, statistics 870, 949
spices, statistics 954, 961
sugar, statistics 954, 961, 966, 980
tobacco—
historical notes 449–450
statistics 954, 961, 965, 981
vegetable—
oils 1029–1032
seeds, 1910–1922 708
vegetables, statistics 954, 961
wood pulp, statistics 952, 961, 968, 981
wool, statistics 949, 961, 965, 977
Index numbers—
crop and meat animal prices 993
freight rates 1011, 1013–1018
India—
British, rice production, 1900–1921 514
flaxseed, production and exports 534–535
grain sorghums, production, acreage, and uses 525, 527
rice production 513–514
rubber—
imports, statistics 951, 968, 981
world trade, 1909–1921, by countries 793
rupee, exchange rates, 1919–1922 1010
Indiana—
cold-storage space, 1922 1019
dairying, cost of keeping cow and producing milk 346, 347, 348
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators' nativity 1003
population, lands, etc., in 1920 1009
farmer's food-supply sources 999, 1000
farms—
classification by size 1008
organization, crops and live stock 204, 205
flaxseed production, 1859–1879 539
forest fires, causes, size, damage, and area, 1921 932, 937
hog shipments, 1918 231
rye production, 1909–1919 506, 507
taxes on farm real estate 1002
wages on farms, 1913 and 1922 996
Indo-China, French, rice production 513, 514
Information Service, reorganization 56, 57
Insect pests, control work 31–33
Insects—
flax, control 543
barley, injury to crop, note 497
forest, damage and cooperative control 162–164
rice, habits 519
rye, habits 509
tobacco, description, injury and control 422, 423
tree-killing, distribution of species 163, 164
Inspection—
dairy products—
and grading 371–375
relation to prices and quality 372–375

Inspection—Continued. Page.
Federal, uniformity 375
oats 628
shipping point, and receiving point 21, 22
Inspectors, oat, note 483
Iowa—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed production, 1879–1919 539–541
grain sorghum, acreage, etc., 1922 528, 529
hog—
production cost 220–223
shipments, 1918 231
hogs, numbers, and per cent of farm receipts 202
rank in dairying 299, 300
rye production, 1869–1879 504, 505
taxes on farm real estate 1002
Irrigation—
day's work in sugar beets 1067
rice, requirements 518
Istle, imports, statistics 951
Ivory, vegetable, imports, statictics 951

JAMIESON, G. S., E. Z. RUSSELL, S. S. RUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280
Japan, rice production 513, 514
Java, rice production 513, 514
Jersey cow, champion butter-fat producer 331
Jute, imports, statistics 951, 965, 966, 979
JUVE, O. A.—
O. C. STINE, A. E. WIGHT, A. J. PISTOR, C. F. LANGWORTHY, C. W. LARSON, and L. M. DAVIS, article on "The dairy industry" 281–394
W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, C. E. CHAMBLISS, A. C. DILLMAN, O. C. STINE, and O. E. BAKER, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469–568

Kafir—
cost of production, variation with region 554
market receipts, 1909–1922, by months 665
Kafirs, introduction from Africa 527–528
Kansas—
barley growing, increase 500
cold storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed production, 1879–1919 539–541
grain sorghums, early introduction, etc 525, 526, 527, 528, 529
rank in dairying 299
rye production, 1889 505
wages on farm, 1913 and 1922 996
Kaoliang—
production and uses 527
See also Sorghums, grain.

Page.
Kapoc, imports, statistics 951
Kentucky—
cold storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed production, 1849 539
forest fires, causes, size, damage, and area, 1921 932, 937
rye production, 1839–1869 504
wages on farm, 1913 and 1922 996
KITTREDGE, J., JR., W. B. GREELEY, EARLE H. CLAPP, HERBERT A. SMITH, RAPHAEL ZON, W. N. SPARHAWK, and WARD SHEPARD, article on "Timber: Mine or crop?" 83–180

Labor—
buckwheat production 559
cost—
for grain sorghums 557
in milk production 344–351
relation to farm prices and conditions 5, 9
distribution in day, in dairying, by months 350, 351
employment, relation to timbered forests 105
farm—
day's length, by States 1075
expenses, by States 1005
supply and demand 997
wages, by classes, 1910–1922 997
wages, by classes and States, 1913 and 1922 996
flax growing 558
rice production, variation in cost, remarks 556
statistics of day's work in corn and other crops 1046–1078
tobacco production, distribution 426–428
utilization in dairying 284
Lamb, consumption, total and per capita, 1907–1922 810–811
Lambs—
market prices, by months 873
prices—
comparison with cattle and hogs, 1913–1922, graph 242
on farm, by months 872
production, and per cent of all meats, 1907–1922 809
Land—
agricultural, future needs and outlook 91–93
buckwheat, note 567
flax, charge per acre 558
prices, cause of farm losses 8
tobacco, rental charges 428
use problem, discussion and importance 89–95
waste, timber production, feasibility and need 138–145
Lands—
farm expenses, by States 1006
public, classification need 37
waste, returns from forestation 144–156
LANGWORTHY, C. F.—
C. W. LARSON, L. M. DAVIS, O. A. JUVE, O. C. STINE, A. E. WIGHT, and A. J. PISTOR, article on "The dairy industry" 281–394
E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, and C. W. WARBURTON, article on "Hog production and marketing" 181–280
Laphygma frugiperda, habits 519

Page.
Larch—
lumber production, by States, 1920 922
sawfly, distribution 163
Lard—
cold-storage holdings, 1916–1922, graph 254
compound, composition 271
compounds, exports, statistics 956, 963, 970
demands of foreign markets 273
exports—
1910–1922, by months 908
statistics 956, 963, 971
market prices—
by months 909
wholesale and retail, 1913–1922 895
production—
and substitutes 270–273
estimates, 1900–1921 276
increase, suggestion 1001
relation to vegetable oils 270–273
storage holdings, 1916–1922, by months 909
substitutes, production and constituents 270–272
use as food 184–186
LARSON, C. W., L. M. DAVIS, O. A. JUVE, O. C. STINE, A. E. WIGHT, A. J. PISTOR, and C. F. LANGWORTHY, article on "The dairy industry" 281–394
Lasioderma serricorne, injury to manufactured tobacco 423
Laws—
control of dairy products 337
tobacco—
tariff, 1789–1922 456–459
taxes, 1862–1921 460–464
Lead arsenate, use against tobacco insects 422–423
Legislation—
forest, recommendations by Secretary 36–38
helpful to farmers 12–13
Leguminous hay. *See* Hay.
LEIGHTY, C. E., C. E. CHAMBLISS, A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, and H. V. HARLAN, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469–568
Lemons—
exports, statistics 958
imports, statistics 952, 967
price wholesale, by months 746
shipments, by carlots 745
Lettuce, shipments, carlots, by States 771
Licorice root, imports, statistics 953, 961, 965
Lifters, beet, statistics of manufacture and sale 1025
Lime—
spreaders, statistics of manufacture and sale 1026
supply—
for dairy cow in legume hays, note 334
to human body, by milk, etc 286–287
Linseed—
Association, New York, grading flaxseed 545
meal—
feed use and value 546
prices at 12 markets 697
oil—
imports, statistics 953
manufacture 535
mills, location 544–545
prices at New York, 1910–1923, by months 654
trade, international 1032
Liquors—
alcoholic—
exports, statistics 959, 961
imports, statistics 953, 961

