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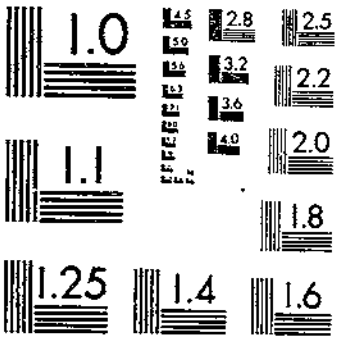

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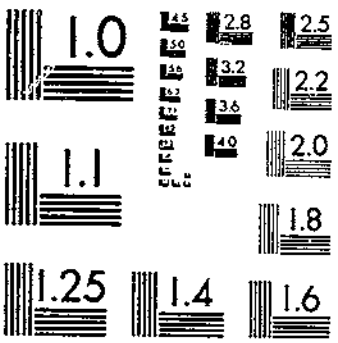

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TECHNICAL BULLETIN NO. 703 • DECEMBER 1940

Gross Farm Income and Indices of Farm Production and Prices in the United States 1869–1937

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CONTENTS

	Page
List of tables	III
Introduction	1
Scope and method	6
Scope of the investigation	6
Terminology	7
Methods of computation	8
Comparison with official and other available data	15
Production and price indices	19
Summary tables and figures	22
Sources of data and methods of estimating production, price, and income	33
Wheat	33
Corn	37
Oats, barley, rye, buckwheat, potatoes, sweetpotatoes, and flaxseed	41
Hay	59
Cotton	63
Cottonseed	65
Tobacco	66
Rice	69
Dry edible beans	72
Beet sugar	74
Cane sugar	76
Orchard fruits	77
Citrus fruits	83
Grapes	85
Peanuts	87
Dairy products	89
Poultry and eggs	99
Wool	103
Cattle	105
Calves	112
Hogs	116
Sheep and lambs	121
Indices of farm production and prices	124

LIST OF TABLES

	Page
TABLE 1.—Changes in gross income from farm production between 1869–1929	6
TABLE 2.—Synopsis of methods by which data on production, prices, and gross income were derived	10
TABLE 3.—Gross income derived from omitted farm products, crop years 1924–35	14
TABLE 4.—Comparison of gross income for crop years, 1909–35	16
TABLE 5.—Differences between B. A. E. and B. A. E.–N. B. E. R. income estimates for crop years 1924–35	18
TABLE 6.—B. A. E.–N. B. E. R. index of total farm production compared with index of total farm production including truck crops, crop years 1919–37	21
TABLE 7.—Gross income, including estimates for "omitted products," crop years	22
TABLE 8.—Gross income, including estimates for "omitted products," calendar years	24
TABLE 9.—Gross income from various groups of farm products and from total farm production, excluding "omitted products", crop years	24
TABLE 10.—Gross income from various groups of farm products and from total farm production, excluding "omitted products", calendar years	28
TABLE 11.—Indices of gross income from various groups of farm products and from total farm production, crop years	31
TABLE 12.—Indices of gross income from various groups of farm products and from total farm production, calendar years	32
TABLE 13.—Production, price, and gross income: Wheat	36
TABLE 14.—Corn: Ratio of production entering into gross income to total production: Crop years 1909–36	37
TABLE 15.—Production, price, and gross income: Corn	39
TABLE 16.—Ratio of gross income to farm value, 1909–36	41
TABLE 17.—Production, price, and gross income: Oats	43
TABLE 18.—Production, price, and gross income: Barley	44
TABLE 19.—Production, price, and gross income: Rye	48
TABLE 20.—Production, price, and gross income: Buckwheat	49
TABLE 21.—Production, price, and gross income: Potatoes	53
TABLE 22.—Production, price, and gross income: Sweetpotatoes	54
TABLE 23.—Production, price, and gross income: Flaxseed	58
TABLE 24.—Production, price, and gross income: Hay	61
TABLE 25.—Production, price, and gross income: Cotton	64
TABLE 26.—Production, price, and gross income: Cottonseed, 1874–1937	66
TABLE 27.—Production, price, and gross income: Tobacco	68
TABLE 28.—Production, price, and gross income: Rice	71
TABLE 29.—Production, price, and gross income: Dry beans	73
TABLE 30.—Production, price, and gross income: Raw beet sugar, calendar years	75
TABLE 31.—Production, price, and gross income: Raw cane sugar, calendar years	77
TABLE 32.—Computation of trend data of the production of all orchard fruits (based on census quantities)	79
TABLE 33.—Computation of trend data of the production of all orchard fruits (based on census values)	79
TABLE 34.—Production, price, and gross income: Orchard fruits	82
TABLE 35.—Picking and hauling costs in relation to income from citrus fruits	84
TABLE 36.—Production, price, and gross income: Citrus fruits, 1886–1937	85
TABLE 37.—Production, price, and gross income: Grapes, calendar years 1889–1937	87

Page

TABLE 38.—Production, price, and gross income: Peanuts, calendar years 1870–1937 ... 89
TABLE 39.—Comparison of B. A. E. estimates with B. A. E.–N. B. E. R. estimates of gross income from dairy production, 1924–34 ... 92
TABLE 40.—Production, price, and gross income: Butter, farm and factory, calendar years ... 94
TABLE 41.—Production, price, and gross income: Cheese, calendar years ... 94
TABLE 42.—Production, price, and gross income: Condensed and evaporated milk, calendar years ... 96
TABLE 43.—Production and gross income: Fluid milk, calendar years ... 96
TABLE 44.—Production, price, and gross income: Total dairy products, calendar years ... 98
TABLE 45.—Production, price, and gross income: Chickens, calendar years ... 101
TABLE 46.—Production, price, and gross income: Eggs, calendar years ... 103
TABLE 47.—Production, price, and gross income: Wool, calendar years ... 105
TABLE 48.—Production, price, and gross income: Cattle, calendar years ... 110
TABLE 49.—Export volume, and income from slaughter and exports: Cattle, calendar years ... 111
TABLE 50.—Changes in inventory values of cattle, and gross income from slaughter and exports adjusted for changes in inventory values, calendar years ... 112
TABLE 51.—Production, price, and gross income: Calves, calendar years ... 114
TABLE 52.—Changes in inventory values of calves and gross income from slaughter of calves, adjusted for changes in inventory values, calendar years ... 116
TABLE 53.—Live weight of hogs, based on 1920 census figures ... 118
TABLE 54.—Production, price, and gross income: Hogs, calendar years ... 119
TABLE 55.—Changes in inventory values of hogs, and gross income adjusted for changes in inventory values, calendar years ... 120
TABLE 56.—Production, price, and gross income: Sheep and lambs, calendar years ... 122
TABLE 57.—Changes in inventory values, and gross income from the slaughter of sheep and lambs adjusted for changes in inventory values, calendar years ... 123
TABLE 58.—Indices of farm production: Total farm production, crop years ... 124
TABLE 59.—Indices of farm production: Total farm production, calendar years ... 125
TABLE 60.—Indices of farm production: Total farm production, adjusted for changes in inventories of livestock, crop years ... 126
TABLE 61.—Indices of farm production: Total farm production, adjusted for changes in inventories of livestock, calendar years ... 126
TABLE 62.—Production entering into gross income: Twelve important crops, crop years ... 127
TABLE 63.—Indices of farm production: Twelve important crops, crop years ... 128
TABLE 64.—Production entering into gross income: Twelve important crops, calendar years ... 129
TABLE 65.—Indices of farm production: Twelve important crops, calendar years ... 130
TABLE 66.—Indices of farm production: Staple foodstuffs, crop years ... 131
TABLE 67.—Indices of farm production: Staple foodstuffs, calendar years ... 131
TABLE 68.—Indices of farm production: Dairy products, chickens, and eggs, calendar years ... 132
TABLE 69.—Indices of farm production: Orchard fruits, citrus fruits, and grapes, crop years ... 133
TABLE 70.—Production entering into gross income: Slaughter of cattle (and exports of live cattle), calves, hogs, and sheep and lambs, calendar years ... 134
TABLE 71.—Indices of farm production: Slaughter of cattle (and exports of live cattle), calves, hogs, and sheep and lambs, calendar years ... 135
TABLE 72.—Production entering into gross income: Slaughter of cattle (and exports of live cattle), calves, hogs, and sheep and lambs, adjusted for changes in inventories, calendar years ... 136

Page

TABLE 73.—Indices of farm production: Slaughter of cattle (and exports of live cattle), calves, hogs, and sheep and lambs, adjusted for changes in inventories, calendar years 137
TABLE 74.—Indices of farm production: Textile raw materials, crop years 138
TABLE 75.—Indices of farm production: Textile raw materials, calendar years 139
TABLE 76.—Indices of farm prices: Total farm production, crop years 140
TABLE 77.—Indices of farm prices: Total farm production, calendar years 140
TABLE 78.—Indices of farm prices: Total farm production, adjusted for changes in inventories of livestock, crop years 141
TABLE 79.—Indices of farm prices: Total farm production, adjusted for changes in inventories of livestock, calendar years 142
TABLE 80.—Indices of farm prices: Twelve important crops, crop years 142
TABLE 81.—Farm prices: Twelve important crops, calendar years 143
TABLE 82.—Indices of farm prices: Twelve important crops, calendar years 144
TABLE 83.—Indices of farm prices: Staple foodstuffs, crop years 145
TABLE 84.—Indices of farm prices: Staple foodstuffs, calendar years 146
TABLE 85.—Indices of farm prices: Dairy products, chickens, and eggs, calendar years 147
TABLE 86.—Indices of farm prices: Orchard fruits, citrus fruits, and grapes, crop years 147
TABLE 87.—Farm prices: Meat animals, per pound of live weight, calendar years 148
TABLE 88.—Indices of farm prices: Meat animals, calendar years 149
TABLE 89.—Farm prices: Meat animals, per pound of live weight, adjusted for changes in inventory values, calendar years 149
TABLE 90.—Indices of farm prices: Meat animals, adjusted for changes in inventory values, calendar years 150
TABLE 91.—Indices of farm prices: Textile raw materials, crop years 151
TABLE 92.—Indices of farm prices: Textile raw materials, calendar years 152

INTRODUCTION

The bringing together of historical economic, agricultural, and industrial data is a necessary basic step in the study of interrelationships between agriculture and industry over long periods of broad economic development and over shorter periods of major economic cycles. A joint research project, under the Bankhead-Jones Act, of the United States Department of Agriculture and of the National Bureau of Economic Research, Inc., entitled "The Changing Balance Between Agriculture and Industry" has produced, as a byproduct, this report covering estimates of income from farm production in the United States, extending back to 1869 and including indices of farm production and prices.

For the general purposes of the broad study called for by the research project and particularly for use in comparison with similar series for nonagricultural income, production, and prices, it was necessary to prepare the estimates contained in this bulletin as a supplement to the estimates of farm income, production, and prices currently published by the Department of Agriculture. The nonagricultural series are now in the process of preparation, together with an analysis of both sets of data.

Readers will find that in certain respects the currently published estimates of gross income made by the Department of Agriculture since 1909 differ from those contained in this bulletin for the same period. These differences are dealt with in detail later, but it may be noted here that they arise chiefly from the fact that in its current estimates of income the Department deals with separate estimates by States. This necessitates a somewhat different concept of gross income than that required when dealing with agriculture as a whole in relation to nonagricultural industries. It should also be noted that revisions in the Department's current estimates are still in progress.[1]

This bulletin is published partly to help those who are studying the changing balance within the agricultural economy of the United States as it has developed since the Civil War, and as it has manifested itself in the changing proportion of total farm income from farm production received by the producers of the major farm products. The new agricultural data presented in this bulletin will be of particular use for research purposes.

When using these estimates of gross income from farm production, readers should bear in mind that some farmers have other sources of income, such as from labor performed off the farm, investments, gifts, and inheritances. The relative importance of these sources undoubtedly varies with the different branches and regions of agriculture, but comprehensive estimates of these items for the long period covered by this study are not possible. In all agricultural regions and all branches of agriculture, the production of farm products and the

[1] The revised data on cash income for calendar years since 1910 have been released. See Stine (*18*, p. 15).[2]
[2] Italic numbers in parentheses refer to Literature Cited, p. 152.

gross and net income derived therefrom are the main determinants of agricultural well-being.

Changes in relative shares of income received from the production of individual commodities are dealt with in a report entitled "The Composition of Gross Farm Income Since the Civil War," issued as a Bulletin of the National Bureau of Economic Research, Inc. (*12*).

Research students as well as other readers should recognize the necessary qualifications that are involved in a study of the sort here reported. Although a real effort was made to utilize the best available sources and material in constructing annual series, the annual data for some of the commodities, particularly for the period prior to 1900, are chiefly significant in showing long-time trends and may be less useful in analyses of short-time movements where a high degree of accuracy is required. These qualifications are dealt with in detail later.

The general nature of the material in this bulletin may be indicated at the outset by calling attention to the composite indices of agricultural production, prices, and income. These represent the final summary product of similar material for individual commodities.

The only heretofore available official index of agricultural production starting before the World War is an index of production of 12 important crops. In figure 1 this index is contrasted with a comparable one computed from the material contained in this bulletin and with an index of total production including livestock and livestock products, as well as crops. In this bulletin the long-time series on gross farm income, indices of production, and indices of prices will be designated as B. A. E.–N. B. E. R. (Bureau of Agricultural Economics–National Bureau of Economic Research).

In general, the two indices of crop production show the same long-time trend. Both reveal a diminishing rate of increase up to about 1915, and show no further rise after that. During the 1870's the annual rate of increase was about 6 percent, during the 1880's and 1890's about 2 percent, and during the first 20 years after 1900 about ½ percent. They differ markedly, however, in their year-to-year fluctuations, primarily because in the crop index as heretofore published constant weights are used and each crop is given an importance according to the value of its total production, whereas the index of the present study uses a cross of constant and annually changing weights and each crop is given an importance according to the value of its production used for sale or in the farm home.

The more inclusive measure of production, covering both crops and livestock, differs little from the indices of crops alone up to about 1920, but from then on it continues in line with the upward trend of the previous decade. This reflects chiefly the marked increase in the production of dairy and poultry products and truck crops, and production of livestock and livestock products per unit of feed crops.

The only index of prices received by producers starting before the World War heretofore available has been an index published by the Bureau of Agricultural Economics for the period 1910 to date. The present study makes available such a price index from 1869 to date, constructed in such a way as to be directly comparable with the B. A. E.–N. B. E. R. index of production. These two indices are shown in figure 2.

The course of average prices received by farmers has been dominated chiefly by monetary and business conditions and only partly by

changes in the aggregate volume of farm production. In a number of the individual commodities dealt with in this study, it will be found that the variations in production assume greater importance as a

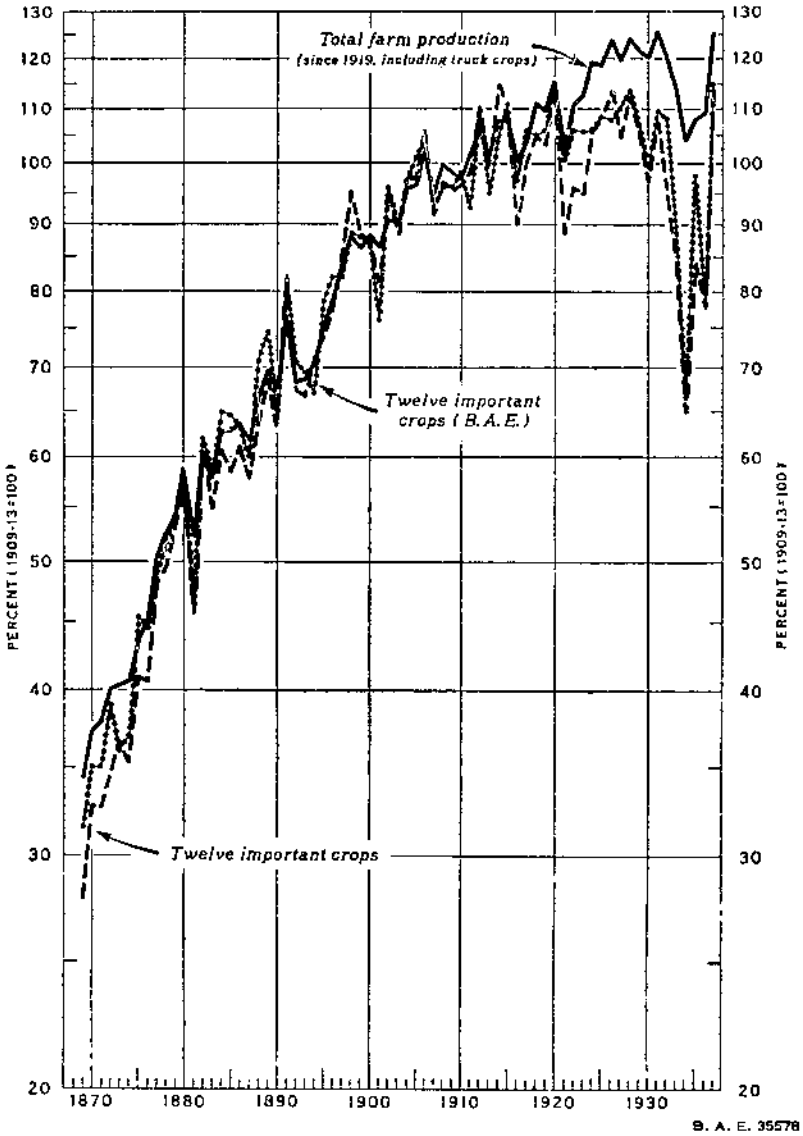

FIGURE 1.—Comparison of indices of production, crop years, 1869–1937: Index of total farm production, index of 12 important crops, and index of 12 important crops (B. A. E.).

price factor than is the case when all farm products combined are dealt with. Even in this general illustration it is evident that the average of prices of farm products is affected by the course of farm production in general. Thus, during the downward course of prices

of the 1870's, 1880's, and 1890's there were three periods when production exceeded the long-time trend—the late 1870's, the late 1880's, and the late 1890's. In the first and third of these periods, the large volume of production intensified the decline in farm prices that was due to other causes, and in the other it prevented farm prices from responding fully to the prosperity conditions in the domestic markets.

The rise in farm prices from the 1890's to 1914 was somewhat more regular than was the decline during the period after the Civil War, but here too the effect, on price, of volume in excess of normal is apparent, particularly in the years 1904–06.