Page.
Lissorhoptrus simplex, habits 519
Listers, statistics of manufacture and sale 1027, 1028
Live stock—
farm expenses by States 1006
feeding—
barley 499
oats, rations, and value 483, 485
on grain sorghums and corn 533
marketing, studies 17–18
markets, early 228
prices by ages and classes 913
reporting service 18–19
shipping associations, cooperative, hogs, marketing 237–239, 265–267
situation, monthly 831–832, 876–877, 896–897
slaughter under inspection 913
statistics, production, prices, etc 795–801
stockyards, receipts and shipments 913
value by States 912
world, numbers, by countries 795–801
Loaders, statistics of manufacture and sale 1024
Lodgepole, lumber production, by States, 1920 923
Louisiana—
cold-storage space, 1922 1019
dairying, cost of keeping cow and producing milk 346, 347, 348
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 937
rice—
growing, development 567
production in 1839–1919 515–517
sugar statistics, 1911–1922 781
wages on farm, 1913 and 1922 996
Lumber—
camps, demand for cheese 365
exports, statistics 957, 968, 975–976
freight—
charges in 1920 115, 116
rates, hauls, etc 115–118
imports, statistics 952, 968, 981
industry, effect of forest depletion 93–97
prices, factors influencing 119–123
production—
by species, 1899–1920 918–920
by States, 1870–1920 914–917
by States and by species, 1920 920–928
of minor species, by States 929
value by States, 1840, 1850, 1860, 1920 930
timber equivalent of annual cut 109

Macaroni, imports, statistics 967
Machinery—
farm expenses by States 1006
flax growing, cost 558
Mailing list, Publications Division, revision 45
Maine—
cold-storage space, 1922 1018
farm—
expenses 1005, 1006, 1007
mortgage debt 1004

Maine—Continued.
farm—continued. Page.
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
forest fires, causes, size, damage, and area, 1921 931, 935
taxes on farm real estate 1002
wages on farms, 1913 and 1922 996
Malt, exports, statistics 958
Malted milk. *See* Milk, condensed.
Manchuria, grain sorghums, production and uses 525, 527
Mangers, statistics of manufacture and sale 1026
Manila, imports, statistics 951, 966, 979
Manufactures, freight tonnage of railways, 1916–1922 1012
Manure—
cost for grain sorghums 557
distribution, statistics of day's work 1050
spreaders, statistics of manufacture and sale 1026
Maple—
lumber production by States, 1920 924
sugar—
prices, by months 788
production, by States 787–788
statistics, 1839–1922 787–788
See also Sugar.
Market—
butter, making prices from exchange sales 384–385
exchanges, quotation committees under ban 384
information, need in hog marketing 264
milk. *See* Milk, market.
news service—
extension and use of radio 22–23
importance to producers 264
Marketing—
cheese, discussion 363, 364
cooperative, of hogs 237–241, 265–267
costs, investigations 19
dairy products, discussion 351–375
flaxseed 543–545
grain sorghums 530–532
hogs—
costs 264–268
history, methods, factors, and problems 227–264
methods 233, 234
problems 256–264
live stock and meats, studies 17, 18, 50
machinery, importance to hog producer 259–261
milk—
producers' organizations 387, 388
retail cost items 360, 361
rice, methods 520, 522
rye 509, 510
tobacco, preparation, methods, etc 433–450
Markets—
barley receipts and prices 635
central, facilities, factors in hog marketing 255
corn receipts and shipments, 1910–1922 578, 579
cotton prices, future and spot, 1914–1923, by months 715–720
dairy products, early 502
flaxseed—
location 544
receipts, 1910–1923 655
forage-plant seed, receipts and shipments 701, 702
foreign—
competition and demands 18
pork supply and demand 248–253, 273, 279

Markets—Continued.
hay— Page.
receipts, 1910–1922, by months 689, 690
shipments, 1910–1922, by months 691
hog, location and annual receipts 231–233
kafir receipts, by months 665
milk, supply by truck in large cities 357
oats receipts and shipments, 1909–1922 626, 627
receipts of fruits and vegetables, by months 776, 777
rye—
location 510
receipts, 1909–1921 642–643
Marrons, imports statistics 953
Maryland—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmer's food-supply sources 999, 1000
farms, classification by size 1008
forest fires, causes, size, damage, and area, 1921 932, 936
rye—
growing, early history 503
production, 1839–1859 504
taxes on farm real estate 1002
wages on farm 1913 and 1922 996
Massachusetts—
cold-storage space, 1922 1018
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 931, 935
rye production, 1839–1849 504
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
white-pine forestry, profitableness 153–154
Meal, corn, exports 959, 963
Meat—
consumption, total and per capita, 1907–1922 810–811
exports, comparison of beef, mutton, and pork 249–251
imports, statistics 950
packers, butter brands, note 362
packing centers, location, relation to freight rates 230
production—
by kinds, 1907–1922 809
from dairy cattle 284, 338, 339
situation, monthly 831–832, 876–877, 896–897
source, importance of hogs 181–184
supply for homes, hogs slaughtered on farms 269–270
trade, international, 1911–1921, by countries 808
Meats—
condemned under inspection 913
exports, statistics 956, 962, 963, 970, 971
grades and standards 20
marketing studies 17–18
prices, wholesale, by months 910–911
production increase, suggestion 1001
storage holdings, 1917–1922, by months 911

MENDUM, S. W., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" ---- Page. 181–280
Messenger service, department, welfare work ---- 52–53
Meteorology, statistics, by States and by months ---- 1033–1044
Mexico, lard imports from United States ---- 273
Michigan—
buckwheat production, 1839–1919 ---- 550–551
cold-storage space, 1922 ---- 1019
farm—
expenses ---- 1005, 1006, 1007
mortgage debt ---- 1004
operators, nativity ---- 1003
population, lands, etc., in 1920 ---- 1009
farmers' food-supply sources ---- 999, 1000
farms, classification by size ---- 1008
flaxseed production, 1919 ---- 541
forest—
depletion, effect on industries ---- 95–98
fires, causes, size, damage, and area, 1921 ---- 933, 937
rye production, 1889–1919 ---- 505–507
taxes on farm real estate ---- 1002
wages on farm, 1913 and 1922 ---- 996
Middle West, hog-industry development, 1840–1920 ---- 188–192
Middlings, prices at Minneapolis, 1919–1922, by months ---- 695
Midge, sorghum, principal enemy of grain sorghum ---- 530
Milk—
bottles, sterilization for health protection ---- 336
certified, origin and first production ---- 336
chocolate. *See* Milk, condensed.
condensed—
consumption increase ---- 291
course of industry, 1919–1922, graph ---- 393
experiment and patent ---- 310
exports and imports for 1909–1921, graph ---- 392
marketing methods and demand ---- 364, 365
production by States ---- 297
relation to sugar prices ---- 394
condenseries, location in United States ---- 297
consumption propaganda by officials ---- 288
cost formulas, note ---- 345
exports, statistics ---- 955
imports, statistics ---- 949
introduction in West by friars ---- 302
market, source for large cities ---- 295, 296
marketing—
from farms, 1879–1919 ---- 303, 304
relation of railroad transportation ---- 306
markets in large cities ---- 357
powder—
production note ---- 310
use increase ---- 291
See also Condensed milk.
price index number with hay and feed ---- 382
prices—
in comparison with other goods in New York City, 1899–1922 ---- 384
wholesale and retail, by months ---- 841–845
producers—
in relation to marketing ---- 387–389
market problems ---- 388, 389
production—
and uses in United States, table ---- 293
cost, discussion ---- 344–351
cost in overhead and small items ---- 345–351

Milk—Continued.
production—continued. Page.
cost units 348, 349
increase, suggestion 1001
quality improvement, factors 337
sales in large cities, surplus plan 383
separator, relation to dairying 317
shipment, conditions and distances 337
spoilage in long-distance transportation 358
statistics 841–845, 853
sugar. *See* Milk, condensed.
surplus, plan for disposal 389
transportation—
by highways 356–359
difficulties 353, 354
unloading platform at railway terminal 355
use—
for household purposes 294
in diet in United States 284–287
utilization in United States 291–295
waste in utilization 294
whole, consumption in several countries 287
yield in relation to pure-bred cattle 328
Milking machines, statistics of manufacture and sale 1026
Millet, harvest season 988
Milling—
rice, methods 519–522
rye, location of mills 509–510
Milo—
cost of production, variation with region 554
introduction into Southern States 528
Mine timbers, consumption 109
Mines, products, freight tonnage of railways, 1916–1922 1012
Mining—
camps, demand for cheese 365
timber, practices and extent 84
Minnesota—
cold-storage space, 1922 1019
cooperative creameries 386
farm—
expenses 1005, 1006, 1007
labor, hours in day 1077
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flax marketing by grades in 1919–1922, graph 544, 545
flaxseed production, 1879–1919 539–541
forest fires, causes, size, damage, and area, 1921 933, 937
rank in dairying 299, 301
rye production 506–507, 555
statictics of days' work for horses 1078
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Mississippi—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
forest fires, causes, size, damage, and area, 1921 932, 936
rice production, 1849–1919 515–517
wages on farm, 1913 and 1922 996
cold-storage space, 1922 1019

Page.

Missouri—
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed production, 1879–1909 539, 541
forest fires, causes, size, damage, and area, 1921 932, 937
hog shipments, 1918 231
rice production in 1919 517
rye production in 1869 504
sorghum, acreage, etc., 1922 528, 529
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Mohawk Valley, dairying in early days 308
Molasses—
exports, statistics 960, 961
freight tonnage of railways, 1916–1922 1012
imports, statistics 954, 961, 966
production in Louisiana, 1911–1922 781
Montana—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed production, 1909–1919 541
forest fires, causes, size, damage, and area, 1921 933, 938
wages on farm, 1913 and 1922 996
Mortgages, farm, by States 1004
Mosaic disease—
control studies 26
tobacco, spread, note 424
Moss, E. G., W. W. Garner, H. S. Yohe, F. B. Wilkinson, and O. C. Stine, article on "History and status of tobacco culture" 395–468
Moth, gipsy, distribution 163
Motion pictures, department output and circulation 46
Motor trucks, fleets, use in live-stock marketing 253
Mouth, sore, infectious disease of young pigs 219
Mowers, statistics of manufacture and sale 1024
Mules—
exports, statistics 955
prices, by ages and classes 913
statistics, number, value, etc, 1870–1923 811–817
world, numbers, by countries 795–801
See also Horses.
Mushrooms, imports, statistics 955
Mutton—
consumption, total and per capita, 1907–1922 810–811
exports, statistics 882, 956
imports, statistics 950
production, and per cent of all meats, 1907–1922 809
trade, international, by countries 881–882

Naval stores—
exports, statistics 957, 961, 968, 975
world trade, by countries, 1909–1921 791–792
Nebraska—
cold-storage space, 1922 1019
dairying, cost of keeping cow and producing milk 346, 347, 348
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009

Nebraska—Continued.
farm— Page.
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed production, 1879–1919 539–541
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 938
hog shipments, 1918 231
rye production, 1899 506
sorghum, acreage, etc., 1922 528, 529
wages on farm, 1913 and 1922 996
Netherlands, pork exports 253
Nevada—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 938
wages on farm, 1913 and 1922 996
New England—
dairy production, early 302
farming, relation of dairying to development 307
rye growing, early history 503
New Hampshire—
buckwheat production, 1839 550
cold-storage space, 1922 1018
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 931, 935
rye production, 1839 504
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
white-pine forestry, profitableness 152, 153, 154
New Jersey—
buckwheat production, 1839–1899 550, 551
cold-storage space, 1922 1018
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 932, 935
rye production, 1839–1879 504, 505
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
New Mexico—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003

New Mexico—Continued.
farm—continued. Page.
population, lands, etc., 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 938
grain sorghums, importance 525, 528, 529
rice production in 1909 517
wages on farm, 1913 and 1922 996
New York—
buckwheat-growing center 546, 549
buckwheat production, 1839–1919 550–551
Buffalo linseed-oil industry 544, 545
City milk market, relation of Dairymen's League 388–389
cold-storage space, 1922 1018
dairy production, early 302
farm—
expenses 1005, 1006, 1007
labor, hours in day 1076
mortgage debt 1004
operators, nativity 1003
population, lands, etc., 1920 1009
farmer's food supply sources 999, 1000
farming, relation of dairying to development 307
farms, classification by size 1008
flaxseed production, 1879 539
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 931, 935
rank in dairying 299, 300, 301
rye growing, early history 503
rye production, 1839–1909 504–506
State, decrease of cheese industry 385, 386
statistics of day's work for horses 1078
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
North Carolina—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 932, 936
rice production in 1839–1909 515–517
rye production, 1849 504
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
North Dakota—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed production, 1889–1919 540–541
food supply of farm, sources 1000
rye production, 1919 507
wages on farm, 1913 and 1922 996
Nursery stock—
imports, statistics 952, 961
quarantine 33
Nuts—
California, production and value 747

Nuts—Continued. Page.
exports, statistics 959, 961
imports, statistics 953, 961
production increase, suggestion 1001
Oak, lumber production, by States, 1920 923
Oatmeal, exports, statistics 959
Oats—
acre-yield average for 50 years 564
adaptation to wide range of conditions 555
barley, rye, rice, grain sorghums, seed flax, and buckwheat, article by C. R. Ball and others 469–568
bushel weights, 1902–1922 992
cost of production, discussion 553–556, 560
crop—
condition and forecast, by months 622
losses, extent and causes, 1909–1921 624
value rank 470
crops of 1920–1922, summary 983
disease, economic importance 477, 482
exports, statistics 958
feeding to hogs, comparison with corn 485
foods, feeds, and feeding 483–485
freight—
rates for several routes, 1900–1923 1014–1015
tonnage of railways, 1916–1922 1012
grades for market 482–483
harvest season 988
imports, statistics 952, 965
inspection and grading 628
losses from disease, 1917–1921 477
market, receipts and shipments, 1909–1922 626–627
marketings by farmers, monthly 624
planting dates, by States 989
position in American agriculture 564–565
prices, farm and market 623–625
production—
and distribution, 1897–1922 622
centers, changes, 1839–1919 478–481
development and factors 474–482
discussion 471–486
quality, changes 484
Red Rustproof, type for warm climate 477
seed, quantity per acre 990
statistics, acreage production, etc 69, 70, 73, 475, 618–628
supplies, 1909–1922, monthly 627
trade, international, by countries 628
varieties for cool climates 476
world production—
and distribution, discussion 472–482
by countries 618–620
Oebalus pugnax, habits 519
Offal, edible, of hogs, production estimates, 1900–1921 276
Ohio —
buckwheat production, 1839–1919 550–551
cold-storage space, 1922 1019
dairying development, note 310
farm—
expenses 1005, 1006, 1007
labor, hours in day 1076
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed production, 1849–1899 539–540
forest fires, causes, size, damage, and area, 1921 932, 937
rye production, 1839–1869 504
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996