After 1914 several highly distinct price periods are evident: (1) The inflation and deflation associated with the World War, (2) the sus-

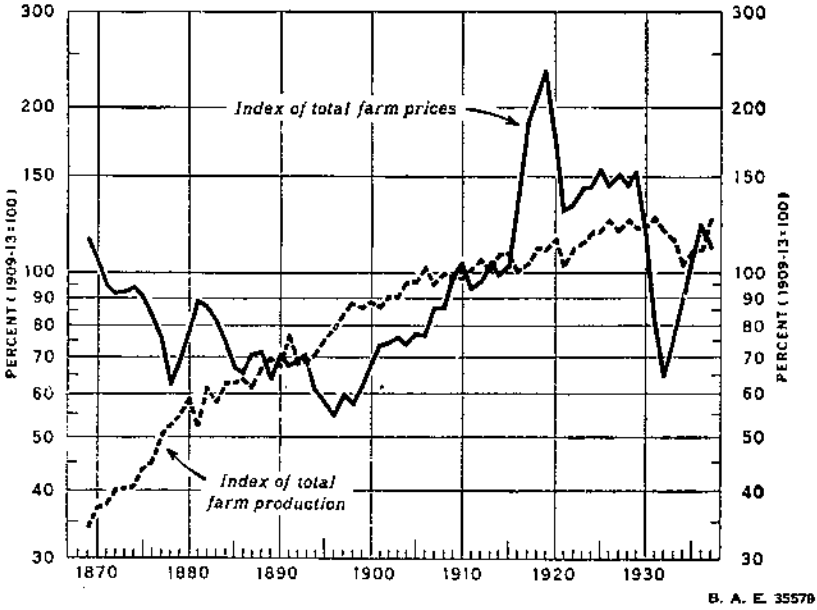

FIGURE 2.—Index of total farm production and farm prices, crop years, 1869–1937.

tained and relatively stable price situation of the 1920's, (3) the second major post-war price collapse between 1929 and 1932, (4) the rise between 1932 and 1937 associated with economic recovery, including devaluation of currency, Government expenditures, and two record droughts (1934 and 1936), and (5) the decline in 1937–38 associated with a decline in general business conditions and a return to conditions of surplus agricultural production and supplies.

The variations in gross income from farm production that resulted from these long-time and short-time changes in production and prices are shown in figure 3. During the 25-year period ending with 1896, it is clear that gross income rose only moderately, the rapid expansion in production being nearly offset by the accompanying decline in prices. The effect of variations in business conditions and in domestic demand is suggested in the cycles in income which reached their peaks in the prosperity periods of 1881–82 and 1891–92. From 1896 to 1914 the year-to-year variations in gross income are overshadowed

by the very marked long-time upward trend. If the rise and fall in farm income associated with the World War is set aside, the long-time upward trend that started after 1896 may be said to have terminated in 1929. The decade since then may be described for the present as one of a downward trend in gross farm income, with marked departures below that downward trend in 1932, and above that trend in 1937. In fact, the entire period after the World War may now be described as one during which agricultural prices and income followed a downward course as they did after the Civil War, with two periods of prices and income markedly below the course of the downward trend (typified by 1921 and 1932), and two periods of prices and income above the course of the downward trend (typified by 1925–29 and 1937).

In the body of this bulletin will be found in detail the sources, methods, and qualifications that are involved in the construction of

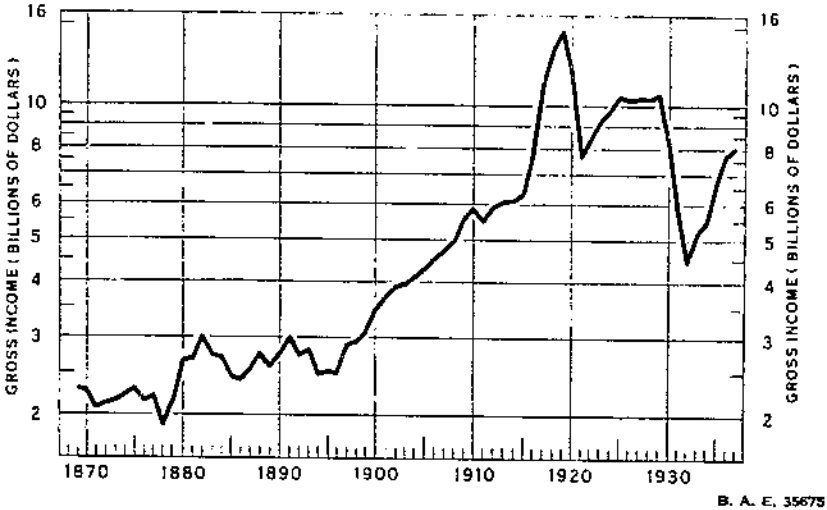

FIGURE 3.—Gross farm income, excluding omitted items, crop years, 1869–1937.

these general indices of production, farm prices, and gross income from production. The reader will find not only the volume, price, and income data relating to individual products and to the total of all products, but also similar data for groups of products for which such data have not heretofore been available. The individual products may of course be combined into various groupings to serve various purposes, but for more general use they have here been combined into the following groups (figures 7–10) and separate measures of production, prices, and income have been computed for each:

(1) 12 important crops.
(2) Staple food products (wheat, rye, potatoes, sweetpotatoes, dry beans, and rice).
(3) Fruits (orchard and citrus, and grapes).
(4) Dairy and poultry products.
(5) Textile raw materials (cotton, flaxseed, and wool).
(6) Meat animals.

The relative importance of these groups of farm products has changed a great deal over the last 70 years, judging from the following

brief comparison between the composition of total gross income for the calendar years 1869 and 1929 (table 1). For 1869 the estimated gross income from the commodities dealt with in this study amounted to about $2,350,000,000 and for 1929 to more than $10,700,000,000 involving an increase of 350 percent. Income from textile raw materials increased by about this same percentage, while income from staple food products and from livestock slaughtered increased only something more than 200 percent, and income from dairy and poultry products and from fruits increased, on the other hand, more than 800 and 1,000 percent respectively.

TABLE 1.—*Changes in gross income from farm production between 1869 and 1929*

Products	Gross income		Percent of total		Increase
	1869	1929	1869	1929	1869 to 1929
	Million dollars	*Million dollars*	*Percent*	*Percent*	*Percent*
Staple foodstuffs	380	1,223	16	11	222
Fruits	46	522	2	5	1,035
Dairy and poultry products	378	3,490	16	33	823
Textile raw materials	344	1,655	15	15	381
Livestock	923	2,830	40	26	207
Other	278	1,006	11	10	262
Total	2,349	10,726	100	100	350

Stated in another way, the relative importance of staple foodstuffs in the total of farm production has decreased over this 60-year period from 16 percent to 11 percent, but this has been chiefly made up for by the increased importance of fruits and truck crops. The relative importance of textile raw materials, chiefly cotton, has remained practically unchanged, and so has the total of livestock and livestock products. But there has been a decrease in the relative importance of production of livestock for slaughter from 40 percent to 26 percent, more than is compensated for by an increase in the contribution of dairy and poultry products from 16 percent to 33 percent.

These shifts in income clearly indicate where in agriculture and in consumer demand the dynamic changes have taken place. The detailed material in the following pages will be found useful in ascertaining in what commodities these relatively rapid and relatively slow changes have been, and are, taking place and the extent to which they are accounted for by changes in production and prices.

SCOPE AND METHOD

SCOPE OF THE INVESTIGATION

The student of problems in the agricultural economy is faced by a lack of long-term data on production, prices, and income. For several important farm products (such as livestock, dairy products, and fruits), only decennial census data on production have so far been available for earlier years. For many products, wholesale prices have had to be used as a substitute for farm prices. Yearly data on gross farm income have been published only since 1909; and even these crop-year data had to be revised and have recently been con-

verted to a calendar-year basis. No reliable measures of total farm production and of the general movement of farm-product prices received by producers were at the disposal of economists.

In this bulletin an attempt has been made (1) to assemble the best data on farm production, farm prices, and farm income for individual farm products; (2) to correct for inadequate data; and (3) to combine the estimates for individual products into measures of total farm production, an index of farm prices, and a measure of total gross income. These series are carried back, on an annual basis, to 1869. Gross income, price, and production were computed in order to obtain series essential for the study being made of trends and causes of changes in basic agricultural-industrial relationships. The attempt was rendered practicable by the availability of a great deal of revised statistical material in the United States Department of Agriculture that had not hitherto been utilized for this particular purpose, and was facilitated by the close cooperation between the Department of Agriculture and the National Bureau of Economic Research, Inc. As a result of this work annual data will be available as well as what might be called better bench-mark data for census years than those previously used.

Terminology

"Farm value" of individual crops represents the value at farm prices of the total crop produced. In this bulletin, and in subsequent analyses, no direct use is or will be made of farm values. They were computed merely in order to obtain "gross income" whenever, as a step in estimating income, a constant ratio of gross income to farm value could be assumed. The basic concept for this study is gross income, which is synonymous with farm value after two major sources of duplication are eliminated—the value of feedstuffs produced but fed to livestock and the value of production used for seed. Essentially, therefore, gross income denotes the value (at farm prices) of the farm products sold by producers to the nonfarm economy and of the products (at the same farm prices) consumed in the producers' households.

Use of this concept results in a measure of gross income for the *farm economy* rather than a summation of the gross incomes of *individual farmers*. Such a differentiation does not involve notable discrepancies, except in those instances in which farm income results from sales of products to farmers who further process them before reselling to the nonfarm economy. An outstanding example is the interfarm sale of breeding and feeding livestock. A summation of individual farmers' incomes would give higher income estimates because the value of the breeder and feeder cattle would be included in the income of both the selling and the buying farmer. In this bulletin the concept "gross income for the farm economy" was applied whenever possible.[3]

In general, there is little difficulty in making a reasonable decision whether a particular item of income is a contribution to the total gross income of the farm or of the nonfarm economy. For instance, the value added in the processing of dairy products in manufacturing plants definitely does not belong to farm income; in line with institutional considerations, the processing is clearly one of the nonagricul-

[3] For reasons of expediency, the gross-income computations for corn deviate from the rule. Owing to lack of data, income arising from interstate sales between farmers had to be included, thus leading to an overvaluation, the magnitude of which cannot be adequately estimated. For a more detailed explanation, see the description of "Income from corn production," p. 37.

tural entrepreneur's responsibilities; further, this part of income is recorded in the manufacturing census and thus is included in "nonagricultural income." The application of the preceding criteria avoids arbitrary decisions, so far as experience in this study is concerned.

This may be made clearer by an illustration. Citrus fruits are picked probably to a large extent, not by the growers themselves but by packer associations. The cost of picking therefore is not reflected in the gross income of many individual growers, but clearly enters into the gross income of the farm economy for two reasons: (1) From an institutional viewpoint picking is an agricultural responsibility; and (2) it is not elsewhere recorded in income statistics. Consequently, picking costs are included in the income estimates for citrus fruits.

The production data used in the indices of farm production and as weights in the indices of farm prices conform to the gross income concept. As shown in the description of the indexes and of the gross-income computation for individual farm products, "production" as used in the final computations refers to "production entering into gross income." That part of production which appears elsewhere as income from processed farm products (feed and seed) is excluded.

Methods of Computation

In cases in which data for intercensal years were not available, estimates were based on the best supporting data obtainable; often various methods of estimating could be checked against one another. As the reliability of the data varies from product to product and the methods of estimating had to be chosen according to the nature of the supporting data, both are described in detail for each product. As is usual in making estimates of this kind, the chosen methods are not always the only ones possible; other investigators might resort to other devices. But the authors believe that the selection of a different technique to estimate gross income from these few individual products would not result in substantial difference, and would not affect materially the income estimates either of groups of products or of all products.

The tables are divided into three separate parts showing since 1869 (1) Gross farm income, (2) indices of farm production, and (3) indices of farm prices. Gross income has been computed on both a crop-year and a calendar-year basis. Crop-year data are essential for many purposes, particularly for any exact analysis of crop-year prices and seasonal price movements in relation to supply-demand conditions. Calendar-year data are more useful in comparing agricultural with nonagricultural economic factors, particularly with nonagricultural income, which is available only on a calendar-year basis, except for recent years.

It has been the practice to combine income from livestock marketed during the calendar year with income derived from the crops produced in the crop year irrespective of the marketing period, and this combination has been termed crop-year gross income. To obtain a strictly calendar-year gross income, it is necessary to convert income from crops sold during a crop season, say August-July, to income received from one crop during the first part of a calendar year and

from the other crop during the last part of the calendar year. The conversion from the crop year to the calendar year is based on monthly marketings. As monthly marketings are available only for more recent years, this conversion for earlier years had to be made by applying an average rate of marketings derived from the more recent years.[4] This procedure is not likely to result in great errors. It is true that improved methods of growing, changes in the importance of early and late varieties, and improvements in transportation during this long period may have affected the seasonal distribution of marketings. But it is doubtful whether the proportion of a crop marketed between the beginning of harvest and the end of the calendar year has changed materially, even though marked changes may have taken place in the rate of marketings in any one month. It is believed that no serious errors result from the chosen procedure except possibly in years of severe price fluctuations, when the unavoidable assumption of constant seasonal marketings may introduce (for individual crops) noticeable discrepancies. The year-by-year data (for calendar years) for individual farm products should therefore not be used for analyses of short-term fluctuations that call for precise figures. For years before 1909 the authors doubt whether substantial improvements in the data would result from further effort. For the period since 1910 data that apparently will better indicate the yearly fluctuations in the marketings of individual products will eventually be released by the Department of Agriculture.[5]

However, since a larger percentage of total farm production and income is derived from products that are on a calendar-year basis (such as livestock and dairy products and some fruits), the calendar-year data for total farm production and for some of the subgroups, as well as for total gross income and for some income groups, are more reliable than those for some individual crops. In these instances their use for short-term analyses seems to be warranted.[6] In the description of the individual products, their reliability is discussed in more detail.

Table 2 summarizes the farm products covered, the periods for which the computation has been made for each, the quality of the data, and the methods of estimation. The second column refers briefly to the nature of the crop-year production data; the third column to the basis of the conversion from crop to calendar year; the fourth column gives the source of the price data for crop years; the fifth column the source or the manner of computation for calendar-year farm prices;[7] and the sixth column describes briefly the methods used in obtaining gross income from farm value.

[4] The conversion ratio was based on as long a period as possible. But when marketings since 1929 showed a marked shift in seasonality these years were omitted from the average.

[5] These estimates include the new B. A. E. (that is, Bureau of Agricultural Economics) calendar-year data of sales and home consumption, farm prices and gross income 1909–37 for wheat, rye, corn, oats, tobacco, cotton, cattle, calves, hogs, wool. Other calendar-year series are yet to be made available but these constitute a large part of the total. The estimates are described in more detail in the analysis of the individual products.

[6] Income from livestock, dairy products, chickens, and eggs—products whose production is on a calendar-year basis—constituted 55.8 percent of total income in 1869, 51.9 percent in 1900, and 58.7 percent in 1929.

[7] The Division of Statistical and Historical Research of the Bureau of Agricultural Economics collected farm prices of important farm products from various sources and combined them in the form of weighted averages. In this bulletin, in contrast to the current B. A. E. series, these price series are designated thus: (B. A. E.).

TABLE 2.—*Synopsis of methods by which data on production, prices, and gross income were derived*

Item	Production		Farm price		Gross income (basis for conversion from farm value)
	Crop year	Calendar year (basis for conversion from crop year)	Crop year	Calendar year	
Wheat	1869–1937, B. A. E.	Marketings, B. A. E., 1924–35; actual B. A. E. data, 1910–37.	1869–1907, Dec. 1; 1908–37, season average.	1869–1909 (B. A. E.); 1910–37, B. A. E.	1869–1908, ratio of "sales and home consumption" to "total production," except in exceptional years; 1909–37, actual B. A. E. ratio, annually.
Corn	do	Marketings, Crop Reporting Board, 1920–29.	1869–1907, Dec. 1; 1908–37, season average.	1869–1909 (B. A. E.); 1910–37, B. A. E.	1869–1908, ratio, 1909–15, of "sales plus home consumption adjusted for exports" to "total production adjusted for exports;" 1909–37, actual B. A. E. ratio, annually.
Oats	do	do	1869–1907, Dec. 1; 1908–37, season average.	1869–1909 (B. A. E.); 1910–37, B. A. E.	1869–1909, ratio, 1909–14, of "sales plus home consumption" to "total production;" 1910–37, actual B. A. E. ratio, annually.
Barley	do	do	1869–1907, Dec. 1; 1908–37, season average.	1869–1909 (B. A. E.); 1910–37, B. A. E.	1869–1918, ratio, 1924–35, of "gross income" to "farm value;" 1919–37, actual B. A. E. ratio.
Rye	do	do	1869–1907, Dec. 1; 1908–37, season average.	1869–1909 (B. A. E.); 1910–37, B. A. E.	1869–1909, ratio, 1909–14, of "sales plus home consumption" to "total production;" 1910–37, actual B. A. E. ratio, annually.
Buckwheat	do	do	1869–1907, Dec. 1; 1908–37, season average.	Calendar-year income divided by calendar-year production.	1869–1909, ratio, 1909–14, of "sale plus home consumption" to "total production;" 1910–37, actual B. A. E. ratio, annually.
Flaxseed	1889–1937, B. A. E., 1869–1888, interpolated census.	do	1869–1907, Dec. 1; 1908–37, season average.	1869–1909 (B. A. E.); 1910–37, B. A. E.	1869–1937, ratio, 1919–37, of "gross income" to "farm value," since annual fluctuations are slight.
Hay	1869–1935, B. A. E., tame hay	Marketings, Crop Reporting Board, 1920–29, applied only when differences warrant computation.	1869–1907, Dec. 1; 1908–37, season average.	1869–1909 (B. A. E.), adjusted; 1910–37, B. A. E.	Computation of amount fed to cattle, horses, and mules in cities.
Potatoes	1869–1935, B. A. E.	Marketings, Crop Reporting Board, 1920–29.	1869–1907, Dec. 1; 1908–37, season average.	1869–1909 (B. A. E.), adjusted; 1910–37, B. A. E.	1869–1923, B. A. E., ratio of "gross income" to "farm value," 1924–30; 1924–37, actual B. A. E. ratio.
Sweetpotatoes	do	do	1869–1907, Dec. 1; 1908–37, season average.	Calendar-year income divided by calendar-year production.	1869–1923, B. A. E. ratio of "gross income" to "farm value," 1924–30; 1924–37, actual B. A. E. ratio.
Cotton	do	1869–1909, average marketings, B. A. E., 1924–35; 1910–37, actual calendar-year sales, B. A. E.	1869–1907, Dec. 1; 1908–37, season average.	1869–1909 (B. A. E.); 1910–37, B. A. E.	Farm value=gross income.

Cottonseed	Volume of cottonseed crushed	do	Value divided by production.	1874-1909, value divided by production 1910-37.	1867-1909, 67 percent of value of cottonseed crushed; 1910-37, B. A. E.
Tobacco	1869-1937, B.A. E.	1869-1908, average marketings, B. A. E., 1924-29; 1909-37, actual calendar year sales, B. A. E.	do	Calendar year income divided by calendar year production.	Farm value=gross income.
Rice	1909-35, revised B. A. E.; 1869-1908, B. A. E. made consistent.	Marketings, B. A. E. 1926-33.	1909-37, B. A. E.; 1869-1908, estimated according to wholesale prices.		Average B. A. E. ratio 1924-33 applied 1909-37.
Dry beans	1914-35, B. A. E.; 1879-1913, interpolated census; 1869-78, extrapolated.	Marketings estimated by B. A. E.		1869-1923 (B. A. E.), adjusted; 1924-37, B. A. E. crop year price converted.	1919-37, actual B. A. E. ratio of "gross income" to "farm value"; 1869-1918, average B. A. E. ratio 1924-35.
Peanuts	1916-37, revised B. A. E.; 1889-1915, interpolated census; 1869-88, extrapolated census.	do		1869-1915 (B. A. E.), adjusted; 1916-37, B. A. E. crop year price converted.	1869-1915, farm value=gross income; 1916-23, average B. A. E. ratio of "gross income" to "farm value," for the period 1924-35; 1924-37, actual ratio.
Cane sugar	1919-37, B. A. E.; 1869-1918, B. A. E., raw sugar from cane.	Crop sold in calendar year	1919-37, B. A. E. crop year price converted; 1869-1918, New York wholesale price adjusted.		Ratio of "gross income" to "farm value" estimated on basis of beet sugar.
Beet sugar	1911-37, B. A. E.; 1869-1910, B. A. E., raw sugar from beets.	do	1911-37, B. A. E. crop year price converted; 1869-1910, New York wholesale price adjusted.		Estimated ratio of "gross income" to "farm value" based on contracts with growers and ratio of wholesale value to farm value.
Butter	B. A. E. estimates	Crop year=calendar year	1869-1909 (B. A. E.); 1910-37, B. A. E.		Farm value=gross income.
Cheese	do	do	Computed weighted average price.		Do.
Condensed and evaporated milk.	do	do	Computed, based on butter price.		Do.
Fluid milk	Estimated as difference of B. A. E. "total milk" estimate and B. A. E. "manufactured dairy" estimates adjusted.	do	do		Do.
Chickens	1925-37, B. A. E. estimates; 1879-1924, adjusted census data interpolated; 1869-78, extrapolated.	do	1910-37, B. A. E.; 1869-1909 (B. A. E.), adjusted.		Adjusted for mortality of chickens.
Eggs	1924-37, B. A. E.; 1880-1923, adjusted census interpolated; 1869-79, extrapolated.	do		1869-1909 (B. A. E.); 1910-37 B. A. E.	1924-37, B. A. E. data; farm value=gross income.
Apples (used only for checking purposes).	1889-1937, B. A. E.; 1869-88, cf. total orchard fruits.	Marketings 1917-23	Computed weighted average price for marketing season.		Farm value=gross income, conversion from crop to calendar year based on marketings.
Total orchard fruits	1924-37, actual B. A. E.; 1869-1923, adjusted census data interpolated by applying yield of apples and peaches.	do	Estimated on the basis of apple prices		Do.

TABLE 2.—*Synopsis of methods by which data on production, prices, and gross income were derived*—Continued

Item	Production		Farm price		Gross income (basis for conversion from farm value)
	Crop year	Calendar year (basis for conversion from crop year)	Crop year	Calendar year	
Grapes	1919-37, B. A. E.; 1899-1918, interpolated census (S. W. Shear); 1889-98, straight line interpolation of census data.	Crop year=calendar year	1924-37, B. A. E.;1919-2 3, California price adjusted; 1917-18, f. o. b. price adjusted; 1887-1916, sweet wine price adjusted.		Farm value=gross income.
Citrus fruits	1919-37, B. A. E.; 1886-1918, based on shipments of California Fruit Growers Exchange and Florida Citrus Exchange.	Marketings 1924-28	Computed as gross income divided by production		Calendar-year income computed on basis of marketings 1924-28; 1895-1918, f. o. b. income converted to gross income on basis of cost data of California Exchange.
Slaughter:					
Hogs	1899-1937, B. A. E. estimates; 1869-98, estimates based on revised B. A. E. data of inventories on farms. Live weight per head, 1899-1937, B. A. E.; 1869-98, adjusted data of Cincinnati Price Current.	Crop year=calendar year	1869-1909, (B. A. E.) adjusted; 1910-37, B. A. E		Farm value=gross income, exports of live hogs insignificant. Gross income=income from slaughter.
Cattle	1899-1937, B. A. E. estimates; 1869-98, estimates based on revised B. A. E. data of inventories adjusted for calves inventories. Live weight estimated from census and B. A. E. data. Slaughter supplemented by exports of live cattle.	do	do		Gross income=income from slaughter plus value of exports of live cattle (at farm prices).
Calves	1899-1937, B. A. E. estimates; 1869-89, estimates based on computed inventories of calves (using B. A. E. data). Live weight estimates based on B. A. E. and census data.	do	do		Gross income=income from slaughter. No exports.
Sheep and lambs	1899-1937, B. A. E. estimates of sheep and lamb slaughter combined; 1869-98, estimated on basis of per capita consumption (separately for consumption on farms and in cities.)	do	1869-89 (B. A. E.) djusted farm price of sheep; 1890-1909, average of (B. A. E.) adjusted farm price for sheep and for lambs; 1910-37, average of B. A. E. farm price of sheep and lambs.		Do.

Changes in inventory values:				
Hogs	Based on B. A. E. estimates of revised census data. Live weight per head of inventories estimated on basis of census and B. A. E. data.	do	Same as live-weight price on which slaughter was based	Gross income from slaughter corrected for changes in inventory values.
Cattle	Estimates of number of cattle 1 year old and over based on census and revised B. A. E. inventory data. Live weight estimated from census and B. A. E. data.	do	do	Do.
Calves	Cf. estimates of inventories used in slaughter series. Live weight estimated on basis of average January 1 census, B. A. E. data.	do	Cattle price used	Do.
Sheep and lambs	do	do	Sheep price used	Do.
Wool	1910–35, B. A. E.; 1869–1909, National Association of Wool Manufacturers.	Crop year=calendar year	1869–1909, (B. A. E.) adjusted; 1910–37, B. A. E.	Farm value=gross income.

The estimates of gross income from individual farm products are described in detail to make clear the quality of the statistical data and to enable the reader to judge the reliability of the estimates. For several farm products no adequate data could be collected in the form of a consistent series. To make the totals of production, prices, and income comparable throughout the period covered, it was necessary to omit the partial data available for these products. Table 3 lists these products and gives gross income for the crop years 1924–35 according to computations made in the Bureau of Agricultural Economics.[8] Between 1924 and 1928 gross income from the omitted products constituted about 10.5 percent of total income (according to these preliminary B. A. E. data); in 1929 the percentage shrank to 9.5, owing mainly to the sharp reduction in income from forest products.[9]

TABLE 3.—*Gross income derived from omitted farm products, crop years 1924–35*

Item	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935[1]
	Mil. dol.	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
Grain sorghums	16.7	12.1	14.4	28.0	18.7	7.6	4.0	4.1	2.6	6.3	2.1	6.0
Emmer and spelt	.3	.2	.1	.3	.2	.3	.3	.1	.1	.1		.2
Popcorn	1.3	3.7	1.7	1.2	1.3	1.8	3.3	.9	.6	.5	.9	1.5
Sweet sorghum forage	3.0	2.5	2.8	3.5	2.9	3.0	2.1	1.7	1.3	2.3	2.0	2.7
Hemp	.1	.2	.2	.1	.1	.1	.1					.1
Cloverseed	10.5	13.3	9.8	24.6	15.3	23.6	14.3	6.5	7.3	7.0	9.1	7.4
Sweet cloverseed	3.6	3.7	5.8	4.3	2.7	3.2	2.0	1.5	.7	1.1	1.7	.9
Lespedeza seed	.4	.5	.6	.5	.3	.4	.2	1.6	2.1	2.9	3.7	2.5
Alfalfa seed	10.3	10.8	8.6	7.4	6.0	11.0	11.7	5.7	2.7	5.7	10.0	7.9
Timothy seed	8.4	6.1	6.4	5.2	2.7	2.5	4.1	2.7	1.2	1.4	1.1	3.1
Soy beans	7.0	6.0	5.8	6.5	6.4	11.2	10.3	5.0	4.9	7.7	10.9	23.4
Broomcorn	7.4	4.2	4.3	4.2	4.9	5.4	3.3	2.0	1.4	3.1	4.8	4.7
Truck crops	300.4	344.7	301.2	306.4	319.8	391.0	363.1	289.4	222.5	230.8	259.7	304.4
Hops	3.4	6.2	7.3	7.0	6.3	3.8	3.5	3.6	4.2	12.1	6.2	5.7
Strawberries	53.9	50.5	58.4	59.2	53.7	56.1	50.5	47.3	32.4	27.9	31.2	36.7
Small fruits	21.5	22.0	24.3	30.6	24.4	18.0	19.3	16.2	11.4	9.5	10.7	12.4
Cranberries	5.5	6.4	5.6	6.1	7.4	7.2	5.7	4.0	4.0	4.0	5.0	6.1
Pecans	6.1	9.0	13.0	6.4	10.2	7.4	7.8	6.1	3.0	4.7	5.0	5.9
Forest products	306.4	327.0	318.0	309.9	311.1	173.2	144.6	105.4	105.4	114.8	114.8	130.0
Farm garden products	295.4	301.6	284.3	266.1	303.7	226.0	213.6	222.3	214.7	219.1	144.8	188.2
Nursery products	20.4	20.4	20.4	20.4	20.4	61.2	53.1	46.4	30.9	39.3	37.9	49.1
Greenhouse products	76.8	76.8	76.8	76.8	76.8	83.9	77.8	66.6	43.0	56.1	55.0	67.5
Horses and mules	28.6	25.0	26.3	27.7	27.8	19.6	14.2	11.2	11.4	14.7	16.6	22.8
Mohair	6.5	5.8	7.2	7.5	10.2	7.8	5.8	3.2	1.5	4.7	3.0	5.7
Honey	11.3	11.7	10.8	12.1	9.2	12.3	9.3	8.0	7.5	7.5	7.5	7.6
Total omitted	1,205.2	1,270.4	1,214.1	1,222.0	1,242.5	1,137.6	1,024.0	861.5	716.8	783.9	743.7	902.5
"Total omitted" as percent of B. A. E.–N. B. E. R. incomplete total	*Pct.* 12.33	*Pct.* 12.06	*Pct.* 11.83	*Pct.* 11.81	*Pct.* 12.07	*Pct.* 10.72	*Pct.* 12.60	*Pct.* 14.80	*Pct.* 16.22	*Pct.* 15.26	*Pct.* 13.55	*Pct.* 13.53
"Total omitted" as percent of B. A. E. total	10.60	10.61	10.58	10.51	10.58	9.53	10.83	12.35	13.43	12.79	11.12	11.26
"Total omitted" as percent of B. A. E.–N. B. E. R. adjusted incomplete total[1]	11.96	11.76	11.59	11.59	11.73	10.35	11.96	13.92	15.25	14.45	12.42	12.51

[1] See the discussion on pp. 18–19.
[2] The U. S. Department of Agriculture did not publish gross income data for crop years after 1935.

In the years of the deepest agricultural depression, 1931–33, the percentage rose to 12.4, 13.4, and 12.8, respectively, approaching again the 10.5 level in 1934 and 1935. Much of the fluctuation in the per-

[8] UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS. FARM VALUE, GROSS INCOME, AND CASH INCOME FROM FARM PRODUCTION, 1924–28, 1929–32. GENERAL SUMMARY OF THE INCOME ESTIMATES. Release, April 1933, pp. 2–3. [Mimeographed.]

See also Crops and Markets (*23, v. 10, pp. 144–149;* and *v. 11, pp. 314–335*) and Agricultural Statistics (*24, 1937, p. 382*).

[9] However, the most recent revisions, not as yet published, show that actually gross income from forest products did not decline in 1929 and that income amounted to $246.5 million instead of the unrevised figure of $173.2 million. This revision raises the 1929 percentage of income from the omitted items to 10.07.

centage after 1930 is due to the increasing importance of truck crops and farm vegetables. For the years since 1929, the authors' estimates of incomplete total gross income, therefore, cannot be considered a measurement of actual gross income. Particularly for comparisons with nonfarm income, both the absolute totals and the index of gross income should and will be corrected for the fluctuations in income from the omitted items (Figs. 5 and 6). The income derived from the omitted farm products makes up 12 percent of the incomplete total prior to 1929. For comparisons with absolute figures of nonagricultural income, the incomplete "total income" figure used here must, therefore, be raised 12 percent for the period prior to 1929.

Probably the percentage of total gross income not accounted for in the incomplete totals here used has not changed greatly during the period covered. The most important items not contained in the incomplete totals are truck crops, farm garden products, forest products, and nursery and greenhouse products. Truck crops, which amounted to 3.3 percent of total income in 1929, contributed only 1.2 percent a decade before, and were even less important earlier. On the other hand, income from forest products was 1.6 percent (2.3 percent according to revised figures not contained in table 3) of the total income given for 1929; for 1879, 4.5 percent. The importance of farm garden products has probably not changed much; income from nursery and greenhouse products ran about parallel with total income, which rose 492 percent between 1879 and 1929; income from nursery and greenhouse products rose 511 percent, according to census figures.

Comparison With Official and Other Available Data

As there is no way of arriving at sound yearly estimates for the omitted products and it is possible that in several years the income from these items either surpassed or fell somewhat below the 12-percent figure, which is here assumed to be constant, the unadjusted totals are used in comparisons with the various group subtotals. But after describing the nature of the estimates (tables 4, 5, and 6), tables 7 and 8 and figures 5 and 6 are included, showing the totals adjusted for a constant ratio of 12 percent for the omitted products for years prior to 1924. On the basis of the above evidence, the authors believe that these estimated totals, as well as the indices of gross income, both for the unadjusted total and for the various subgroups, provide a sufficiently accurate picture of the actual movement of gross income since 1869. (These indices are given in the section on gross income data, tables 11 and 12.)

For the period before 1909, only King's figures (*9*) on the total value produced in agriculture, based largely on census data, have hitherto been available. Despite the common realization that early census data were defective for a number of products, King's figures have been widely used as measures of farm income. It is not possible to trace in detail the reasons for discrepancies. They are sufficiently explained by deficiencies in early censuses and by differences in concept and in methods applied. It seems certain that income data based on early censuses cannot be used to indicate the trend of farm income, and if they are compared with data on nonfarm income serious inaccuracies will result.

TABLE 4.—*Comparison of gross income for crop years, 1909–35*

Year	Preliminary B. A. E.	Estimates of the incomplete B. A. E.-N. B. E. R. series			B. A. E. estimates as percent of estimates in column (4)	Expected percentage[1]
		About 89 percent of actual total	Adjusted for differences in methods of estimation	B. A. E. estimates as percent of estimates in column (3)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Million dollars	*Million dollars*	*Million dollars*	*Percent*	*Percent*	*Percent*
1909	6,238	5,513		113.1		
1910	6,643	5,845		113.7		
1911	6,372	5,490		116.1		
1912	6,784	5,884		115.3		
1913	6,975	6,085		114.6		
1914	7,028	6,138		114.5		
1915	7,305	6,344		116.6		
1916	8,914	7,737		115.2		
1917	12,832	11,215		114.4		
1918	15,101	13,340		113.2		
1919	16,935	14,611		115.9		
1920	13,566	11,758		115.4		
1921	8,927	7,645		116.8		
1922	9,944	8,432		117.9		
1923	11,041	9,223		119.7		
1924	11,337	9,775	10,060	116.0	112.5	112.0
1925	11,968	10,536	10,802	113.6	110.3	111.8
1926	11,480	10,262	10,471	111.9	109.6	111.6
1927	11,616	10,345	10,536	112.3	110.3	111.6
1928	11,741	10,395	10,595	114.0	110.8	111.7
1929	11,941	10,611	10,987	112.5	108.7	110.4
1930	9,454	8,129	8,559	116.3	110.5	112.0
1931	6,968	5,816	6,180	119.8	112.8	113.9
1932	5,337	4,420	4,701	120.7	113.5	115.3
1933	6,128	5,130	5,425	119.3	113.0	114.5
1934	6,681	5,363	5,988	124.3	111.6	112.4
1935	8,010	6,672	7,215	120.0	111.0	112.5

[1] Adjusted incomplete totals (column 4) as percentages of complete totals (last row of table 3).

The total B. A. E.-N. B. E. R. income estimates for crop years are compared with the preliminary data of the Department of Agriculture in table 4. Gross-income estimates made by the B. A. E. for 1909–23 [10] cannot be compared with the B. A. E.-N. B. E. R. totals, since the former are tentative, based on unrevised crop and livestock data, and represent only 40 crops instead of the 78 that are covered in the B. A. E. estimates for 1924–35. From these 40 crops about 90 percent of total income from crops was derived; the omitted products were assumed to be a constant percentage of the farm products for which actual data had been collected. Since the estimates here given take the latest revisions into consideration, it is certain that final estimates of the Department of Agriculture will be much closer to the 112-percent figure (B. A. E. estimate expressed as a percentage of the incomplete totals) than to the B. A. E. tentative estimates. A detailed check for this period is rendered impossible by the unavailability of crop year estimates by the Bureau of Agricultural Economics of income from individual farm products.

For 1924–33 (*24, 1938, p. 432*) the income estimates of the Bureau of Agricultural Economics are still in preliminary form, but eventual revisions are likely to cause only slight modifications. The greatest

[10] UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS, COMMITTEE ON FARM INCOME. TENTATIVE ESTIMATES OF GROSS INCOME FROM FARM PRODUCTION, CURRENT VALUE OF AGRICULTURAL CAPITAL AND SELECTED EXPENDITURES, 1909–1931. 23 pp. July 1932. [Mimeographed.]

differences between those estimates and the ones here given are for hay for the years 1924–28 and for dairy products since 1929, as table 5 indicates. The few instances in which the latter income estimates are based on a somewhat different concept than that of the Department of Agriculture are explained in detail in the text.

In figure 4 a comparison is made between the B. A. E.-N. B. E. R. series of gross income for calendar years and the new B. A. E. cash-income series for calendar years 1910–37. Since the movement of the final B. A. E. gross-income series may deviate from the B. A. E. cash-income series, no conclusions can be drawn from these comparisons. The differences between the two series in terms of B. A. E.