Oil—
cake— Page.
and meal, exports, statistics 959, 961, 963, 974
feed, trade, international, by countries 698
imports, statistics 953, 961
cottonseed—
international trade, by countries 722
prices at New York, 1909–1923, by months 722
See also Cottonseed oil.
linseed, prices at New York, 1910–1923, by months 654
meal—
exports, statistics 956, 961, 963, 974
prices at New York, 1910–1923 696
Oils—
edible, exports, 1916–1921 272
necessity in diet 270
need in manufacture of munitions 270
vegetable—
exports, statistics 959, 961, 964, 974
imports, statistics 272, 953, 961, 980
relation to lard and use in substitutes 270–273
statistics 1029–1032
Oklahoma—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
forest fires, causes, size, damage, and area, 1921 933, 937
grain sorghums, establishment, etc 525, 526, 528, 529
wages on farm, 1913 and 1922 996
Oleo oil, exports, statistics 956, 970
Oleomargarine—
materials used in manufacture 852–853
production—
by months 852
table 293
statistics 851–853
Olive oil—
imports, statistics 953, 966, 980
trade, international 1030
Olives, imports, statistics 952
Omaha, market for heavy hogs 233
Onions—
acreage and production, by States 765
crops of 1920–1922, summary 984
exports, statistics 960
harvest season 988
imports, statistics 954, 967
prices, farm and market, 1910–1922, by months 765–767
shipments, carlot, by States 767
statistics, production, prices, etc 765–767
Opium, crude, imports, statistics 953, 961, 966, 980
Oranges—
crops of 1920–1922, summary 985
exports, statistics 958, 972
freight rates for several routes, 1900–1923 1017
imports, statistics 952, 967
prices, wholesale, by months 746
production and value, 1915–1922 745
shipments by carlots 745
Orchard grass, seed quantity per acre 990

Page.
Oregon—
cold-storage space, 1922 1019
cooperative cheese factories 386
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
forest fires, causes, size, damage, and area, 1921 933, 939
taxes on timberlands 103–104
wages on farm, 1913 and 1922 996

Packers and Stockyards Act—
benefit to farmers 12–13
enactment and enforcement 47–48
Packing-house products—
exports, statistics 955, 961, 962–963
imports, statistics 950
Palm oil, imports, statistics 953
Paper, consumption in United States and world 108
Parasite, beneficial, importations 33
Pasteurization, process and its value 336
Pasture—
improvement suggestions 332
value as source of feed for dairy cattle 332
Peaches—
crops of 1920–1922, summary 984
exports, statistics 958
harvest season 988
prices—
by States and by months 739, 741
wholesale, at principal markets 741
production, by States, 1899–1922 739–740
shipments, by States and by months 741–742
statistics, production, prices, etc 739–742
Peanut oil—
exports, statistics 959
trade, international 1029
Peanuts—
crops of 1920–1922, summary 984
exports, statistics 959
harvest season 988
imports, statistics 953
oil imports, 1912–1918, and uses 272
pasture for hogs 207
seed, quantity per acre 990
statistics, production, prices, etc 759–760
trade, international, by countries 760
Pears—
crops of 1920–1922, summary 984
exports, statistics 958
harvest season 988
prices, by States and by months 743–744
production, by States, 1909–1922 743–744
shipments, by States, 1909–1922 745
statistics, production, prices, etc 743–745
Peas—
canned, production, 1906–1922, by States 762
dried, imports, statistics 954
statistics, production, prices, etc 756–758
world production, by countries 757–758
Pennsylvania—
buckwheat—
growing center 546, 549
production, 1839–1919 550–551

Pennsylvania—Continued. Page.
cold-storage space, 1922 1018
dairy production, early 302
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc, in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest—
depletion, effect on industries 93–95
fires, causes, size, damage, and area, 1921 932, 936
products, consumption and sources 93–95
rye production, 1839–1909 504–506
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Pens, stock, manufacture and sale 1027
Pepper, imports, statistics 954
Peppermint oil, exports, statistics 959
Periodicals, Department, consolidation 56
Phlegethontius species, injury to tobacco, and control 422
Pickles—
exports, statistics 960
imports, statistics 955
Pig surveys, cooperation of Post Office Department 19
Pigs—
diseases and ailments 219
feeder, production, industry development 198–199
losses, causes 224, 225, 226
numbers in litters, and average cost 223–225
Pine—
beetle, western, distribution, damage and control work 162–163
beetles, distribution of species 163
forests, menace by white-pine blister rust 165
maritime, planting on sand lands in France, cost and revenues 106–107
stumpage prices of species 148–149
sugar, lumber production, by States, 1920 923
western yellow, lumber production by States, 1920 921
white—
blister-rust control 28
lumber production, by States, 1920 921
yellow, lumber production, by States, 1920 920
Pineapples, imports statistics 952
PISTOR, A. J., C. F. LANGWORTHY, C. W. LARSON, L. M. DAVIS, O. A. JUVE, O. C. STINE, and A. E. WIGHT, article on "The dairy industry" 281–394
Plant—
diseases, control studies 26
quarantine, necessity 33–34
Planters, statistics of manufacture and sale 1022–1023
Planting, dates by States for important crops 989–990
Plow lands, values by States, 1920–1923 998
Plowing, statistics of acreage per day 1046–1047
Plows, statistics of manufacture and sale 1021, 1028
Pneumonia, hog, serious results 219
Poplar, yellow, lumber production, by States, 1920 924
Pork—
cold storage holdings, 1916–1922, graph 254
consumption—
factor of marketing 247–253
per capita, 1907–1921 182, 247–248
total and per capita, 1907–1922 810–811
curing on farm, methods 269–270
cuts, home methods, illustration 268

Pork—Continued.
exports— Page.
1790, 1867–1871, 1877–1881 186, 190
and hog prices, 1915–1922, graph 249
by months, 1910–1922 907–908
destination, 1910–1921 906
fluctuations, 1794–1919 248–250
statistics 956, 962, 963, 971, 972
trend, 1790–1914, review and maps 273–275, 277
value 184
foreign demand and trade, discussion 248–253, 273, 279
freight rates, Chicago to New York, 1896–1922, graph 252
imports, statistics 950
inspection, microscopic, for trichinæ, 1898–1906, results 219
international trade 273–275
market prices, wholesale and retail, 1913–1922 895
production—
and per cent of all meats, 1907–1922 809
estimates, 1900–1921 276
products—
exports, trend, 1790–1914, review and maps 273–275, 277
international trade 273–275
marketing history 227–230
statistics, 1910–1922 908–911
tariff duties, summary 279–280
soft, causes 214–215
tariff duties, summary 279–280
trade, international, by countries 906
use as food 184–186
Porto Rico, farm products shipments, 1919–1921 969
Post Office Department, cooperation in pig survey 19
Potatoes—
acreage, production and value by States 669
crop—
condition and forecasts, 1901–1921 670
losses, causes and extent 672
value rank 470
crops of 1920–1922, summary 983
exports, statistics 960
freight—
rates for several routes, 1900–1923 1017–1018
tonnage of railways, 1916–1922 1012
harvest season 988
imports, statistics 954, 966
prices, farm and market 670–672, 673–674, 676
production—
and value, 1849 1922 668
increase, suggestion 1001
seed quantity per acre 990
shipments, 1917–1922, by States 677–679
statistics—
acreage and production, 1910–1922 69, 73
of day's work in several operations 1059–1062
production, prices, etc 666–679
stocks in growers' and dealers' hands 673–674
sweet. *See* Sweet potatoes.
trade, international, by countries 675
world, acreage and production by countries 666–667
yield, by States 670–671
Poultry—
dressed, market receipts, by months 864–866
freight tonnage of railways, 1916–1922 1012
production increase, suggestion 1001
statistics, market receipts, etc 863–866
storage holdings, by months 866
world, numbers, by countries 802–803
Powdered milk. *See* Milk, condensed.