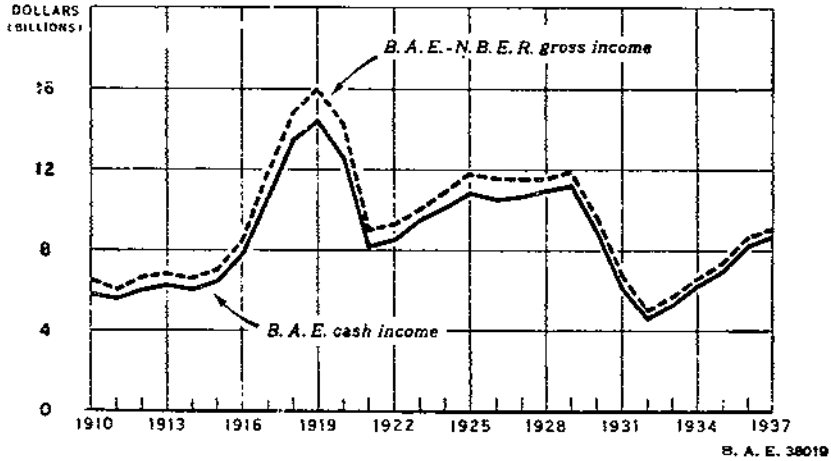

FIGURE 4.—Comparison of B. A. E.-N. B. E. R. gross income and B. A. E. cash income, 1910–37.

cash income as percentage of B. A. E.-N. B. E. R. gross income, calendar years 1910–37 are as follows:

1910	88.4	1917	89.6	1924	92.7	1931	92.4
1911	91.3	1918	90.5	1925	92.2	1932	92.4
1912	90.2	1919	90.3	1926	90.9	1933	92.8
1913	91.3	1920	87.9	1927	92.4	1934	95.6
1914	90.7	1921	90.0	1928	95.3	1935	94.1
1915	91.5	1922	91.7	1929	94.5	1936	94.6
1916	92.1	1923	93.2	1930	92.9	1937	95.8

Until 1921, this ratio fluctuated around 90 percent. In the 1920's and 1930's it was somewhat larger and in the years 1934–37 the ratio stood at about 95 percent.

To avoid breaks in the consistency of the B. A. E.-N. B. E. R. series, the income estimates, expressed both in millions of dollars and in index form, are not corrected for these differences. Estimates of the B. A. E. income from hay include interstate sales whereas the B. A. E.-N. B. E. R. estimate is based only on sales for the purpose of feeding animals in cities. To compute income from dairy products the authors use prices received by farmers for sales to wholesalers; the data of the Bureau of Agricultural Economics are from wholesale markets up to 1928; since 1929 prices of retailed milk and milk

products are used for the part of dairy products retailed directly by farmers. This change in computation results in a sudden rise of about 10 percent in 1929 and makes comparisons with earlier years impossible.[11] The Department of Agriculture will eventually revise these data to make a consistent series since 1909. Once these revised data become available they should replace the B. A. E.-N. B. E. R. data unless comparison with income data before 1909 is desired. The differences in livestock income arise partly because the livestock data used by the Bureau of Agricultural Economics in estimating total income are not the latest revisions. Table 5 shows that much of the difference disappears if we compare the estimates with the final revisions of the Bureau of Agricultural Economics (last column of the table); the slight discrepancies are the result of the incorrectness of changing proportions of sheep and lamb slaughter, and price differences that the B. A. E.-N. B. E. R. estimates do not take into account.[12]

TABLE 5.—*Differences*[1] *between B. A. E. and B. A. E.-N. B. E. R. income estimates for crop years 1924–35*

Year	Hay	Dairy products	Livestock	
			Unrevised B. A. E.[2]	Revised B. A. E.[3]
	Million dollars	*Million dollars*	*Million dollars*	*Million dollars*
1924	+155	+68	+82	+82
1925	+139	+61	+66	+66
1926	+135	+6	+68	+20
1927	+130	+21	+40	+25
1928	+141	+34	+25	+5
1929	+92	+309	−25	−10
1930	+77	+324	+29	0
1931	+55	+284	+25	+17
1932	+35	+249	−3	−5
1933	+45	+294	−44	−38
1934	+66	+411	+35	+35
1935	+55	+460	+29	+29

[1] Plus sign means that B. A. E. estimates are higher; minus sign, that they are lower.
[2] The data on total income so far released by the Department of Agriculture contain these "unrevised" livestock figures.
[3] UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS. FARM PRODUCTION AND INCOME FROM MEAT ANIMALS, 1924–1935. 135 pp. September 1936. [Mimeographed.]

Table 3 indicates what percentages would have to be added to the B. A. E.-N. B. E. R. incomplete totals in order to obtain actual totals. To compare the incomplete totals adjusted for the omitted products with total income as used by the Bureau of Agricultural Economics, the differences in the methods of estimating the products mentioned above must be considered. In the last row of table 3, income from the omitted items is compared with the incomplete total estimates corrected for these differences in methods of estimation. Column 7 of table 4 contains the percentages that the incomplete totals adjusted for differences in methods of estimation are of actual total income (according to the B. A. E.-N. B. E. R. estimates). Column 6 contains the B. A. E. estimates of total gross income expressed as a percentage of the adjusted incomplete B. A. E.-N.

[11] SHEPARD, JOHN B., and SMITH, R. K. MILK PRODUCTION IN THE UNITED STATES. UTILIZATION ON FARMS AND VALUE, WITH DETAILS BY STATES, 1929 TO 1932. U. S. Bur. Agr. Econ. 52 pp. May 17, 1933. [Mimeographed.] See p. 4.
[12] Compare with the description of "Income from the slaughter of sheep and lambs", p. 121.

B. E. R. totals. Comparison of columns 6 and 7 demonstrates the closeness of the B. A. E.-N. B. E. R. estimates and the B. A. E. crop year income estimates. As minor revisions in the B. A. E. estimates are to be expected, it is safe to say that, except for the differences in methods of estimation for a few farm products, the B. A. E.-N. B. E. R. estimates of income for crop years are identical for all practical purposes with those of the Bureau of Agricultural Economics.

The calendar year gross income data in the B. A. E.-N. B. E. R. series cannot be compared with those of the Bureau of Agricultural Economics since the totals have not been released so far. The data for the major products have been used in the computation of the B. A. E.-N. B. E. R. series.[13] Owing to the use of averages in converting marketings from crop to calendar years, it is probable that the calendar-year income data for individual crops may show, in some years, discrepancies with the final estimates of the Bureau of Agricultural Economics. The group totals and the grand totals are likely to differ but slightly.

Production and Price Indices

Tables 58–75 contain the indices of farm production. The concept applied corresponds to that of gross income; that is, only that part of the production of each farm product which is sold or consumed in farmers' households is included. This part is termed "production entering into gross income." The tables containing the absolute figures of "production entering into gross income" precede the tables containing the indices. The index of "total farm production" contains the same products as the "total income" estimates. It represents, therefore, as do the various group indices, a measure of "net farm production."

The production indices are based on Fisher's Ideal Index formula (*6*):

$$\sqrt{\frac{\Sigma Q_1 P_0}{\Sigma Q_0 P_0} \times \frac{\Sigma Q_1 P_1}{\Sigma Q_0 P_1}}$$

Q_0 and P_0 represent the annual average quantities and prices of the individual commodities in the base period (calendar years 1910–14 for calendar years, crop years 1909–13 for crop years). Q_1 and P_1 are quantities and prices in the given years. In the tables both data derived from the ideal-index formula and from its components, the weighted aggregates and the harmonic mean, are given. The weighted aggregates are called Arithmetic Index; for the harmonic mean the term Harmonic Index is used.

Tables 76–92 contain the indices of farm prices. As in the case of the production index, Fisher's Ideal Formula was applied:

$$\sqrt{\frac{\Sigma P_1 Q_0}{\Sigma P_0 Q_0} \times \frac{\Sigma P_1 Q_1}{\Sigma P_0 Q_1}}$$

and the Arithmetic Index, the Harmonic Index, and the geometric mean of these components, the Ideal Index, are presented in tabular

[13] Only preliminary total estimates for calendar years have been published: See press release of May 21, 1938. Farmers' Gross Income over 10 Billion in 1937. These data will be revised as final figures for individual farm products become available

form.[14] The authors chose the "ideal" index formula for several reasons, both statistical and economic. It was essential for the purposes of this bulletin that the production and price indices meet the factor-reversal test—that the index of prices multiplied by the index of production equal the index of gross income. Only an index number that is based on a crossing of a fixed-year weight index and a given-year weight index conforms to this test. For purposes of subsequent analysis the authors were primarily interested in a measure of total farm production and of production in specific sections of the farm economy as far as they bear upon the income possibilities of the farm economy. Consequently, "net farm production" alone had to be considered and annually changing weights had to be introduced.

In measuring changes in farm prices the authors had to deal with the weighted average of prices of the farm products marketed and consumed in any particular year, which also suggests the choice of the ideal-index formula.

These indices, like all indices, must be used with some caution. The first reason concerns the nature of the basic material and not the particular index formula. Part of the production data are estimates that are sufficiently accurate to indicate the trend of production but cannot be regarded as an accurate measure of short-term year-to-year changes. This point must be kept in mind, particularly with respect to early data on slaughter and dairy production. The second reason concerns index numbers in general. The choice of the ideal formula does not raise distinct difficulties—the most common and most important use of a long-term index is in comparisons of widely separated periods. In a strict sense, such comparisons are not possible unless the composition of the indices and the influence of the fluctuations due to changing production (in the price index) and changing prices (in the production index) are considered. To make this possible, the authors present: (1) the arithmetic index based on Laspeyre's formula $\left(\frac{\Sigma P_0 Q_1}{\Sigma P_0 Q_0}\right.$ for production and $\frac{\Sigma P_1 Q_0}{\Sigma P_0 Q_0}$ for prices, in which the weights are kept constant); (2) the harmonic index based on Paasche's formula $\left(\frac{\Sigma P_1 Q_1}{\Sigma P_1 Q_0}\right.$ for production and $\frac{\Sigma P_1 Q_1}{\Sigma P_0 Q_1}$ for prices, in which the weights change yearly); (3) the "ideal" formula, which is derived by crossing the constant-weight index with the "yearly changing weight" index.[15]

Since in the farm economy most commodities are produced throughout the entire period covered, though the importance of individual products changes, and since the commodities included in the B. A. E.-N. B. E. R., indices represent—measured in value—about 90 percent of the total throughout, a most important economic premise for the possibility of interyear comparison seems to be fulfilled, at least up

[14] After completion of the B. A. E.-N. B. E. R. indices and the explanations here given a monograph on index numbers in the field of agriculture appeared by Black and Mudgett (*2*). This Bulletin contains an illuminating discussion of the problems involved in the various methods of index-number computation. Though they indicate that theoretically a solution of the index-numbers problem is nearly impossible, they recommend (*2, p. 111 ff.*) the use of the "ideal" index formula, or a close approximation, and the presentation of separate indexes based on base-year weights and on current-year weights, and stress the need for computing indices for longer periods.

[15] The tables containing the various production and price indices present one decimal. In the computations, two decimals were carried to make the automatic check of the ideal-index formula possible, where the product of the price and production index equals the index of gross income. It should be understood that in view of the quality of some estimates, the decimals are not always meaningful.

to about 1913, when truck crops became increasingly important. The omission of truck crops does not, however, greatly impair the representativeness of the production indices since then. It is true, the B. A. E.-N. B. E. R. production index, not including truck crops, rose from 109.60 in 1919 to 125.74 in 1937, or 14.7 percent; the Department of Agriculture index of truck-crop production (*24, 1937, p. 380*)[16] increased from 58 to 129, or 122 percent. But as truck crops represented only 1.4 percent of income in 1919 and 4.4 percent in 1937, their inclusion in this production index would hardly change the percentage increase, 1919–37, for the all-inclusive index. A comparison for 1919–34 shows that the B. A. E.-N. B. E. R. production index fell 5.8 percent, truck-crop production rose 89.7 percent. The inclusion of truck crops would have reduced the decline in the B. A. E.-N. B. E. R. total production index to 5.1 percent. To arrive at a fully representative index of production for the post-war period, the authors adjusted their index (excluding truck crops) for the movement of truck-crop production as revealed in the Department of Agriculture index. This was done by computing a weighted average of the changes of the B. A. E.-N. B. E. R. index and the truck-crop index and applying it to the former, excluding truck crops (table 6). The more inclusive index should be substituted for their long-term index for all purposes for which completeness of coverage is required. But, except in a few years the differences are insignificant and even in 1934, the year of the largest discrepancy, it is less than 1 percent.

TABLE 6.—*B. A. E.-N. B. E. R. index of total farm production compared with index of total farm production including truck crops, crop years, 1919–37*

[1909–13 = 100]

Year	Truck crops omitted	Truck crops included	Year	Truck crops omitted	Truck crops included
1919	109.6		1929	120.8	121.4
1920	114.7	115.0	1930	120.1	120.1
1921	102.2	102.1	1931	126.1	125.6
1922	110.2	110.9	1932	119.1	119.7
1923	112.9	112.7	1933	114.1	113.9
1924	118.8	119.1	1934	103.3	104.0
1925	118.7	118.9	1935	108.2	108.3
1926	124.2	123.9	1936	109.8	109.9
1927	119.2	119.8	1937	125.7	125.3
1928	124.3	124.0			

Comparison of the Arithmetic Indices and the Harmonic Indices shows that in general the differences are small. Whenever the differences are notable, they are due to changes in production (in the price indices) and to changes in prices (in the production indices) and comparisons for periods far apart can then not be made if strict accuracy is needed.

The B. A. E.-N. B. E. R. production indices cannot be compared with indices previously available since all except the B. A. E. index of 12 important crops are based on unrevised crop data. The B. A. E. index (*13, 18*) applies constant weights derived from the base period 1910–14 to total production of 12 major crops. The B. A. E.-N. B. E. R. index covers the same 12 crops but excludes production

[16] The weights used in this index are those for the base period 1924–29. In combining our index with the truck crop production index, we applied yearly changing weights based on value data.

used as seed and fed to livestock. The two indices are similar in their long-run movements but differ greatly in their year-to-year movements, owing to the use of "total production" in the B. A. E. index and to the different methods of computation. Figure 1 gives also the B. A. E.-N. B. E. R. index of total production for crop years. Though it indicates that the trend between 1880 and 1910 was similar to that of the B. A. E.-N. B. E. R. 12-crop index, it indicates also that before 1880 and after 1910, the 12-crop index is not representative of total farm production. The production indices for the various subgroups cannot be classified here. The differences in their long-term and year-to-year movements are large enough to warrant separate analysis which will be undertaken in the study on trends and causes of change in basic agricultural-industrial relationships.

The basic statistical data and methods by which farm price, production, and gross income were derived are described, beginning on page 33. This part is preceded by the summary tables 7–12 and figures 5–10.

SUMMARY TABLES AND FIGURES

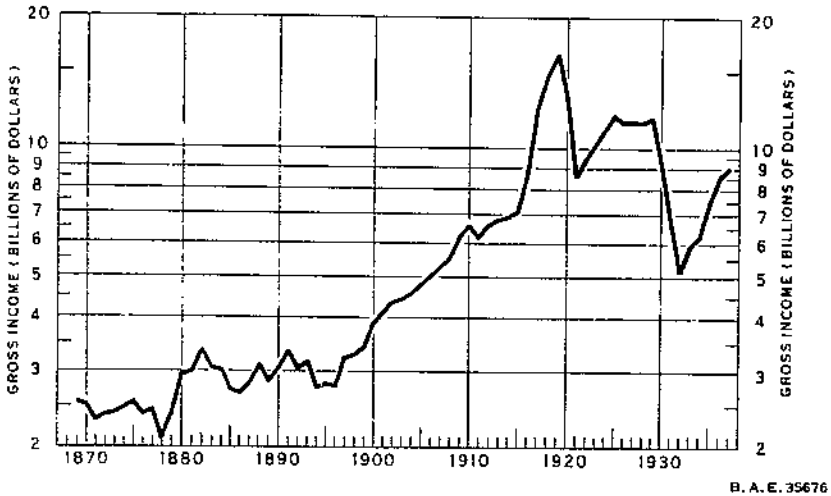

FIGURE 5.—Total gross farm income, including omitted products, crop years, 1869–1937.

TABLE 7.—*Gross income, including estimates for "omitted products," crop years*

Year	Total	Total, adjusted for changes in inventory values of meat animals	Year	Total	Total, adjusted for changes in inventory values of meat animals
	Mil. dol.	*Mil. dol.*		*Mil. dol.*	*Mil. dol.*
1860	2,554	2,601	1903	4,445	4,478
			1904	4,582	4,570
1870	2,514	2,580	1905	4,702	4,768
1871	2,309	2,364	1906	5,106	5,097
1872	2,373	2,410	1907	5,284	5,248
1873	2,408	2,440	1908	5,551	5,477
1874	2,471	2,480	1909	6,175	6,048
1875	2,550	2,580			
1876	2,391	2,467	1910	6,546	6,544
1877	2,440	2,542	1911	6,149	6,075
1878	2,109	2,183	1912	6,590	6,606
1879	2,405	2,475	1913	6,815	6,947
			1914	6,575	7,134
1880	2,959	2,995	1915	7,105	7,324
1881	2,995	3,040	1916	8,665	8,830
1882	3,358	3,440	1917	12,461	12,846
1883	3,044	3,180	1918	14,941	14,912
1884	3,011	3,129	1919	16,364	16,150
1885	2,717	2,783			
1886	2,679	2,713	1920	13,169	13,044
1887	2,817	2,871	1921	8,562	8,564
1888	3,071	3,104	1922	9,444	9,480
1889	2,862	2,905	1923	10,330	10,236
			1924	10,979	10,740
1890	3,054	3,054	1925	11,807	11,612
1891	3,339	3,275	1926	11,476	11,412
1892	3,043	2,952	1927	11,566	11,601
1893	3,138	3,053	1928	11,650	11,767
1894	2,768	2,707	1929	11,748	11,885
1895	2,810	2,803			
1896	2,780	2,821	1930	9,153	9,271
1897	3,218	3,304	1931	6,677	6,800
1898	3,285	3,382	1932	5,137	5,287
1899	3,432	3,565	1933	5,913	6,021
			1934	6,218	5,865
1900	3,867	3,968	1935	7,575	7,587
1901	4,126	4,108	1936	8,705	8,627
1902	4,371	4,423	1937	9,131	9,117

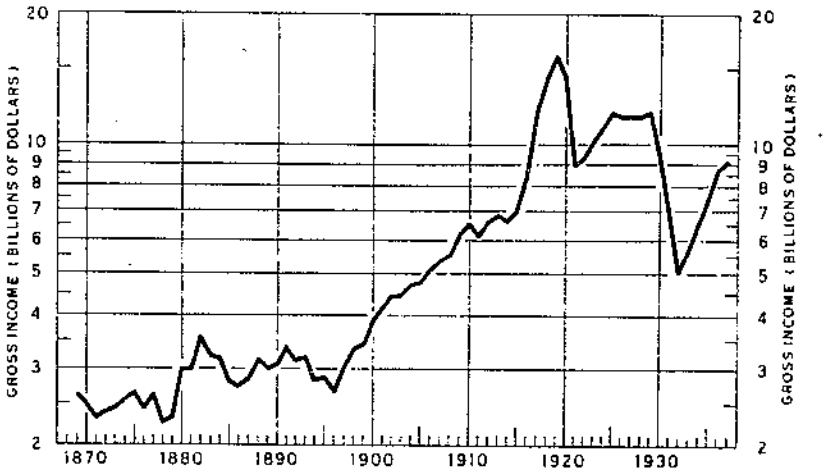

FIGURE 6.—Total gross farm income, including omitted products, calendar years. 1869–1937.