Page.
Prairie hay, production and value, 1909–1922 688, 691, 693
Prairies, development in rice growing, note 567
Precipitation, statistics, by States and by months 1033–1044
Presses, hay, statistics of manufacture and sale 1025
Prices—
apples, farm and wholesale 730, 733, 734–736
beans, 1910–1922, by months 754–755, 756
broom corn, 1910–1922, by months 758
buckwheat on farm, by States and months, 1908–1922 646
butter—
and cheese in 122 years 376
in five markets 379
method of fixing, for United States markets 383–385
cabbage, 1910–1922, by months 763–764
calves, farm and market 822, 824–830
cattle 818, 820–831
cheese—
at New York 853
basis of making 385–386
control by cheese boards 363
citrus fruits, wholesale, by months 746–747
corn, farm and market 574, 575, 576–577
cotton, farm and market 713, 715–720
cottonseed—
1910–1922, by months 721
oil, by months, at New York 722
dairy products—
discussion 375–386
in large markets, discussion 379–381
method of fixing 381–386
eggs, farm and market, 1909–1922, by months 858–859
factors for local dairymen 377
farm products, discussion by Secretary 3–8, 10–12
farmer's, for purchases 994–995
feed, 1910–1923, by months 695–697
flaxseed—
by States and by months 652
farm and market 652, 654
grain sorghums, farm and market 664
hay, farm and market 684, 686–688, 691–695
hay-crop seed, farm and market 699–700, 702
hogs—
farm and market, 1867–1923 889–895
fluctuations, problem of marketing 256–259
hops, 1913–1922 751
horses, by States and by months 814
lard, by months 909
linseed oil, 1910–1923, by months 654
milk—
cows, 1910–1922 821–822
relation to competition, inspection, etc 361
wholesale and retail, by months 841–845
oats, farm and market 623–625
onions, farm and market, 1910–1922, by months 765–767
peaches, farm and wholesale 739, 741
peanuts, 1910–1922, by months 759
pears, farm and market 743–744
potatoes, farm and market 670–672, 673–674, 676
rice, farm and market, 1900–1923 659–662
rye, farm and market 641–642
sheep, farm and market 867–869, 871–876
strawberries, at 10 markets 772
sweet potatoes, farm and market 681–683
tobacco—
farm and market 725–728
range, 1618–1921 442–444

Prices—Continued. Page.
tomatoes, farm and market, by months 768–769
turnips, 1913–1922, by months 771
uniformity in dairying 284
vegetable seeds, by kinds, 1910–1922 706–707
wheat, farm and market 595–606
wool, farm and market, by months 886–887
Prohibition, effect on barley production and trade 496
Protein, supply by milk, butter, etc 286
Prunes, exports, statistics 958, 964, 973
Pruning, statistics of day's work 1068
Publications—
Division, reorganization 46, 47
new and reprints, 1922, number of copies and demand for 44–46, 75
Pulp—
mills, Pennsylvania, source of supplies 94–95
wood—
consumption 109
imports, statistics 952
prices paid by paper mills 175
world trade, by countries, 1909–1921 794
See also Wood.
Pump jacks, statistics of manufacture and sale 1027
Pumps, statistics of manufacture and sale 1026
Pure-bred cattle. *See* Cattle.
PYNCHON, JOHN, first American pork packer 228

Quarantine, nursery stock, plants and seed, necessity 33–34

Radio, use in disseminating market news 23
Railroad, Michigan, suspension, relation of forest depletion 98, 99
Railroads—
extension, effect on packing industry 189
Pennsylvania, timber supplies, sources 94
relation to milk production and trade 306
strike, injury to farmers 6
transportation of milk, discussion 353–356
Railways—
freight tonnage for farm products, 1916–1922 1012
lumber traffic of Washington and Oregon 105
Rain statistics by States and by months 1033–1044
Raisins—
exports, statistics 958
imports, statistics 952, 967
Rakes, statistics of manufacture and sale 1024
Raspberries, harvest season 988
Rats, carriers of trichinæ 218–219
Reapers, statistics of manufacture and sale 1024
Red clover, usefulness in dairy feeding 334
Redwood, lumber production, 1920 922
Reforestation, sandy lands of France, cost and revenues 106–107
Refrigeration—
factor—
in hog marketing 255
in milk handling 337
method in rail shipments 353, 355
Regional councils, nature and object 16
Repair shops, saving effected by 56
Research, scientific, results 25–26
Rhode Island—
cold-storage space, 1922 1018
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification, by size 1008

Rhode Island—Continued. Page.
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 931, 935
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Rice—
acreage, production and value, by States 658
by-products, feed use 524
cost of production, discussion 556–557
crop—
condition and forecast by months 659
losses, extent and causes 660
value rank 470
crops of 1920–1922, summary 983
diseases, important 519
exports—
1712–1921 522
imports and prices, notes 567
statistics 959, 961, 964
feeding to live stock 524–525
food use and value 523–524
grades 520
harvest season 988
importance as food grain 512
imports—
1861–1921 523
statistics 953, 961, 966
insects, habits 519
marketing and milling 519–522
milling and marketing 519–522
position in American agriculture 566–567
prices—
1901–1923 520
farm and market, 1900–1923 659–662
production—
and value, 1904–1922 658
consumption, exports and imports, 1821–1921 523
discussion 512–525
factors 518–519
history in United States, maps 514–518
increase, suggestion 1001
of world countries, 1920, map 513
seed quantity per acre 990
statistics—
acreage and production, 1910–1922 69, 73
of day's work 1073
production, prices, etc 657–665
trade—
international, by countries 663
international, map and discussion, 1920 521–523
water requirements 518
world production, by countries 657–658
yield and acre value, by States 659
Roads—
Federal aid, construction progress and cost 41–43
forest, construction, 1922 43
Rodents, eradication work, cost and saving 28–29
Rosin—
exports, statistics 957, 968, 975
world trade, by countries, 1909–1921 791
Rotten-neck, rice diseases 519
RUSSELL, E. Z., S. S. BUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280

Page.
Russia—
buckwheat production in 1909–1913 547
flaxseed production, pre-war, and exports 534–535
hogs, increase, graph 185
rye production, 1910–1914 501
Rust—
blister, white-pine, control work 28
flax, spread and control 543
oat, damage to crop 477
white-pine blister, distribution 165
Rusts—
damage to barley 496
rye, losses in 1917–1921 509
Rye—
acreage—
production and value by States 640
yield, production, and price, trend, 1866–1922 501–502
and corn, fattening hogs with 511–512
belt, location 503
characteristics related to production 566
cost of production—
discussion 553–556
variation with region 554
crop—
comparison with wheat 507–509
condition and forecast, by months 640–641
value, rank 470
crops of 1920–1922, summary 983
demand increase, and outlook 511–512
exports—
in 1920, 1921 510
statistics 958
feeding to live stock 511
food use 510
hardiness, note 566
harvest season 988
land suitable for 566
losses from disease, 1917–1921 509
market receipts, 1909–1921 642–643
position in American agriculture 566
marketing and milling 509–510
milling and marketing 509–510
prices—
cause of change 511
farm and market 641–642
production—
and value, 1849–1922 639
discussion 501–512
history in United States 503–507
maps, 1839–1919 504–507
seed quantity per acre 990
soil for best production 555
sowing time and seed bed 559
statistics—
acreage, exports, and production, 1910–1922 69, 70, 73
production, prices, etc 637–643
time of sowing, etc 556
toleration of moisture and dryness 566
trade, international, by countries 643
world production and acreage, by countries 637–638

Sacks, rice, cost per acre 557
Sago, imports, statistics 953, 961
Salary, standard increase for scientific workers 30–31
Sandy land, fitness for rye 566
Sausage and casings, exports, statistics 956

Page.
Saw—
machinery, statistics of manufacture and sale 1027
timber—
consumption, United States and world 108, 109
cut, consumption, and growth comparisons 145, 146
stands, relative, by States 87
Sawfly, larch, distribution 163
Scab, rye, losses in 1917–1921 509
Scald, barley, damage to crop 497
School, graduate, for scientific workers in Department 30
Secretary, Agriculture, report, 1922 1–82
Seed—
beds, tobacco, sterilization methods 416
clover. *See* Clover seed.
flax. *See* Flax seed.
grain, loans, 1922, and collection of old loans 51, 52
hay crops, statistics, production, prices, etc 698–704
quantity per acre for important crops 990
rice, cost in growing crop 557
timothy. *See* Timothy seed.
Seeders, statistics of manufacture and sale 1023
Seeds—
exports, statistics 960, 961
forage plant—
imports, 1911–1921, by kinds 701
tests of germination and purity 704
imports, statistics 954, 961, 980
vegetable—
imports 708
statistics, production, prices, etc 705–708
Self-feeder, use in feeding hogs 205
Separator, milk, relation to dairying 317
Sheep—
and goats, freight tonnage of railways, 1916–1922 1012
exports—
1895–1922 870
statistics 955
freight rates for several routes, 1900–1923 1017
imports—
1895–1922 870
imports, statistics 949
losses—
from disease and exposure, 1890–1923 869
in cooperative shipments 882–884
market—
prices, by months 873–876
receipts and shipments 877–879
number and value on farms, by States 868, 871
prices—
by ages and classes 913
increase 10
on farm, 1867–1923 867, 876
shrinkage in shipment 884
slaughter under inspection 913
statistics, number, prices, etc 867–884
stockyards, receipts and shipments 879–881, 913
weight, live and dressed 903
world, numbers, by countries 795–801
Shellac imports, statistics 951, 968
Shellers, statistics of manufacture and sale 1025
Shepard, Ward, W. B. Greeley, Earle H. Clapp, Herbert A. Smith, Raphael Zon, W. N. Sparhawk, and J. Kittredge, Jr., article on "Timber: Mine or crop?" 83–180
Shingles, consumption 109
Shooks, exports, statistics 957
Shredders, statistics of manufacture and sale 1025

Page.
Siam, rice production 513, 514
Silage—
amount and cost for 100 pounds of milk 349
statistics of day's work in handling 1058
usefulness in dairy feeding 334
Silk—
imports, statistics 949, 961, 965
world production, by countries, 1909–1921 794
Silos, statistics of manufacture and sale 1027
Sirups—
exports, statistics 960, 961
freight tonnage of railways, 1916–1922 1012
maple—
prices, by months 788
statistics, 1839–1922 787–788
production—
by States 781
increase, suggestion 1001
sorghum, production and value, by States 788
Sisal, imports, statistics 951, 966, 979
Skins—
exports, statistics 956
imports, statistics 950, 967, 977
See also Hides.
SMITH, HERBERT A., W. B. GREELEY, EARLE H. CLAPP, RAPHAEL ZON, W. N. SPARHAWK, WARD SHEPARD, and J. KITTREDGE, Jr., article on "Timber: Mine or crop?" 83–180
Smuts—
damage—
to barley 496
to oats 477
kernel, on sorghum, control 530
rye, losses, 1917–1921 509
Snuff, production, increase 453
Softwoods, production and consumption 113–114
Soil, maintenance of fertility, relation of dairying 282
Soils—
buckwheat adaptability 549–559
flax adaptability 542
rice types 519
tobacco—
effect of type on quality of product 416–418
types and requirements 413–415
Sorghum—
harvest season 988
kafir, grain. *See* Kafir.
saccharine, production, yield, etc., by States 788–789
sirup, production and value, by States 788
yellow milo. *See* Milo.
Sorghums—
adaptability to dry-land farming 567
crops of 1920–1922, summary 984
grain—
acreage, production and value by States 663
acreage, yield, production, and farm price, in 10 States, 1909, 1915–1922 528–529
African varieties, list, and origin 525, 527
comparisons with other feeds 531–533
cost of production, discussion 557–558
crop condition and forecast, by months 664
crops of 1920–1922, summary 984
grades 531–532
groups, varieties, and crop importance in various States 525
harvest methods and cost 558
position in American agriculture 567
prices 664

Sorghums—Continued.
grain—continued. Page.
production, discussion 525–532
production, factors affecting 529–530
production, history, and development 527
statistics, production, prices, etc 663–665
varieties and uses 532–533
world production and countries 525–529
South Carolina—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 932, 936
rice industry, early history 514–515, 522
rice production in 1839–1919 515–517
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
South Dakota—
barley growing, increase 500
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed production, 1889–1919 540–541
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 938
rye production, 1919 507
wages on farm, 1913 and 1922 996
Soy bean oil, imports, statistics 272, 953, 980
Soy beans—
oil imports, 1914–1918, and uses 272
seed quantity per acre 990
usefulness in dairy feeding 334
Spain, hogs increase, graph 185
SPARHAWK, W. N., W. B. GREELEY, EARLE H. CLAPP, HERBERT A. SMITH, RAPHAEL ZON, WARD SHEPARD, and J. KITTREDGE, Jr., article on "Timber: Mine or crop?" 83–180
Spices, imports, statistics 954, 961
SPILLMAN, W. J., C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, C. E. CHAMBLISS, A. C. DILLMAN, O. C. STINE, O. E. BAKER, and O. A. JUVE, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469–568
Spraying—
outfits, statistics of manufacture and sale 1027
statistics of day's work 1068
Spring wheat, planting dates, by States 989
Spruce—
beetle, Engelmann, distribution 163
beetles, distribution 163
lumber, production, by States, 1920 922
Stackers, statistics of manufacture and sale 1024
Stacking, statistics of day's work 1052, 1054
Stalk cutters, statistics of manufacture and sale 1027
Stalk-borer, rice, habits 519
Standardizing farm products 19–21
STANTON, T. R., H. V. HARLAN, C. E. LEIGHTY, C. E. CHAMBLISS, A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, and C. R. BALL, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469–568

Page.
Starch, exports, statistics 960, 961
States Relations Service, reorganization 46
Statistics—
agricultural—
exports and production, 1910–1922 69–74
from census of 1920 1003–1009
of divers kinds 983–1078
crops, acreage, exports, and production, 1910–1922 69–74
dairying first in United States 302
forest 914–948
grain crops, acreage, production, etc 569–665
hogs, census figures, 1840–1920 192
imports and exports of agricultural products 949–982
Staves, exports, statistics 957
Stem rust, rye, losses in 1917–1921 509
Sterilized milk. *See* Milk, condensed.
STINE, O. C.—
A. E. WIGHT, A. J. PISTOR, C. F. LANGWORTHY, C. W. LARSON, L. M. DAVIS, and O. A. JUVE, article on "The dairy industry" 281–394
E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280
O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, C. E. CHAMBLISS, and A. C. DILLMAN, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469–568
W. W. GARNER, E. G. MOSS, H. S. YOHE, and F. B. WILKINSON, article on "History and status of tobacco culture" 395–468
Stinkbug, rice, habits 519
Stock feeding, use and value of grain sorghums 531
Storage—
apples, holdings, by months 738
butter, relation to prices 367–368
corn, comparison with sorghums 529–530
grain sorghum, comparison with corn 529–530
tobacco, warehouse receipts, forms 444–448
Straighthead, rice, disease cause 519
Strawberries—
harvest season 988
prices, 10 markets 772
shipments, carlot, by States 772
Strikes, railroad and coal, injury to farmers 6
Stripe disease, barley, damage to crop 497
Stump pullers, statistics of manufacture and sale 1027
Stumpage prices—
by States 144–156
in European countries 151
Sugar—
beet—
production, 1916–1923 778, 780
statistics of days' work in several operations 1066–1067
beets—
harvest season 988
seed quantity per acre 990
cane, production, 1856–1923, by States and Territories 778, 781
crops of 1920–1922, summary 984
exports, statistics 960, 961, 964
freight tonnage of railways, 1916–1922 1012
imports, statistics 954, 961, 966, 980
maple, statistics, 1839–1922 787–788
prices in relation to condensed-milk trade 394
production—
1856–1923, by States and Territories 778–789
increase, suggestion 1001
statistics, 1856–1923 778–789