TABLE 8.—*Gross income, including estimates for "omitted products," calendar years*

Year	Total	Total adjusted for changes in inventory values of meat animals	Year	Total	Total adjusted for changes in inventory values of meat animals
	Mil. dol.	*Mil. dol.*		*Mil. dol.*	*Mil. dol.*
1869	2,631	2,675	1903	4,467	4,499
			1904	4,701	4,605
1870	2,513	2,579	1905	4,760	4,735
1871	2,322	2,377	1906	5,155	5,146
1872	2,401	2,438	1907	5,342	5,307
1873	2,442	2,474	1908	5,520	5,447
1874	2,552	2,560	1909	6,143	6,037
1875	2,639	2,669			
1876	2,464	2,540	1910	6,541	6,539
1877	2,622	2,724	1911	6,115	6,041
1878	2,247	2,321	1912	6,614	6,629
1879	2,324	2,395	1913	6,848	6,980
			1914	6,630	6,890
1880	3,008	3,044	1915	6,982	7,200
1881	3,003	3,048	1916	8,422	8,587
1882	3,558	3,640	1917	11,880	12,165
1883	3,228	3,341	1918	14,871	14,842
1884	3,183	3,302	1919	15,979	15,765
1885	2,819	2,885			
1886	2,742	2,775	1920	14,254	14,129
1887	2,853	2,916	1921	9,003	9,004
1888	3,144	3,176	1922	9,290	9,326
1889	3,000	3,044	1923	10,222	10,128
			1924	10,947	10,707
1890	3,072	3,072	1925	11,854	11,659
1891	3,388	3,324	1926	11,582	11,518
1892	3,132	3,041	1927	11,577	11,611
1893	3,211	3,126	1928	11,683	11,801
1894	2,834	2,773	1929	11,876	12,012
1895	2,894	2,887			
1896	2,687	2,728	1930	9,565	9,684
1897	3,027	3,114	1931	6,798	6,930
1898	3,341	3,438	1932	5,068	5,218
1899	3,424	3,557	1933	5,679	5,787
			1934	6,545	6,192
1900	3,873	3,974	1935	7,406	7,418
1901	4,179	4,220	1936	8,685	8,607
1902	4,454	4,506	1937	9,132	9,119

TABLE 9.—*Gross income from various groups of farm products and from total farm production, excluding "omitted products," crop years*

Year	12 important crops [1]	Staple foodstuffs [2]	Fruits	Dairy products, chickens, and eggs [3]	Textile raw materials [4]	Meat animals and export of live cattle [5]	Meat animals adjusted for changes in inventory values [5]	Total farm production	Total farm production, adjusted for changes in inventory values of meat animals
	Mil. dol.	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1869	883	334	47	378	344	923	965	2,280	2,322
1870	909	339	30	364	361	890	949	2,245	2,304
1871	916	408	59	342	303	685	734	2,062	2,111
1872	998	405	48	363	389	647	680	2,119	2,152
1873	1,023	452	40	398	366	633	662	2,150	2,179
1874	957	403	54	426	312	708	715	2,206	2,213
1875	943	379	45	409	326	818	845	2,277	2,304

[1] Contained in the index of crop production of the Bureau of Agricultural Economics: Wheat, corn, oats, barley, rye, buckwheat, flaxseed, hay, potatoes, sweetpotatoes, cotton and cottonseed, tobacco.
[2] Wheat, rye, potatoes, sweetpotatoes, dry beans, rice.
[3] Orchard fruits, citrus fruits, grapes.
[4] Cotton, cottonseed, flaxseed, wool.
[5] Slaughter of cattle, calves, hogs, sheep and lambs, and export of live cattle.

TABLE 9.—*Gross income from various groups of farm products and from total farm production, excluding "omitted products," crop years*—Continued

Year	12 important crops	Staple foodstuffs	Fruits	Dairy, chickens, and eggs	Textile raw materials	Meat animals and export of live cattle	Meat animals adjusted for changes in inventory values	Total farm production	Total farm production, adjusted for changes in inventory values of meat animals
	Mil. dol.	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1876	856	392	63	392	247	770	838	2,135	2,203
1877	948	486	80	359	245	732	823	2,179	2,270
1878	852	417	60	324	242	590	656	1,883	1,949
1879	1,125	549	51	334	331	583	646	2,147	2,210
1880	1,170	531	70	404	378	923	955	2,042	2,674
1881	1,198	551	66	490	341	849	889	2,674	2,714
1882	1,270	574	135	523	383	988	1,061	2,998	3,071
1883	1,072	471	71	523	318	980	1,053	2,718	2,821
1884	1,028	430	74	525	313	999	1,105	2,688	2,794
1885	1,006	382	61	468	328	829	888	2,426	2,485
1886	1,028	425	70	470	320	760	790	2,392	2,422
1887	1,077	413	51	520	365	797	845	2,515	2,563
1888	1,166	470	70	556	365	882	911	2,742	2,771
1889	1,082	418	85	537	390	780	819	2,555	2,594
1890	1,257	470	80	551	450	765	765	2,727	2,727
1891	1,428	630	82	592	399	813	756	2,981	2,924
1892	1,179	471	81	611	348	776	695	2,717	2,636
1893	1,033	368	90	654	338	950	874	2,802	2,726
1894	974	352	65	584	294	787	733	2,471	2,417
1895	982	348	120	587	332	766	760	2,509	2,503
1896	1,061	433	75	593	340	699	738	2,482	2,519
1897	1,313	564	124	616	424	765	842	2,873	2,950
1898	1,265	519	130	649	401	823	910	2,933	3,020
1899	1,286	475	109	715	411	883	1,002	3,084	3,183
1900	1,453	473	123	771	556	1,023	1,113	3,453	3,543
1901	1,498	599	158	815	448	1,124	1,161	3,684	3,721
1902	1,571	562	152	897	531	1,185	1,231	3,903	3,949
1903	1,692	616	114	933	629	1,128	1,157	3,969	3,998
1904	1,866	662	134	947	716	1,030	1,025	4,091	4,086
1905	1,881	688	127	1,020	701	1,120	1,098	4,279	4,257
1906	1,948	649	188	1,024	794	1,264	1,256	4,559	4,551
1907	1,998	732	150	1,130	702	1,300	1,268	4,718	4,686
1908	2,186	832	162	1,189	726	1,285	1,219	4,956	4,890
1909	2,397	870	185	1,318	848	1,450	1,355	5,513	5,418
1910	2,373	747	233	1,429	1,002	1,646	1,644	5,845	5,843
1911	2,342	783	245	1,263	914	1,485	1,419	5,490	5,424
1912	2,459	810	249	1,446	947	1,572	1,586	5,884	5,898
1913	2,433	798	235	1,480	1,047	1,779	1,897	6,085	6,203
1914	2,459	1,052	250	1,503	733	1,775	2,007	6,138	6,370
1915	2,692	1,174	270	1,488	817	1,724	1,919	6,344	6,539
1916	3,440	1,239	289	1,668	1,278	2,130	2,277	7,737	7,884
1917	5,289	1,781	338	2,259	1,918	2,986	3,241	11,215	11,470
1918	5,750	2,278	434	2,730	2,207	4,008	3,982	13,340	13,314
1919	6,468	2,615	598	3,178	2,430	3,946	3,755	14,611	14,420
1920	4,261	2,034	618	3,441	1,299	3,081	2,969	11,758	11,646
1921	2,631	1,207	421	2,475	806	1,923	1,924	7,645	7,646
1922	3,190	1,128	510	2,379	1,290	2,132	2,164	8,432	8,464
1923	3,605	1,028	466	2,697	1,705	2,179	2,005	9,223	9,139
1924	4,030	1,390	511	2,724	1,559	2,242	2,029	9,775	9,562
1925	4,030	1,411	513	3,018	1,892	2,695	2,521	10,536	10,362
1926	3,418	1,410	531	3,187	1,386	2,854	2,797	10,262	10,205
1927	3,760	1,417	505	3,184	1,595	2,624	2,655	10,345	10,376
1928	3,529	1,152	507	3,346	1,623	2,702	2,807	10,395	10,500
1929	3,451	1,278	530	3,490	1,539	2,830	2,953	10,611	10,734
1930	2,100	855	423	2,930	859	2,419	2,524	8,129	8,234
1931	1,362	525	344	2,238	593	1,694	1,809	5,816	5,931
1932	1,213	413	236	1,706	505	1,126	1,255	4,420	4,549
1933	1,780	658	315	1,599	776	1,219	1,312	5,130	5,223
1934	1,710	585	334	1,795	828	1,420	1,109	5,476	5,165
1935	1,978	704	369	2,215	790	1,884	1,895	6,672	6,683
1936	2,407	926	382	2,290	1,019	2,298	2,229	7,670	7,601
1937	2,531	994	449	2,417	1,056	2,341	2,329	8,045	8,033

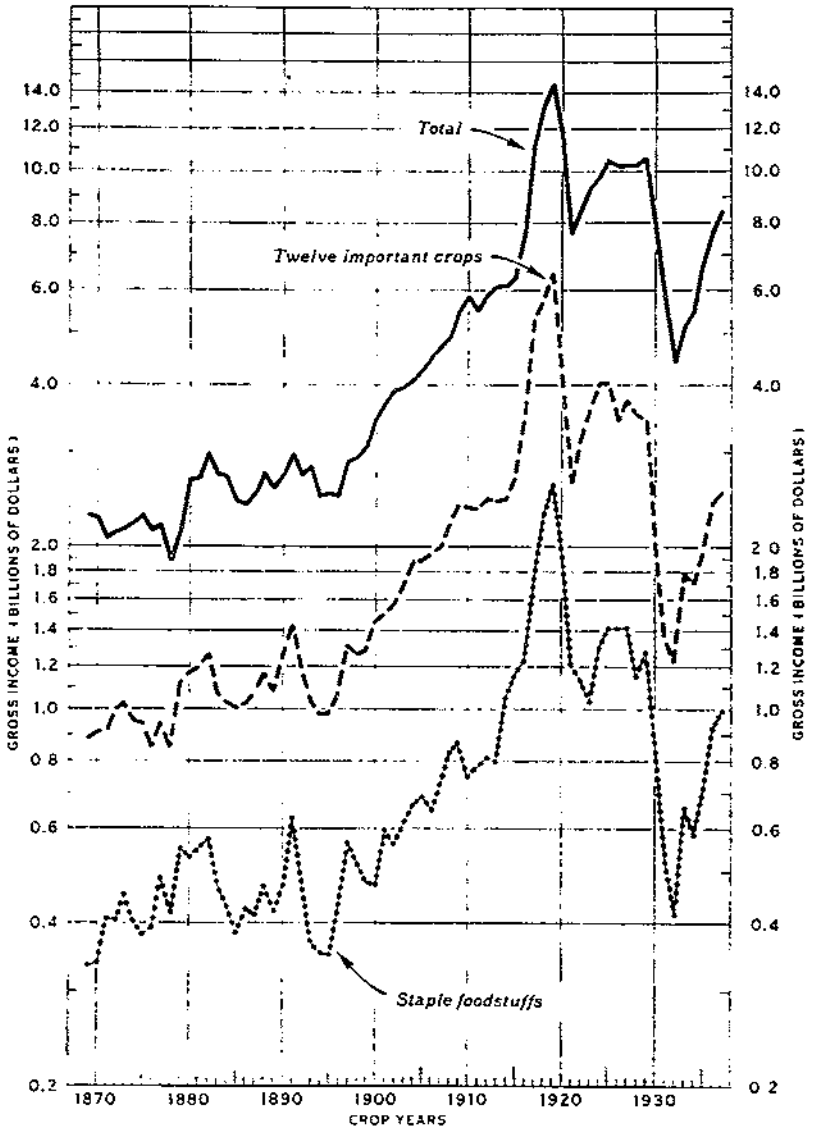

FIGURE 7.—Gross farm income, crop years 1869–1937: Total, 12 important crops, staple foodstuffs.

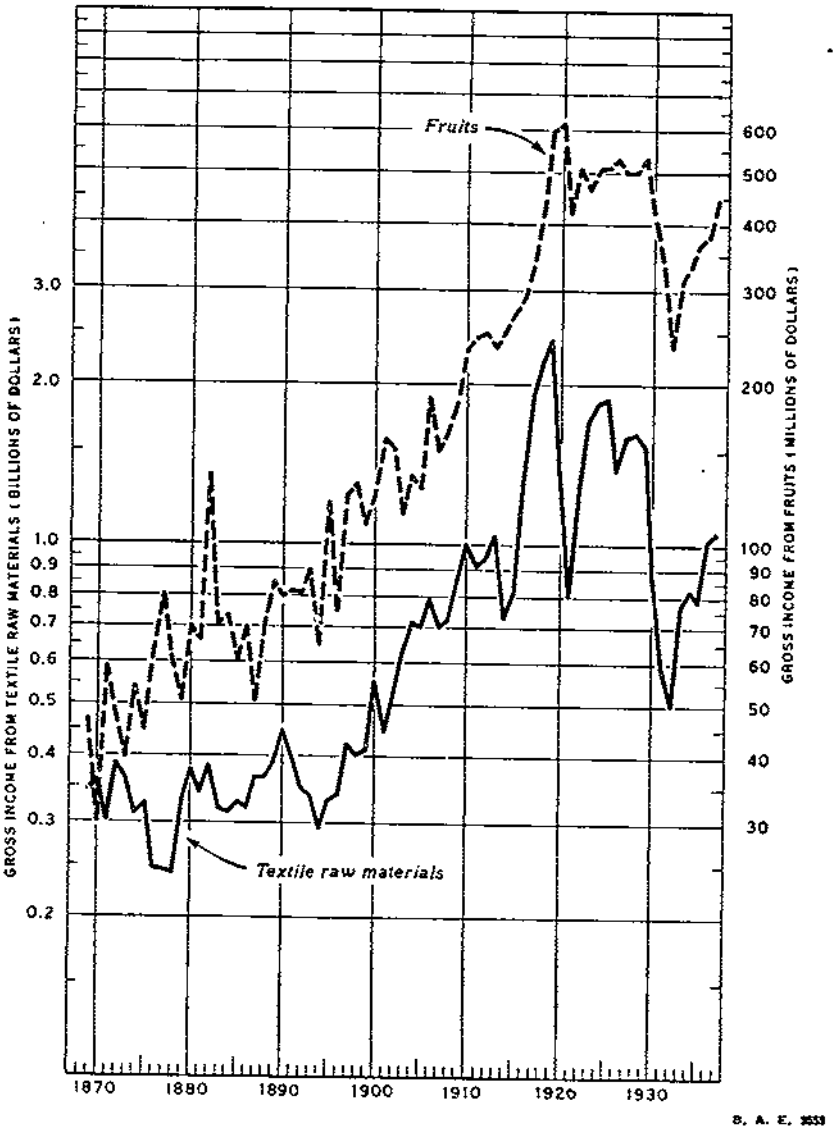

FIGURE 8.—Gross farm income, crop years 1869–1937: Fruits, textile raw materials.