Sugar—Continued. Page.
supply, total and per capita, 1901–1920 782
trade, international, by countries 783
world production, 1909–1922, by countries 784–786
"Surplus"—
plan of milk sale 383
property, utilization 55
SWARTHOUT, A. V., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, W. B. BELL, G. S. JAMIESON, C. W. WAREURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280
Sweet potato plants, seed quantity per acre 990
Sweet potatoes—
acreage production and value, by States 680
crop condition and forecasts, 1902–1922, by months 681
harvest season 988
harvesting, statistics of day's work 1072
prices, farm and market 681–683
production—
and value, 1849–1922 680
increase, suggestion 1001
shipments, 1917–1922, by States 683
statistics—
acreage and production, 1910–1922 69, 73
production prices, etc 680–683
yield and acre value, by States 681
Swine. *See* Hogs.
Sycamore, lumber production, by States, 1920 928

Tank cars, use in milk transportation 354
Tanks, glass, experimental use in milk shipment 354
Tanning—
bark extracts, exports, statistics 957, 961
industry, Pennsylvania, effect of forest depletion 95
materials, imports, statistics 951, 961
Tapioca, imports, statistics 953, 961
Tariff—
duties on hogs, pork, and pork products, summary 279–280
relation to dairy products 389–390
tobacco, rates, 1789–1922 456–459
Taxes—
changes, relation to forest depletion 99–100
farm, per acre for 1913 and 1921 1002
increase, injury to farmers 7
timberlands—
practices, discussion 165–166
relation to prosperity, etc 103–105
tobacco, rates and dates of acts, 1862–1921 460–464
Tea—
and coffee, production increase, suggestion 1001
imports, statistics 954, 961, 966, 980
world trade by countries, 1909–1921 789
Tedders, statistics of manufacture and sale 1024
Temperature—
statistics, by months and by States 1033–1044
storage for butter and cheese 368
Tennessee—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 932, 937
rice production in 1859–1869 516
wages on farm, 1913 and 1922 996

Page.
Tests, tuberculin, use in eradication of tuberculosis 341
Texas—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage and area, 1921 933, 937
grain sorghums, early establishment, etc 525, 526, 528, 529
rice—
growing, development 567
production in 1859–1919 516, 517
wages on farm, 1913 and 1922 996
Threshers, statistics of manufacture and sale 1025
Threshing—
flax, cost 558
statistics of days' work 1055
Ticks, cattle, eradication and control of Texas fever 343
Ties—
railroad, exports, statistics 957, 976
timber consumption 109
Timber—
depletion, relation to lumber prices 122, 123
destruction by fire, insects, etc 109
distribution of species, map 85
exports, statistics 957, 958, 976
growing—
progress 158–165
status 170–174
growth—
increase by improved forestry 141–144
rates 139, 140
imports for future, sources, discussion 128–130
lands, taxes 165, 166
logs, imports, statistics 952
mine or crop, article by W. B. Greeley, Earle H. Clapp, Herbert A. Smith, Raphael Zon, W. N. Sparhawk, Ward Shepard, and J. Kittredge, jr 83–180
mining—
drain on forests, results, and remedy 178–180
practices and extent 84
relation to forest depletion 84
National forests—
sale and free use, 1905–1921 944, 947
stand, by forests and by species, 1922 944–947
production as crop 138–144
regions, 15 principal, location map 85
requirements, future, and management 123–144
second-growth, stumpage prices, by States 144–156
stands, virgin and second-growth acreage, East and West 106
substitution, growth, and effect on requirements 135–138
supply, problem, discussion 108–121
uses and consumption 123–127
utilization, study 36
waste reduction, need, and suggestions 130–135, 179
Timberland, purchase extension 37
Timothy—
hay—
harvest season 988
prices, by months 688, 692, 695

Timothy—Continued.
seed— Page.
acreage, production and value, by States 698
harvest season 988
prices, farm and market 699–700, 703
quantity per acre 990
Tobacco—
acreage, production and value, by States 725, 727
by-products, utilization 454
consumption, forms, etc., discussion 450–454
crop—
financing, practices 431–433
losses, extent and causes 728
value rank 470
crops of 1920–1922, summary 983
effect of soils on quality 416–418
exports, statistics 960, 961, 964, 975
freight—
rates for several routes, 1900–1923 1016
tonnage of railways, 1916–1922 1012
growing—
cost distribution 426–431
demonstrator charges 430
methods and practices 416–422
harvest season 988
history and status of cultivation, article by W. W. Garner, E. G. Moss, H. S. Yohe, F. B. Wilkinson, and O. C. Stine 395–468
imports, statistics 954, 961, 965, 981
industry—
extent and development 395–411
growth and magnitude 465–468
insects, descriptions, injury, and control 422, 423
internal-revenue taxes, 1862–1921 460–464
manufactured products, production 453–454
marketing, methods, financing, etc 433–448
pests, insects and diseases 422–425
planting dates, by States 989, 990
plants, seed quantity per acre 990
prices, farm and market 725–728
production—
acreage, yield, etc., 1866–1921 398–400
and uses, historical notes 400–411
exports and imports, 1849–1922 448–450
statistics—
acreage and production, 1910–1922 69, 73
production, prices, etc 723–729
tariff rates, 1789–1922 456–459
trade—
exports and imports, historical notes 448–450
international, by countries 729
international, discussion 454, 455
types—
acreage, yield and prices 726
distribution, production, etc 405–415
localization of production 409–411
production, demand, etc 466–467
value rank 470
world—
production and acreage, by countries 723–724
production, discussion 396–398
yield, relation to cost of production 430–431
Tomatoes—
acreage and production, by States 768
canned, production, 1891–1922, by States 769–771
harvest season 988
prices, farm and market, by months 768–769
shipments, carlot by States 769
statistics, production, prices, etc 768–771

Page.
Tractor, use in rice production 566
Tractors—
farm, statistics of manufacture and sale 1020, 1027
statistics of plowing, etc 1047
Trade—
international—
in barley 636
in corn 580
in cotton, by countries 720
in cottonseed oil, by countries 722
in oats 628
in oil-cake feeds, by countries 698
in potatoes, by countries 675
in rice, by countries 663
in rye 643
in tobacco, by countries 729
in tobacco, discussion 454–455
in wheat 617
Traffic manager, appointment 54
Trails, National forests, construction and cost 43
Transplanters, statistics of manufacture and sale 1023
Transportation—
effect of forest depletion 98, 99
interruption, effect on butter prices 380
milk, discussion 353–357
relation to market movements of hogs 253–255
Tree-killing insects, distribution of species 163–164
Trichinæ, pork, injury to foreign trade 191
Trichinosis, transmission by rats 218–219
Truck crops—
acreage and production, by kinds 761–774
See also under specific crop name.
Trucks—
milk, economy of use 357–359
statistics of manufacture and sale 1026
Tuberculin—
preparation, decrease in cost 58
use in testing cattle 341
Tuberculosis—
bovine eradication 29–30
cattle, relation to milk profits 340–341
eradication with Federal testing 341
hog, causes and control 217–218
Tupelo, lumber production, by States, 1920 927
Turkeys—
prices on farm, 1913–1923, by months 863
world, numbers, by countries 802–803
Turnips, prices, 1913–1922, by months 771
Turpentine—
exports statistics 957, 968, 975
world trade, by countries, 1909–1921 792

United Kingdom—
demand for American pork products 251, 273
hogs, decrease, graph 185
wheat statistics, 1853–1892 616
Utah—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008

Utah—Continued. Page.
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 939
wages on farm, 1913 and 1922 996