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TABLE 10.—*Gross income from various groups of farm products and from total farm production, excluding "omitted products," calendar years*

Year	12 important crops [1]	Staple foodstuffs [2]	Fruits [3]	Dairy products, chickens, and eggs	Textile raw materials [4]	Meat animals and export of live cattle [5]	Meat animals adjusted for changes in inventory values	Total farm production	Total farm production, adjusted for changes in inventory values of meat animals
	Mil. dol.	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1869	952	380	46	378	344	923	965	2,349	2,391
1870	908	329	33	364	361	890	949	2,244	2,303
1871	927	404	54	342	303	685	734	2,073	2,122
1872	1,023	425	50	363	389	647	680	2,144	2,177
1873	1,053	471	41	398	366	633	662	2,180	2,209
1874	1,030	466	52	426	312	708	715	2,279	2,286
1875	1,022	407	46	409	325	818	845	2,356	2,383
1876	921	381	61	392	276	770	838	2,200	2,268
1877	1,110	555	77	359	289	732	823	2,341	2,432
1878	975	462	63	324	269	590	656	2,006	2,072
1879	1,054	482	52	334	320	583	646	2,075	2,138
1880	1,214	513	68	404	411	923	955	2,686	2,718
1881	1,205	508	66	490	354	849	889	2,681	2,721
1882	1,449	665	125	523	406	988	1,061	3,177	3,250
1883	1,234	533	80	523	343	980	1,083	2,880	2,983
1884	1,182	485	74	525	331	999	1,105	2,842	2,948
1885	1,097	398	63	468	342	829	888	2,517	2,576
1886	1,084	417	69	470	331	760	790	2,448	2,478
1887	1,118	417	63	520	377	797	845	2,556	2,604
1888	1,231	462	68	556	387	882	911	2,807	2,836
1889	1,206	439	88	537	416	780	819	2,679	2,718
1890	1,273	438	81	551	477	765	765	2,743	2,743
1891	1,472	652	82	592	418	813	756	3,025	2,968
1892	1,258	513	81	611	343	776	695	2,796	2,715
1893	1,098	400	89	554	355	950	874	2,867	2,791
1894	1,033	361	68	564	337	787	733	2,530	2,476
1895	1,057	383	114	587	333	766	760	2,584	2,578
1896	978	353	80	593	348	699	738	2,399	2,436
1897	1,143	497	117	616	363	765	842	2,703	2,780
1898	1,315	628	129	649	350	823	910	2,983	3,070
1899	1,279	509	110	715	392	883	1,002	3,057	3,176
1900	1,458	486	121	771	535	1,023	1,113	3,458	3,548
1901	1,545	570	154	815	485	1,124	1,161	3,731	3,768
1902	1,645	603	155	897	542	1,185	1,231	3,977	4,023
1903	1,711	611	116	933	623	1,126	1,157	3,988	4,017
1904	1,972	715	129	947	772	1,030	1,025	4,197	4,192
1905	1,852	697	124	1,020	665	1,120	1,098	4,250	4,228
1906	1,992	675	182	1,024	805	1,204	1,256	4,603	4,595
1907	2,050	696	154	1,130	746	1,300	1,268	4,770	4,738
1908	2,159	793	158	1,189	720	1,285	1,219	4,929	4,863
1909	2,369	902	180	1,318	812	1,450	1,355	5,485	5,390
1910	2,368	762	225	1,429	972	1,646	1,644	5,840	5,838
1911	2,312	768	246	1,263	939	1,485	1,419	5,460	5,394
1912	2,480	860	248	1,446	942	1,572	1,586	5,905	5,919
1913	2,462	789	233	1,480	1,032	1,779	1,897	6,114	6,232
1914	2,241	988	249	1,503	661	1,775	2,007	5,920	6,152
1915	2,582	1,056	261	1,488	901	1,724	1,919	6,234	6,429
1916	3,223	1,265	286	1,668	1,237	2,130	2,277	7,520	7,667
1917	4,681	1,899	334	2,259	1,729	2,986	3,241	10,607	10,862
1918	5,688	2,244	408	2,730	1,976	4,008	3,982	13,278	13,252
1919	6,124	2,311	597	3,178	2,448	3,946	3,755	14,267	14,076
1920	5,230	2,364	613	3,441	1,625	3,081	2,969	12,727	12,615
1921	3,024	1,375	434	2,475	908	1,923	1,924	8,038	8,039
1922	3,053	1,159	505	2,379	1,233	2,132	2,164	8,295	8,327
1923	3,509	1,075	473	2,697	1,698	2,179	2,095	9,127	9,043
1924	4,000	1,271	479	2,724	1,814	2,242	2,029	9,745	9,532
1925	4,072	1,377	508	3,018	1,921	2,695	2,521	10,578	10,404
1926	3,513	1,512	521	3,187	1,358	2,854	2,797	10,357	10,300
1927	3,769	1,478	491	3,184	1,638	2,624	2,655	10,354	10,325
1928	3,559	1,248	526	3,346	1,613	2,702	2,807	10,425	10,530
1929	3,566	1,223	522	3,490	1,655	2,830	2,953	10,726	10,849
1930	2,466	974	454	2,930	939	2,419	2,524	8,495	8,601
1931	1,468	604	365	2,238	566	1,694	1,809	5,922	6,037
1932	1,154	420	254	1,706	503	1,126	1,255	4,361	4,490
1933	1,577	620	294	1,599	669	1,219	1,312	4,927	5,020
1934	1,998	663	326	1,795	956	1,420	1,109	5,764	5,453
1935	1,829	666	357	2,215	805	1,884	1,895	6,523	6,534
1936	2,389	910	366	2,290	1,020	2,298	2,229	7,652	7,583
1937	2,532	1,036	458	2,417	1,001	2,341	2,329	8,046	8,034

[1] Contained in the index of crop production of the Bureau of Agricultural Economics: Wheat, corn, oats, barley, rye, buckwheat, flaxseed, hay, potatoes, sweetpotatoes, cotton, tobacco.
[2] Wheat, rye, potatoes, sweetpotatoes, dry beans, rice.
[3] Orchard fruits, citrus fruits, grapes.
[4] Cotton, cottonseed, flaxseed, wool.
[5] Slaughter of cattle, calves, hogs, sheep and lambs, and export of live cattle.

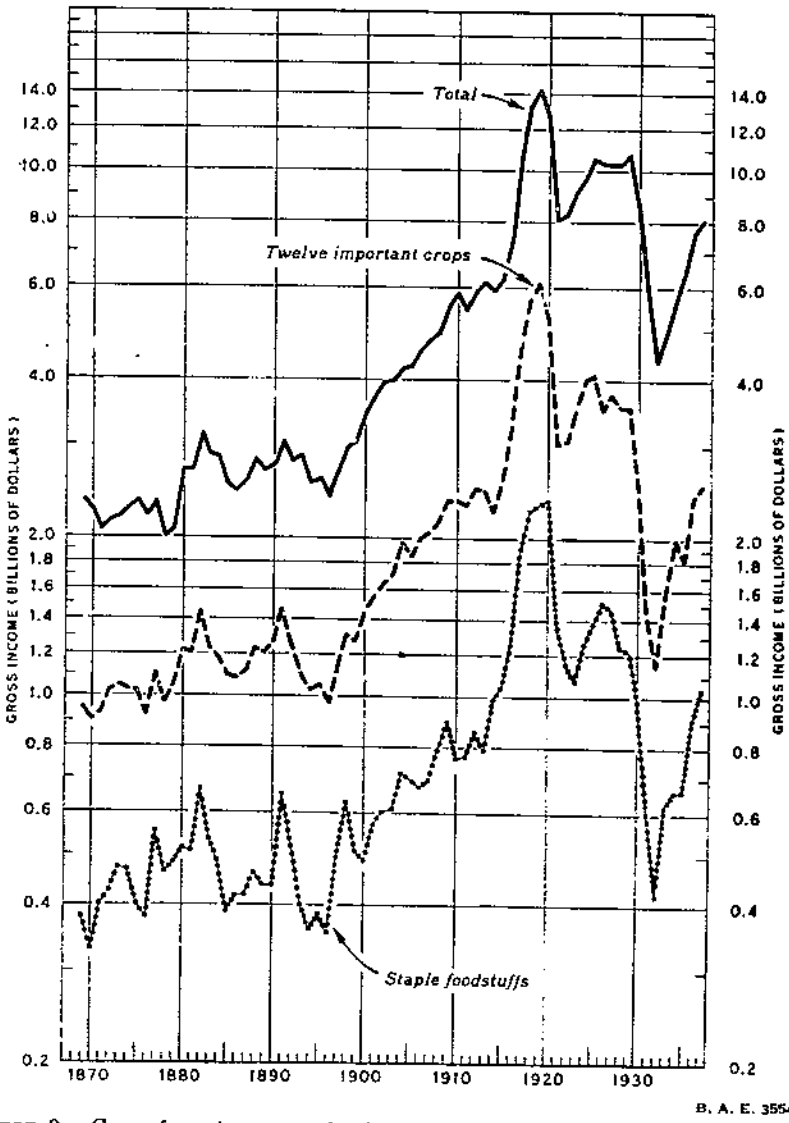


FIGURE 9.—Gross farm income, calendar years 1869–1937: Total, 12 important crops, staple foodstuffs.

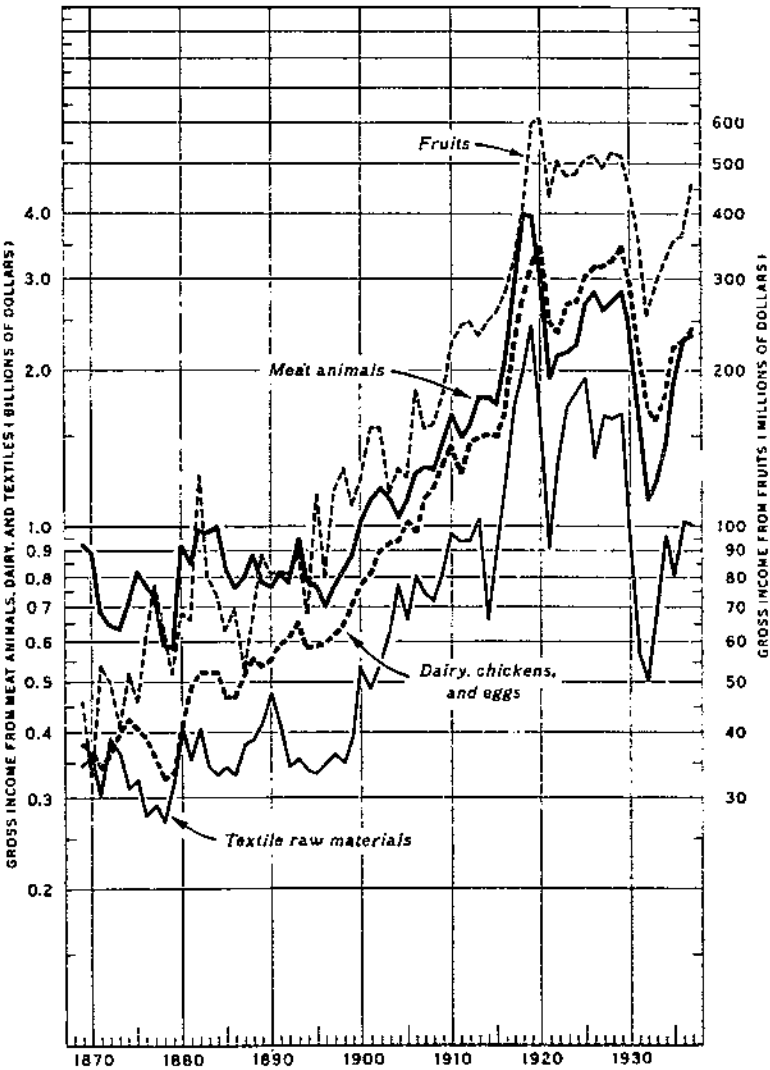


FIGURE 10.—Gross farm income, calendar years 1869–1937: Meat animals and export of live cattle, dairy products, chickens, and eggs, textile raw materials, fruits.

TABLE 11.—*Indices of gross income, from various groups of farm products and from total farm production, crop years*

[1909-13=100]

Year	12 important crops [1]	Staple foodstuffs [2]	Fruits [3]	Dairy products, chickens, and eggs	Textile raw materials [4]	Meat animals slaughter and export of live cattle [5]	Meat animals adjusted for changes in inventory values	Total farm production	Total farm production, adjusted for changes in inventory values of meat animals
1869	36.8	41.7	20.5	26.5	36.2	55.9	56.4	39.6	40.3
1870	37.9	42.3	13.1	25.6	37.0	53.9	55.5	39.6	40.0
1871	38.2	50.7	25.7	24.0	31.8	41.5	42.9	35.8	36.7
1872	41.6	50.5	20.9	25.5	40.9	39.2	39.8	36.8	37.4
1873	42.6	56.4	17.4	28.0	38.5	38.3	38.7	37.3	37.8
1874	39.9	50.3	23.5	29.9	32.8	42.9	41.8	38.3	38.4
1875	39.3	47.3	19.6	28.7	34.3	49.5	49.4	39.5	40.0
1876	35.6	48.9	27.5	27.5	26.0	46.6	49.0	37.0	38.3
1877	39.5	60.6	34.9	25.2	25.8	44.3	48.1	37.8	39.4
1878	35.5	52.0	26.2	22.8	25.4	35.7	38.4	32.7	33.8
1879	46.9	68.5	22.2	23.4	34.8	35.3	37.8	37.2	38.4
1880	48.7	66.3	30.5	28.1	39.7	55.0	55.8	45.8	46.4
1881	49.9	68.8	28.8	34.4	35.8	51.4	52.0	46.4	47.1
1882	52.9	71.6	58.8	36.7	40.2	59.8	62.0	52.0	53.3
1883	44.6	58.8	31.0	36.7	33.4	59.3	63.3	47.2	49.0
1884	42.8	53.7	32.3	36.9	32.9	60.5	64.6	46.6	48.5
1885	41.9	47.7	26.6	32.9	34.5	50.2	51.9	42.1	43.2
1886	42.8	53.0	30.5	33.0	33.8	46.0	46.2	41.5	42.1
1887	44.9	51.5	22.2	36.5	38.4	48.3	49.4	43.6	44.5
1888	48.6	58.6	30.5	39.0	38.4	53.4	53.3	47.6	48.1
1889	45.1	52.2	37.0	37.7	41.0	47.2	47.9	44.3	45.1
1890	52.4	58.6	34.9	38.7	47.3	46.3	44.7	47.3	47.4
1891	59.5	78.6	35.8	41.6	41.9	49.2	44.2	51.7	50.8
1892	49.1	58.8	35.3	42.9	36.6	47.0	40.0	47.1	45.8
1893	43.0	45.9	39.2	45.9	35.5	57.5	51.1	48.6	47.4
1894	40.6	43.9	28.3	41.0	30.9	47.7	42.8	42.9	42.0
1895	40.9	43.4	52.3	41.2	34.0	46.4	44.4	43.5	43.5
1896	44.2	54.0	32.7	41.6	35.7	42.3	43.0	43.1	43.8
1897	54.7	70.4	54.0	43.2	44.6	46.3	49.2	49.8	51.2
1898	52.7	64.8	50.7	45.6	42.1	49.8	53.2	50.9	55.2
1899	53.6	59.3	47.5	50.2	43.2	53.5	58.6	53.2	55.3
1900	60.5	59.0	53.6	54.1	58.4	62.0	65.1	59.9	61.5
1901	62.4	74.7	68.9	57.2	47.1	68.1	67.9	63.9	64.6
1902	65.4	70.1	66.3	63.0	55.8	71.8	71.0	67.7	68.6
1903	70.5	76.9	49.7	65.5	66.1	68.3	67.6	68.9	69.4
1904	77.7	82.6	58.4	66.5	75.2	62.4	59.9	71.0	71.0
1905	78.4	85.8	55.4	71.6	73.7	67.8	64.2	74.2	73.9
1906	81.1	81.0	82.0	71.9	83.4	76.5	73.4	79.1	79.0
1907	83.2	91.3	65.1	79.3	73.8	78.7	74.1	81.9	81.4
1908	91.0	103.8	70.6	83.5	76.3	77.8	71.3	86.0	84.9
1909	99.8	108.6	80.6	92.5	89.1	87.8	79.2	95.7	94.1
1910	98.8	93.2	101.6	100.3	105.3	99.7	96.1	101.1	101.5
1911	97.6	97.7	106.8	88.7	96.0	89.9	83.0	95.3	94.2
1912	102.4	101.0	108.5	101.5	90.5	95.2	92.7	102.1	102.4
1913	101.3	90.6	102.4	103.9	110.0	107.7	110.9	105.6	107.7
1914	102.4	131.3	109.0	105.3	77.0	107.5	117.3	106.5	110.8
1915	112.1	146.5	117.7	104.5	85.9	104.4	112.2	110.1	113.6
1916	143.3	154.6	126.0	117.1	134.3	129.0	133.1	134.2	136.9
1917	220.3	222.2	147.3	158.6	201.6	180.8	189.5	194.6	199.2
1918	239.5	284.2	189.2	191.7	231.9	242.7	232.8	231.5	231.3
1919	269.4	326.2	260.7	223.1	255.4	239.0	219.5	253.5	250.5
1920	177.5	252.7	269.4	241.6	136.5	186.6	173.6	204.0	202.3
1921	109.6	150.7	183.5	173.8	84.7	116.4	112.5	132.6	132.8
1922	132.9	140.5	222.3	167.0	135.6	129.1	126.5	146.3	147.0
1923	150.2	127.3	308.1	159.4	179.2	132.0	122.5	160.0	158.7
1924	167.9	162.0	222.8	191.3	195.4	135.8	118.6	169.6	166.1
1925	167.9	176.4	223.6	211.9	198.8	163.2	147.4	182.8	180.0
1926	142.4	176.8	231.5	223.8	145.6	172.8	163.5	178.0	177.3
1927	156.6	177.3	220.1	229.6	167.0	158.9	155.2	179.5	180.2
1928	147.0	144.9	221.0	234.9	170.6	163.6	164.1	180.4	182.4
1929	143.7	159.7	233.6	245.9	161.7	171.4	172.6	184.1	186.4
1930	87.5	106.8	184.4	205.7	90.3	146.5	147.6	141.0	143.0
1931	56.7	65.5	150.0	157.1	62.3	102.6	105.8	100.9	103.0
1932	50.3	51.9	102.9	119.8	53.1	68.2	73.4	76.7	79.0
1933	74.1	83.0	137.3	112.3	80.9	73.8	76.7	89.0	90.7
1934	71.2	73.4	145.6	126.0	87.0	86.0	64.8	95.0	89.7
1935	82.4	88.0	169.8	155.5	83.0	114.1	110.8	115.8	116.1
1936	100.3	116.3	166.5	160.8	107.1	139.2	130.3	133.1	132.0
1937	105.4	121.2	195.7	169.7	111.0	141.8	136.2	139.6	139.5

[1] Contained in the index of crop production of the Bureau of Agricultural Economics: Wheat, corn, oats, barley, rye, buckwheat, flaxseed, hay, potatoes, sweetpotatoes, cotton and cottonseed, tobacco.
[2] Wheat, rye, potatoes, sweetpotatoes, dry beans, rice.
[3] Orchard fruits, citrus fruits, grapes.
[4] Cotton and cottonseed, flaxseed, wool.
[5] Slaughter of cattle, calves, hogs, sheep, and lambs, and export of live cattle.