Vanilla beans, imports, statistics 954, 961
Veal—
consumption, total, and per capita, 1907–1922 810–811
dairy, quality, with proper handling 339
production—
and per cent of all meats, 1907–1922 809
from dairy calves 338
Vegetable seeds—
imports, 1910–1922 708
statistics, production, prices, etc 705–708
Vegetables—
exports, statistics 960, 961
grading 20
imports, statistics 954, 961
production increase, suggestion 1001
receipts, at principal markets, by months 776–777
shipments, carlot, by months 774
Vehicle stock, consumption 109
Velvet beans, pasture for hogs 207
Veneer, logs, consumption 109
Vermont—
buckwheat production, 1839–1899 550–551
cold-storage space, 1922 1018
dairying, cost of keeping cow and producing milk 346, 347, 348
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
forest fires, causes, size, damage, and area, 1921 931, 935
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Vinegar, production increase, suggestion 1001
Virginia—
buckwheat production, 1839–1899 550–551
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
forest fires, causes, size, damage, and area, 1921 932, 936
rice production in 1889, 1899 516, 517
rye production, 1839–1869 504
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Vitamin A—
foods containing 186
supply by milk and eggs 287
Vitamins, relation to dairy feeding, note 335

Wages—farm—
by classes, 1910–1922 997
by classes and States, 1913 and 1922 996
Wagons, statistics of manufacture and sale 1025–1026
WALLACE, HENRY C., report as Secretary of Agriculture 1–82
Walnut, lumber production, by States, 1920 928
Walnuts, imports, statistics 953, 967, 980

Page.
War—
Finance Corporation, activities, help to farmers 12
World, effect on rye production 501–502
WARBURTON, C. W., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MEDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280
Warehouse Act, administration 24–25
Warehouses—
licensed, number and capacity 24–25
tobacco—
locations 448
management under Warehouse Act 445–448
Warehousing, cold-storage 367–371
Washington—
cold-storage space, 1922 1019
dairying, cost of keeping cow, and production 346, 347, 348
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification, by size 1008
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 939
taxes on timberlands 103, 104
wages on farm, 1913 and 1922 996
Waste—
lands, forestation, financial returns 144–156
milk, in making butter and cheese 294–295
timber, reduction and suggestions 130–135
Water, cost in rice growing, remarks 357
Watermelons—
harvest season 988
shipments, carlot, by States 773
Water-weevil, rice, habits 519
Wax, vegetable, imports, statistics 955, 961
Weather—
Bureau, economies effected 57
Crops, and Markets, new periodical 56
Weeds, injurious to flax 542
Weevil, boll. *See* Boll weevil.
Weights, carload, for farm products, etc 1011
West Virginia—
buckwheat production, 1899 551
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
forest fires, causes, size, damage, and area, 1921 932, 936
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Western Reserve, farming development 310
Wheat—
acreage, production, and farm value, by States 588–589
area occupied by 562, 563
average, production, and farm value, by States, 1900–1922 589
bushel weights, 1902–1922 992
crops—
comparison with rye 507–509
condition, by months, 1900–1923 590
losses, and causes, 1909–1921 596
value rank 470

Wheat—Continued. Page.
crops of 1920–1922, summary 983
exports—
by months, 1910–1922 583, 613, 614
statistics 958, 964, 973
freight—
rates for several routes, 1900–1923 1013–1014
tonnage of railways, 1916–1922 1012
harvest—
by months 588
season 988
imports—
from Canada, by months, 1913–1922 613
statistics 952, 965, 966
inspection and grading, 1917–1922 610
market, receipts and shipments 610
marketings, monthly, by farmers 597
position in American agriculture 561, 562
prices—
farm and market 595–606
foreign markets, 1912–1922 604–606
on farm, by months and States, 1908–1922 596, 597
production—
and distribution in United States, 1897–1922 590
by States, 1915–1919 615
cost by States, 1913, 1920, 1922 594
increase, suggestion 1001
seed quantity per acre 990
spring, yield, by States 593–594
statistics—
acreage, exports, and production, 1910–1922 69, 70, 73
production, prices, etc 581–617
supply—
and distribution in 1900–1922 611–612
by months, 1889–1922 609
trade, international, by countries, 1909–1921 617
world—
acreage and production, by countries 581–582
production, by countries, 1899–1921 586–587
supply, by months, 1892–1922 607
yield—
by countries, 1899–1921 584, 585
by States, 1899–1922 592–593, 594
price, and acre value, by States, 1913–1922 595
principal States, 1899–1922 592–593
White potatoes. *See* Potatoes.
White-pine—
blister rust, distribution and menace to pine forests 165
forestry, profitableness, examples 152–154
Wilcox, R. H., E. Z. Russell, S. S. Buckley, O. E. Baker, C. E. Gibbons, H. W. Hawthorne, S. W. Mendum, O. C. Stine, G. K. Holmes, A. V. Swarthout, W. B. Bell, G. S. Jamieson, C. W. Warburton, and C. W. Langworthy, article on "Hog production and marketing" 181–280
Wild hay, harvest season 988
Wildfire, tobacco disease, symptoms, occurrence, etc 424–425
Wilkinson, F. B., W. W. Garner, E. G. Moss, H. S. Yohe, and O. C. Stine, article on "History and status of tobacco culture" 395–468
Wilt diseases—
tobacco, note 424
flax, prevention by resistant varieties 542
Windmills, statistics of manufacture and sale 1027
Wisconsin—
cheese boards as price makers 385–386
cold-storage space, 1922 1019
cooperative cheese factories 386

Wisconsin—Continued.
farm— Page.
expenses 1005, 1006, 1007
labor, hours in day 1077
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed production, 1869–1919 539–541
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 937
rank in dairying 299, 300, 301
rye production, 1859–1919 504–507
statistics of day's work for horses 1078
taxes on farm real estate 1002
wages on farm, 1913 and 1922 996
Wood—
consumption—
notes 83
United States, and world 108–114
exports, statistics 957, 961
imports, statistics 951, 961, 981
pulp—
exports, statistics 958, 961
imports, statistics 952, 961, 968, 981
world trade, by countries, 1909–1921 794
See also Pulp wood.
Wood-using industries, effect of forest depletion 94–98
Wool—
exports, statistics 955, 961
freight tonnage of railways, 1916–1922 1012
grades, preparation and distribution 20
imports, statistics 949, 961, 965, 977
prices—
farm and market, by months 886–887
increase 10
production, by States 885
statistics, production, prices, etc 885–888
stocks on hand, by months 887
trade, international, 1909–1921, by countries 888
world production, by countries 884
World War—
effect on pork exports and prices 275, 278
effect on rye production 501–502
Wyoming—
cold-storage space, 1922 1019
farm—
expenses 1005, 1006, 1007
mortgage debt 1004
operators, nativity 1003
population, lands, etc., in 1920 1009
farmers' food-supply sources 999, 1000
farms, classification by size 1008
flaxseed production, 1919 541
food supply of farm, sources 1000
forest fires, causes, size, damage, and area, 1921 933, 938
wages on farm, 1913 and 1922 996

Yeast, exports, statistics 960
YOHE, H. S., W. W. GARNER, E. G. MOSS, F. B. WILKINSON, and O. C. STINE, article on "History and status of tobacco culture" 395–468

ZON, RAPHAEL, W. B. GREELEY EARLE H. CLAPP, HERBERT A. SMITH, W. N. SPARHAWK, WARD SHEPARD, and J. KITTREDGE, Jr., article on "Timber: Mine or crop?" 83–180

ADDITIONAL COPIES

OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT

$1.25 PER COPY

PURCHASER AGREES NOT TO RESELL OR DISTRIBUTE THIS
COPY FOR PROFIT.—PUB. RES. 57, APPROVED MAY 11, 1922

▽