TABLE 12.—*Indices of gross income from various groups of farm products and from total farm production, calendar years*

[1910-14=100]

Year	12 important crops [1]	Staple foodstuffs [2]	Fruits [3]	Dairy products, chickens, and eggs	Textile raw materials [4]	Meat animals and export of live cattle [5]	Meat animals, adjusted for changes in inventory values	Total farm production	Total farm production, adjusted for changes in inventory values of meat animals
1869	40.1	45.6	19.2	26.5	37.8	55.9	56.4	40.2	40.5
1870	38.3	39.5	13.7	25.6	39.7	53.9	55.5	38.4	39.0
1871	39.1	48.5	22.5	24.0	33.3	41.5	42.9	35.4	35.9
1872	43.1	51.0	20.8	25.5	42.8	39.2	39.8	36.7	36.8
1873	44.4	56.5	17.1	28.0	40.3	38.3	38.7	37.3	37.4
1874	43.4	55.0	21.6	29.9	34.3	42.9	41.8	39.0	38.7
1875	43.1	48.8	19.2	28.7	35.8	49.5	49.4	40.3	40.3
1876	38.8	45.7	25.4	27.5	30.4	46.6	49.0	37.6	38.4
1877	46.8	66.6	32.1	25.2	31.8	44.3	48.1	40.0	41.2
1878	41.1	55.4	26.2	22.8	29.6	35.7	38.4	34.3	35.1
1879	44.4	57.8	21.0	23.4	35.2	35.3	37.3	35.5	35.2
1880	51.2	61.6	28.3	28.4	45.2	55.9	55.8	45.9	46.0
1881	50.8	61.0	27.5	34.4	38.9	51.4	52.0	45.8	46.1
1882	61.1	79.8	52.0	36.7	44.6	59.8	62.0	54.3	55.0
1883	52.0	64.0	33.3	35.7	37.7	59.3	63.3	49.2	50.5
1884	49.8	58.2	30.8	36.9	36.4	60.5	64.6	48.6	49.9
1885	46.2	46.6	26.2	32.9	37.6	50.2	51.9	43.0	43.6
1886	45.7	50.0	28.7	33.0	36.4	46.0	46.2	41.9	42.0
1887	47.1	50.0	22.1	36.5	41.5	46.3	49.4	43.7	44.1
1888	51.9	55.4	28.3	39.0	42.6	53.4	53.3	48.0	48.0
1889	50.8	52.7	36.6	37.7	45.8	47.2	47.9	45.8	46.0
1890	53.6	52.6	33.7	38.7	52.5	46.3	44.7	46.9	46.4
1891	62.0	78.2	34.1	41.6	46.0	49.2	44.2	51.7	50.2
1892	53.0	61.6	33.7	42.9	37.7	47.0	40.6	47.8	46.6
1893	46.3	48.0	37.0	45.9	39.0	57.5	51.1	49.0	47.2
1894	43.5	43.3	28.3	41.0	37.1	47.7	42.8	43.3	41.9
1895	44.6	46.0	47.5	41.2	30.6	46.4	44.4	44.2	43.6
1896	41.2	42.4	33.3	41.6	38.3	42.3	43.0	41.0	41.2
1897	48.2	59.6	48.7	43.2	39.9	46.3	49.2	46.2	47.1
1898	55.4	75.4	53.7	45.6	38.5	49.8	53.2	51.0	52.0
1899	53.9	61.1	45.8	50.2	43.1	53.5	58.6	52.3	53.8
1900	61.4	58.3	50.4	54.1	58.8	62.0	65.1	59.1	60.1
1901	65.1	68.4	64.1	57.2	53.3	68.1	67.9	65.8	63.8
1902	69.3	72.1	64.5	63.0	59.6	71.8	72.0	68.0	68.1
1903	72.1	73.3	48.3	65.5	68.5	68.3	67.6	68.2	68.0
1904	83.1	85.8	53.7	66.5	84.9	62.4	59.9	71.8	71.0
1905	78.1	83.6	51.6	71.6	73.1	67.8	64.2	72.7	71.6
1906	84.0	81.0	75.8	71.9	88.5	76.5	73.4	78.7	77.8
1907	86.4	83.5	64.1	79.3	82.0	78.7	74.1	81.6	80.2
1908	91.0	95.2	65.8	83.5	79.2	77.8	71.3	84.3	82.3
1909	99.8	108.2	74.9	92.5	89.3	87.8	79.2	93.8	91.2
1910	99.8	91.4	93.7	100.3	106.9	99.7	96.1	99.9	98.8
1911	97.4	92.2	102.4	88.7	103.3	89.9	83.0	93.4	91.3
1912	104.5	103.2	103.2	101.5	103.6	95.2	92.7	101.0	100.2
1913	103.8	94.7	97.0	103.9	113.5	107.7	110.9	104.6	105.5
1914	94.4	118.6	103.7	105.5	72.7	107.5	117.3	101.2	104.2
1915	108.8	126.7	106.7	104.5	99.1	104.4	112.2	106.6	108.8
1916	135.8	151.8	119.1	117.1	136.0	129.0	133.1	128.6	129.8
1917	197.3	227.9	139.0	158.6	190.2	180.8	189.5	181.4	183.9
1918	239.7	269.3	169.9	191.7	217.3	242.7	232.8	227.1	224.3
1919	258.1	277.3	248.5	223.1	269.2	239.0	219.5	244.0	238.3
1920	220.4	283.7	255.2	241.6	178.7	186.6	173.6	217.6	213.6
1921	127.5	165.0	189.7	173.8	99.9	116.4	112.5	137.4	136.1
1922	128.7	139.1	210.2	167.0	135.6	129.1	126.5	141.8	141.0
1923	147.9	129.0	196.9	189.4	186.8	132.0	122.5	156.1	153.1
1924	168.6	152.5	199.4	191.3	199.5	135.8	118.6	166.6	161.4
1925	171.6	165.2	211.5	211.9	211.3	163.2	147.4	180.9	176.1
1926	148.1	181.4	216.9	223.8	149.4	172.8	163.5	177.1	174.4
1927	158.9	177.4	204.4	223.6	180.2	158.9	155.2	177.1	175.8
1928	150.0	149.8	219.0	234.9	177.4	163.6	164.1	178.3	178.3
1929	150.3	146.8	217.3	245.0	182.0	171.4	172.6	183.4	183.7
1930	103.9	110.9	189.0	205.7	103.3	146.5	147.6	145.3	145.6
1931	61.9	72.5	152.0	157.1	62.2	102.6	105.8	101.3	102.2
1932	48.6	50.4	105.8	119.8	55.3	68.2	73.4	74.6	76.0
1933	66.5	74.4	122.4	112.3	73.6	73.8	76.7	84.2	85.0
1934	84.2	79.6	135.7	126.0	105.1	86.0	64.8	98.6	92.3
1935	77.1	70.9	148.6	155.5	88.5	114.1	110.8	111.6	110.6
1936	100.7	109.2	152.4	160.8	112.2	139.2	130.3	130.8	128.4
1937	106.7	124.3	190.7	169.7	110.1	141.8	136.2	137.6	136.0

[1] Contained in the index of crop production of the Bureau of Agricultural Economics: Wheat, corn, oats, barley, rye, buckwheat, flaxseed, hay, potatoes, sweetpotatoes, cotton and cottonseed, tobacco.
[2] Wheat, rye, potatoes, sweetpotatoes, dry beans, rice.
[3] Orchard fruits, citrus fruits, grapes.
[4] Cotton and cottonseed, flaxseed, wool.
[5] Slaughter of cattle, calves, hogs, sheep and lambs, and export of live cattle.

SOURCES OF DATA AND METHODS OF ESTIMATING PRODUCTION, PRICE, AND INCOME

Sources of data and methods of estimating production, price, and income are here considered for 12 important crops that are included in the Bureau of Agricultural Economics crop production index (*19, p. 2*).

WHEAT

Figures of total production of wheat for crop years are the latest revisions as published by the Department of Agriculture. Weighted season-average farm prices, available only since 1910, are used in computing farm value and gross income, 1910–37. Before 1910, December 1 farm prices were applied.[17] Reliable estimates of the wheat used for seed and feed have been made available recently by the Bureau of Agricultural Economics for 1909–36.[18] The seed use for these individual years was estimated by elaborate methods and these estimates may reasonably be regarded as the best available. Before their release the authors made estimates on the basis of previously published data [19] for the years since 1919. The results of this method approximated the recent Bureau of Agricultural Economics estimates which were used in the computation for 1909–37. During the years 1909–14, an average of 10.1 percent of the total wheat crop was used for seed purposes.

The authors' original estimate of feed use took account of earlier estimates by the then Division of Crop and Livestock Estimates which showed that 3.84 percent of the total wheat crop was fed to livestock on farms in 1919. This estimate was corroborated by an independent estimate of the Food Research Institute (*16, p. 365*). According to this source, the per capita feed use was 0.29 bushels during 1909–14. Converted to absolute figures, the feed use would have been 27.5 million bushels out of a total production of 717 million bushels (average 1909–14). Thus, the feed use would have amounted to 3.83 percent of total production. The recently published Bureau of Agricultural Economics estimates indicate a slightly higher ratio, 4.1 percent. It can be regarded as merely an approximation. The feed-disposition figures for years before 1925 were obtained on the basis of relative prices of wheat and corn as indicated by the relation between relative price to quantity fed during 1925–36. The authors used these annual disposition figures for 1909–37 and assumed a combined seed and feed use of 14.5 percent of total wheat production for 1869–1908 except for years when exceptional conditions prevailed.

In a publication the Department of Agriculture states (*20, p. 1*): "Wheat is not usually regarded as a substitute for corn as a feed for livestock, but a small carry-over of old corn and a new crop greatly reduced by drought leaves many farmers short of corn for feed * * *." The exceptional years when the ratio of wheat prices to corn prices was low, but presumably favored relatively larger wheat feedings are 1869, 1874, 1881, 1887, 1890, 1892, 1893, 1894, 1901. For

[17] This device is commonly resorted to in Department of Agriculture analyses as well as in those of other investigators. Henry Schultz (*14, p. 173*) found that the coefficient of correlation between December 1 and season-average farm prices during 1909–29 was 0.9745.

[18] UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS. DISPOSITION OF WHEAT, RYE, BUCKWHEAT AND FLAXSEED, CROP YEARS 1909–36 BY STATES. 78 pp. September 1938. [Processed.]

[19] ——— DIVISION OF CROP AND LIVESTOCK ESTIMATES. FARM VALUE, GROSS INCOME, AND CASH INCOME FROM FARM PRODUCTION, 1919–33. Release. March 1934. [Mimeographed.]

these years the combined feed and seed ratio was raised to 17 percent of total production, that is, a feed use of 6.5 percent instead of about 4 percent which is that in "normal" years, was assumed. This percentage was obtained by observing the increase in feed use from 1909–17. During this period 1911, 1913, and 1916 were "exceptional" years and the feed use increased 2.1, 1.6, and 3.1 percent respectively. Increasing the feed ratio 2.5 percent in "exceptional years" prior to 1909 can be regarded merely as an approximation, but it seems certain that this adjustment for the years noted comes nearer the actual feed use. The accompanying percentages, derived from crop-disposition figures of the Bureau of Agricultural Economics [20] were used in deducting the amount of wheat retained for seed and feed to obtain net production since 1909.

1909	12.6	1916	17.8	1923	18.7	1930	26.5
1910	14.6	1917	16.8	1924	15.7	1931	26.3
1911	17.1	1918	13.9	1925	15.2	1932	27.0
1912	12.6	1919	12.9	1926	13.6	1933	25.4
1913	14.4	1920	12.5	1927	14.7	1934	28.5
1914	11.7	1921	14.4	1928	14.9	1935	25.3
1915	10.5	1922	15.5	1929	16.9	1936	25.6

Gross income was computed as the product of production entering into gross income and farm price. Production entering into gross income, farm price, and gross income for crop years 1869–1937 are shown in table 13 and figure 11.

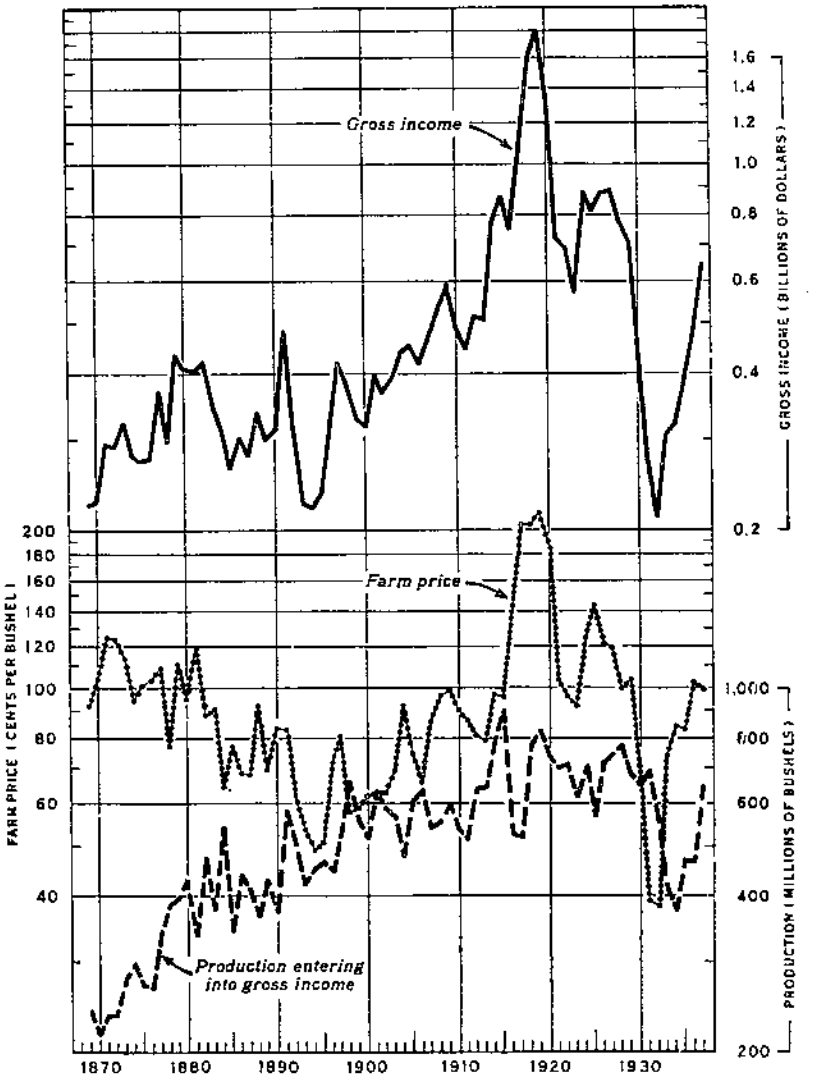
To estimate income data for calendar years, sales and human consumption on the farm during the calendar year were evaluated at calendar-year farm prices. As monthly marketings are available only for recent years an average derived from data for these recent years was applied for the entire period. During the crop years 1924–33 (*22, Yearbook 1935, p. 359*) marketings from July to December amounted to 79.8 percent, and from January to June to 20.2 percent, of total marketings. These percentages are used for 1869–1923. Thus, "production entering into gross income" [21] during the calendar year 1900 is composed as follows: Marketings from January to June 1900 were 20 percent of the wheat crop 1899–1900; marketings from July to December 1900 were 80 percent of the crop 1900–01. The conversion from crop- to calendar-year marketings was carried through on this basis from 1869 to 1909. In connection with the study of income parity for agriculture (estimates for some individual crops and livestock items have already been issued) the Department of Agriculture is attempting to estimate sales, home consumption, and gross income for calendar years for all products. The authors used calendar-year data on sales, home consumption, farm prices, and gross income from that study for 1910–37.

The (B. A. E.) calendar-year farm prices of wheat were used for 1869–1909. This price series includes average weighted farm prices of the following States: Since 1869, Wisconsin, New York, Maryland, Virginia, Illinois; since 1879, Minnesota; since 1890, South Dakota; since 1895, Nebraska. Beginning with 1910, weighted calendar-year farm prices as currently published by the Bureau of Agricultural

[20] See footnote 18.

[21] In the computation, "crop-year production entering into gross income" was converted into calendar-year marketings in order to take into account also those years for which the percentage used for feed and seed is higher than the constant ratio applied for most of the years. This expression is used to indicate the quantity of the total crop that constitutes sales and use for home consumption. In the tables "calendar-year production" refers to the part of the crop of 2 crop years that was marketed during the calendar year.

Economics were applied. To make this price series consistent with the B. A. E. data, statisticians in the Bureau computed an adjustment factor based on the 1910–14 average of both series. The (B. A. E.) wheat price thus found appeared to be only 0.1 percent lower than



B. A. E. 35604

FIGURE 11.—Wheat: Production entering into gross income, farm price, gross income, crop years 1869–1937,

the current B. A. E. price. In view of this small difference the authors used the (B. A. E.) wheat-price series unadjusted. Total production multiplied by calendar-year farm price gives the farm value of wheat. As in the computation based on crop-year data, farm value corrected for the value of wheat used as seed and feed is gross income (table 13).

TABLE 13.—*Production, price, and gross income: Wheat*

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1869	290	281	92.3	114	267	320	222	266
1870	254	261	104.2	97	265	253	226	216
1871	272	269	124.7	120	339	323	291	276
1872	272	271	123.9	133	336	360	289	309
1873	322	312	116.8	120	376	402	321	344
1874	356	349	94.8	112	338	391	280	325
1875	314	322	101.0	103	317	332	271	283
1876	309	310	103.6	103	320	319	274	273
1877	395	379	109.5	127	429	481	368	411
1878	449	438	77.2	93	347	407	296	348
1879	459	457	110.7	91	509	416	434	356
1880	502	494	95.2	94	478	464	408	397
1881	406	425	119.6	104	486	442	403	367
1882	552	523	88.8	108	490	565	419	483
1883	439	461	91.4	97	401	447	343	382
1884	571	545	64.5	79	369	431	315	368
1885	400	434	77.2	72	309	312	264	267
1886	514	491	68.7	69	353	339	302	290
1887	491	496	68.1	66	334	327	278	272
1888	424	437	92.7	80	393	350	337	299
1889	504	488	69.8	77	352	376	301	321
1890	449	460	83.7	78	376	359	312	298
1891	678	632	83.1	86	563	544	482	464
1892	612	626	62.4	70	382	438	317	364
1893	506	527	53.4	55	270	290	224	240
1894	542	535	48.9	49	265	262	220	218
1895	542	542	50.5	52	274	282	234	241
1896	523	526	72.1	56	377	295	322	252
1897	506	590	80.9	73	491	431	419	368
1898	768	735	57.9	74	445	544	380	465
1899	655	678	58.8	61	385	414	329	354
1900	599	610	62.1	63	372	384	318	329
1901	763	730	63.1	61	481	445	399	370
1902	687	703	63.0	64	433	450	370	385
1903	663	667	69.3	68	460	454	393	388
1904	556	578	92.6	90	514	520	440	445
1905	706	676	74.7	85	527	575	451	491
1906	741	734	66.0	69	488	506	418	433
1907	629	651	86.6	80	544	521	466	446
1908	643	640	96.7	91	622	582	532	498
1909	684	676	99.1	102	678	690	592	603
1910	625	637	90.8	95.4	563	624	485	505
1911	618	619	86.9	84.3	537	532	445	457
1912	730	708	80.7	83.7	589	637	515	503
1913	751	747	79.4	78.2	596	590	510	504
1914	897	868	97.4	87.3	874	755	772	684
1915	1,009	986	96.1	100.8	969	1,114	868	786
1916	635	710	143.4	120.8	910	845	749	844
1917	620	623	204.7	200.6	1,269	1,265	1,056	1,092
1918	904	847	205.0	203.3	1,853	1,728	1,596	1,561
1919	952	943	216.3	210.7	2,059	2,037	1,794	1,598
1920	843	864	182.6	214.1	1,540	1,901	1,347	1,394
1921	819	824	103.0	109.9	844	904	722	880
1922	847	842	96.6	97.7	818	876	691	674
1923	759	776	92.6	94.2	703	760	571	617
1924	842	826	124.7	112.7	1,050	909	885	811
1925	669	703	143.7	145.8	961	1,062	815	861
1926	832	800	121.7	126.3	1,013	1,080	875	858
1927	875	868	119.0	118.7	1,042	1,039	888	907
1928	914	906	99.8	104.3	912	1,024	770	781
1929	823	841	103.6	103.0	853	866	709	735
1930	886	874	67.1	73.2	595	708	437	461
1931	942	931	39.0	42.1	368	456	271	274
1932	757	794	38.2	37.0	289	310	211	207
1933	552	593	74.4	65.3	410	344	306	316
1934	526	531	84.8	81.9	446	425	319	331
1935	626	606	83.2	82.6	521	521	389	386
1936	627	627	102.6	96.9	643	756	479	464
1937	874	825	99.4	103.4	869	853	646	618

CORN

Crop-year production data are the latest revisions of the United States Department of Agriculture. For 1869–1909, December 1 farm prices were used; since 1910, weighted season-average B. A. E. farm prices of the Department of Agriculture[22] were used. Data on the utilization of the corn crop for purposes other than feed and seed (that is, commercial sales for nonagricultural purposes) are too scanty to warrant their use to determine production entering into gross income. Therefore it was not possible to adhere to the authors' usually rigid concept of gross income. Department of Agriculture estimates of the disposition of the corn crop [23] are based on sales data for census years, and for other than census years, on the relationship between the percentages sold (as derived from the census) and reports from crop correspondents on the percentage of the crop shipped out of the county where grown, and on the percentage of the crop sold or for sale. To this is added home consumption (for human purposes). Obviously, this method does not make possible deduction of interfarmer sales between States, and their importance cannot be determined. But undoubtedly a considerable quantity of corn shipped between counties and States and used for feeding farm livestock (which is ultimately represented in income from livestock) cannot be deducted. As there was a wide variation in exports during the period, the authors deducted annual exports from the annual quantity sold and used for home consumption and computed the ratio of the difference to "total production adjusted for exports." The average ratio 1909–15, 18.5 percent, was applied from 1869 to 1908; "production entering into gross income" was computed by adding to the quantity resulting from this ratio the annual quantity exported. Since 1909 the quantity of corn sold and used for home consumption as estimated by the Department of Agriculture was used (table 14).

TABLE 14.—*Corn: Ratio of production entering into gross income to total production, crop years, 1909–36*

Year	Ratio of production entering into gross income to total production	Ratio of production entering into gross income adjusted for exports to total production adjusted for export	Year	Ratio of production entering into gross income to total production	Ratio of production entering into gross income adjusted for exports to total production adjusted for export	Year	Ratio of production entering into gross income to total production	Ratio of production entering into gross income adjusted for exports to total production adjusted for export
	Percent	*Percent*		*Percent*	*Percent*		*Percent*	*Percent*
1909	22.0	20.7	1921	21.8	17.1	1931	18.3	18.1
1910	21.0	19.2	1922	19.7	17.8	1932	20.0	19.8
1911	19.7	18.5	1923	21.6	21.0	1933	18.2	18.5
1912	20.0	18.6	1924	20.3	19.9	1934	11.6	11.5
1913	17.3	16.9	1925	22.1	21.4	1935	17.8	17.7
1914	19.4	17.6	1926	19.6	19.0	1936	16.3	16.2
1915	19.3	17.8	1927	20.6	19.9			
1916	18.7	16.6	1928	21.3	20.0			
1917	22.5	21.2	1929	19.4	19.2			
1918	17.2	16.6	1930	17.2	17.1			
1919	19.0	18.5						
1920	24.2	21.2						

[22] Schultz (*14 p. 178*) obtained a coefficient of correlation of 0.9790 between the season average farm price and the December 1 price for 1909–29.

[23] UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS. DISPOSITION OF FEED GRAINS (CORN, OATS, BARLEY, AND GRAIN SORGHUMS), CROP YEARS 1909–1936. June 1938. [Mimeographed.]

Production entering into gross income, farm price, and gross income for crop years are shown in table 15 and figure 12.

To compute calendar-year production, crop-year production entering into gross income was converted to calendar year production on the basis of marketings for the period 1920–29.[24]

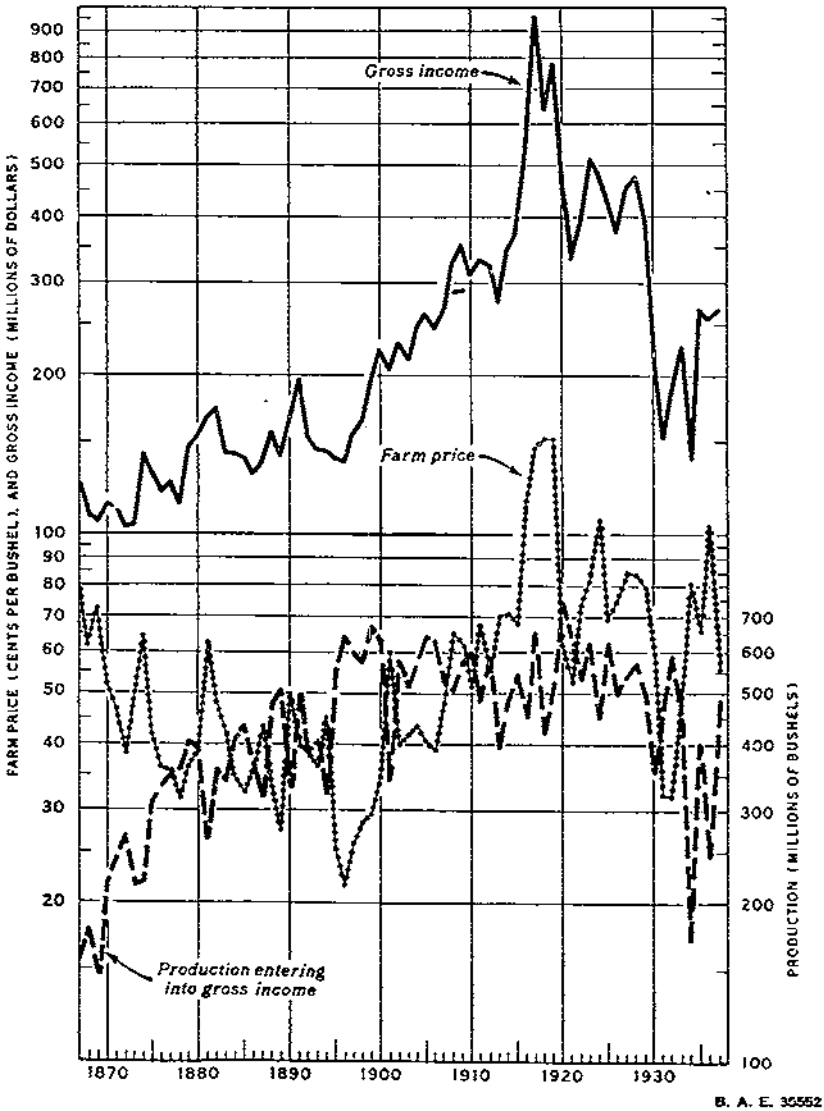


FIGURE 12.—Corn: Production entering into gross income, farm price, gross income, crop years 1869–1937

Average marketings amounted to 29.7 percent between October and December and to 70.3 percent between January and September. For 1869–1909, the (B. A. E.) calendar-year farm price was applied.

[24] Unpublished data obtained from the Crop Reporting Board, U. S. Department of Agriculture.

Farm prices of the following States are included in the corn price: Since 1869, Wisconsin, Illinois, New York, Maryland, Virginia, Maine; since 1891, South Dakota; since 1895, Nebraska. This price seems to be weighted in favor of the surplus-producing States. As the 1910–14 average is 9.4 percent less than the B. A. E. farm price, prices from 1869 to 1909 were adjusted accordingly. Farm values were obtained by multiplying calendar-year production by the (B. A. E.) farm prices from 1869 to 1909; since 1910 by multiplying B. A. E. revised calendar-year prices by calendar-year production. The conversion from farm value to gross income 1869–1909 is based on the same method as for crop years. Production entering into gross income, farm prices, and gross income 1910–37 are data of the Bureau of Agricultural Economics (table 15).

TABLE 15.—*Production, price, and gross income: Corn*

Year	Production		Exports crop year	Production less exports crop year	18% of column (5) crop year	Production entering into gross income		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year				Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Mil. bu.	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1869	782	879	2	780	144	146	168	72.5	68	567	602	106	114
1870	1,125	885	11	1,114	206	217	167	52.1	72	586	635	113	120
1871	1,142	1,131	36	1,106	205	241	224	46.4	55	527	625	112	123
1872	1,279	1,182	40	1,239	229	269	249	38.3	44	490	522	103	110
1873	1,008	1,197	36	972	180	216	253	48.3	44	487	529	104	111
1874	1,059	1,024	30	1,029	190	220	217	64.1	67	678	690	141	145
1875	1,450	1,176	51	1,399	250	310	247	41.9	71	607	831	130	175
1876	1,478	1,458	73	1,405	260	333	317	36.1	50	533	724	120	158
1877	1,516	1,490	87	1,429	264	351	338	35.7	50	541	740	125	169
1878	1,565	1,531	88	1,477	273	361	354	31.3	41	490	675	113	156
1879	1,752	1,622	100	1,652	306	406	374	36.4	43	637	699	148	161
1880	1,707	1,738	94	1,613	298	392	402	39.0	47	660	824	153	189
1881	1,245	1,569	44	1,201	222	266	354	62.8	60	782	935	167	212
1882	1,755	1,399	42	1,713	317	359	294	48.1	77	844	1,081	173	226
1883	1,652	1,724	42	1,610	298	340	353	41.8	57	691	989	142	201
1884	1,948	1,740	53	1,895	351	404	359	34.9	57	680	999	141	205
1885	2,058	1,981	65	1,993	369	434	413	32.2	50	662	983	140	206
1886	1,783	1,976	41	1,742	322	363	413	35.7	43	636	851	130	178
1887	1,605	1,730	25	1,580	292	317	349	43.4	46	697	802	138	161
1888	2,251	1,799	71	2,180	403	474	384	33.1	53	744	954	157	193
1889	2,294	2,264	103	2,191	405	508	484	27.5	40	630	900	140	194
1890	1,650	2,105	32	1,618	299	331	455	49.6	45	819	950	164	205
1891	2,335	1,856	77	2,259	418	495	380	39.8	49	930	902	197	186
1892	1,897	2,204	47	1,850	342	389	463	39.3	40	746	875	153	185
1893	1,900	1,898	66	1,834	339	405	394	36.1	38	686	712	146	150
1894	1,615	1,814	29	1,586	293	322	380	45.1	40	729	721	145	152
1895	2,535	1,890	101	2,434	450	551	391	25.2	41	638	772	139	160
1896	2,571	2,575	179	2,392	461	640	578	21.4	22	572	568	137	127
1897	2,268	2,556	212	2,076	384	596	627	26.0	21	594	536	155	132
1898	2,351	2,307	177	2,174	402	579	591	28.5	29	671	662	165	171
1899	2,646	2,440	213	2,433	450	663	604	29.8	31	789	754	196	187

TABLE 15.—*Production, price, and gross income: Corn*—Continued

Year	Production		Exports crop year	Production less exports crop year	18% of column (5) crop year	Production entering into gross income		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year				Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Mil. bu.	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1900	2,662	2,651	181	2,481	459	640	656	35.0	36	933	966	224	236
1901	1,716	2,375	28	1,688	312	340	550	60.0	47	1,029	1,129	204	258
1902	2,774	2,033	77	2,697	499	576	411	40.1	57	1,113	1,167	231	234
1903	2,515	2,696	58	2,457	455	513	557	41.9	43	1,053	1,160	215	240
1904	2,687	2,567	90	2,597	480	570	530	43.0	46	1,172	1,190	249	244
1905	2,954	2,767	120	2,834	524	614	592	40.6	46	1,201	1,283	261	272
1906	3,033	2,978	88	2,947	545	631	640	39.1	44	1,187	1,315	247	282
1907	2,614	2,907	55	2,559	473	528	600	50.5	50	1,320	1,444	267	300
1908	2,567	2,601	38	2,529	468	506	521	65.0	67	1,669	1,751	329	349
1909	2,611	2,580	38	.....	.....	575	527	61.6	67	1,610	1,737	354	353
1910	2,853	2,684	66	.....	.....	600	581.7	51.6	55.3	1,471	1,664	310	322
1911	2,475	2,739	42	.....	.....	488	547.6	68.0	52.2	1,683	1,589	332	286
1912	2,948	2,616	51	.....	.....	589	534.1	55.3	61.1	1,629	1,831	326	326
1913	2,273	2,746	11	.....	.....	393	528.9	70.4	57.2	1,599	1,730	277	302
1914	2,524	2,348	51	.....	.....	488	429.0	70.8	66.1	1,787	1,691	346	284
1915	2,829	2,616	40	.....	.....	546	495.8	68.0	66.3	1,925	1,884	371	329
1916	2,425	2,708	67	.....	.....	452	523.1	116.6	73.4	2,828	2,085	527	384
1917	2,908	2,570	39	.....	.....	651	465.4	145.9	129.1	4,244	3,675	954	601
1918	2,441	2,768	23	.....	.....	419	616.7	152.2	141.7	3,715	4,180	638	874
1919	2,679	2,513	.....	.....	.....	510	447.1	151.3	145.3	4,053	3,920	772	650
1920	3,071	2,796	.....	.....	.....	742	529.4	61.8	126.0	1,899	3,942	459	667
1921	2,928	3,028	.....	.....	.....	639	744.0	52.3	48.7	1,533	1,726	334	302
1922	2,707	2,862	.....	.....	.....	534	638.9	74.5	53.5	2,017	1,717	398	342
1923	2,875	2,757	.....	.....	.....	621	531.5	82.5	73.5	2,372	2,208	512	391
1924	2,223	2,679	.....	.....	.....	450	599.9	106.1	85.2	2,358	2,438	477	511
1925	2,798	2,395	.....	.....	.....	620	489.7	69.9	90.6	1,957	2,395	433	444
1926	2,547	2,723	.....	.....	.....	498	591.6	74.5	65.6	1,896	1,906	372	388
1927	2,616	2,568	.....	.....	.....	538	503.0	85.0	74.9	2,223	2,029	457	377
1928	2,666	2,631	.....	.....	.....	567	563.7	84.0	81.0	2,240	2,342	476	457
1929	2,521	2,622	.....	.....	.....	490	521.1	79.0	82.7	2,014	2,307	392	431
1930	2,080	2,389	.....	.....	.....	358	456.4	59.6	73.5	1,240	1,803	213	335
1931	2,576	2,229	.....	.....	.....	471	393.6	32.0	44.3	825	1,114	151	170
1932	2,931	2,622	.....	.....	.....	587	483.3	31.9	25.4	936	751	187	123
1933	2,400	2,772	.....	.....	.....	437	561.7	52.2	34.3	1,253	998	228	193
1934	1,461	2,118	.....	.....	.....	170	367.8	81.5	58.7	1,191	1,292	139	216
1935	2,304	1,714	.....	.....	.....	409	216.7	65.5	69.8	1,509	1,320	268	151
1936	1,507	2,063	.....	.....	.....	245	392.7	104.5	73.3	1,574	1,589	256	292
1937	2,645	1,845	.....	.....	.....	489	328.6	55.1	75.7	1,457	1,733	269	249

Oats, Barley, Rye, Buckwheat, Potatoes, Sweetpotatoes, and Flaxseed

As the procedure of estimating income is essentially the same for oats, barley, rye, buckwheat, potatoes, sweetpotatoes, and flaxseed, it would be repetitious to describe it in detail for each. Therefore the production, price, and income computations for these products are explained in footnotes to each table. Table 16 shows the ratio of production entering into gross income to total production which is identical with the ratio of gross income to farm value. Production entering into gross income, farm price, and gross income derived from these products for crop years are shown in tables 17–23 and figures 13–19.

TABLE 16.—*Ratio of gross income to farm value, 1909–36*

Year	Oats [1]	Barley [1]	Rye [2]	Buckwheat [2]	Potatoes [3]	Sweetpotatoes [3]	Flaxseed [3]
1909	32.7	52.1	63.6	.....	.....	.....	.....
1910	30.3	51.9	71.9	61.6	.....	.....	.....
1911	27.7	55.8	70.5	60.0	.....	.....	.....
1912	29.6	52.7	74.9	58.7	.....	.....	.....
1913	27.0	48.7	72.6	58.2	.....	.....	.....
1914	29.5	48.1	75.4	55.6	.....	.....	.....
1915	28.7	45.4	70.9	54.8	.....	.....	.....
1916	27.9	43.5	72.1	55.5	.....	.....	.....
1917	31.0	41.2	75.6	54.0	.....	.....	.....
1918	27.1	39.6	78.6	53.5	.....	.....	.....
1919	26.5	37.9	78.8	50.4	.....	.....	.....
1920	29.9	40.1	79.2	48.7	.....	.....	.....
1921	25.4	40.0	75.5	46.2	.....	.....	.....
1922	26.1	40.3	81.7	44.6	.....	.....	.....
1923	26.5	39.5	70.5	42.1	.....	.....	.....
1924	29.1	41.7	80.6	37.7	82.7	97.0	94.9
1925	26.6	38.6	79.7	38.1	81.0	97.4	93.1
1926	23.7	30.6	71.9	46.7	81.6	97.7	92.1
1927	21.0	33.2	81.5	41.6	83.7	98.2	94.4
1928	22.1	33.1	75.6	48.2	78.4	97.9	96.6
1929	20.5	27.4	69.1	49.9	85.5	87.9	85.6
1930	16.9	26.5	50.5	53.3	84.8	88.0	90.8
1931	16.9	18.4	45.8	38.8	84.1	87.7	88.7
1932	16.8	25.1	45.2	47.4	82.5	83.2	92.0
1933	13.2	29.6	51.9	41.3	84.3	88.3	88.2
1934	10.9	34.1	49.6	35.5	82.0	83.2	85.4
1935	17.0	34.5	56.8	39.9	82.7	83.3	90.9
1936	15.4	35.5	48.4	43.9	.....	.....	.....

[1] UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS. DISPOSITION OF FEED GRAINS (CORN, OATS, BARLEY, AND GRAIN SORGHUMS), CROP YEARS 1909-36. June 1938. [Mimeographed.]

[2] ——— DISPOSITION OF WHEAT, RYE, BUCKWHEAT, AND FLAXSEED, CROP YEARS 1909-36. September 1938. [Mimeographed.]

[3] ——— FARM VALUE, GROSS INCOME, AND CASH INCOME FROM FARM PRODUCTION, pt. 3, 1924-28 (August 1930), p. 3; pt. 3, 1928-29 (November 1930), p. 3; General Summary 1929-30 (April 1933), p. 2; Summary 1931, 1932, 1933 (August 1934), p. 2; 1934-35 (August 1936), p. 3; and Crops and Markets (*23, v. 12, p. 277*).

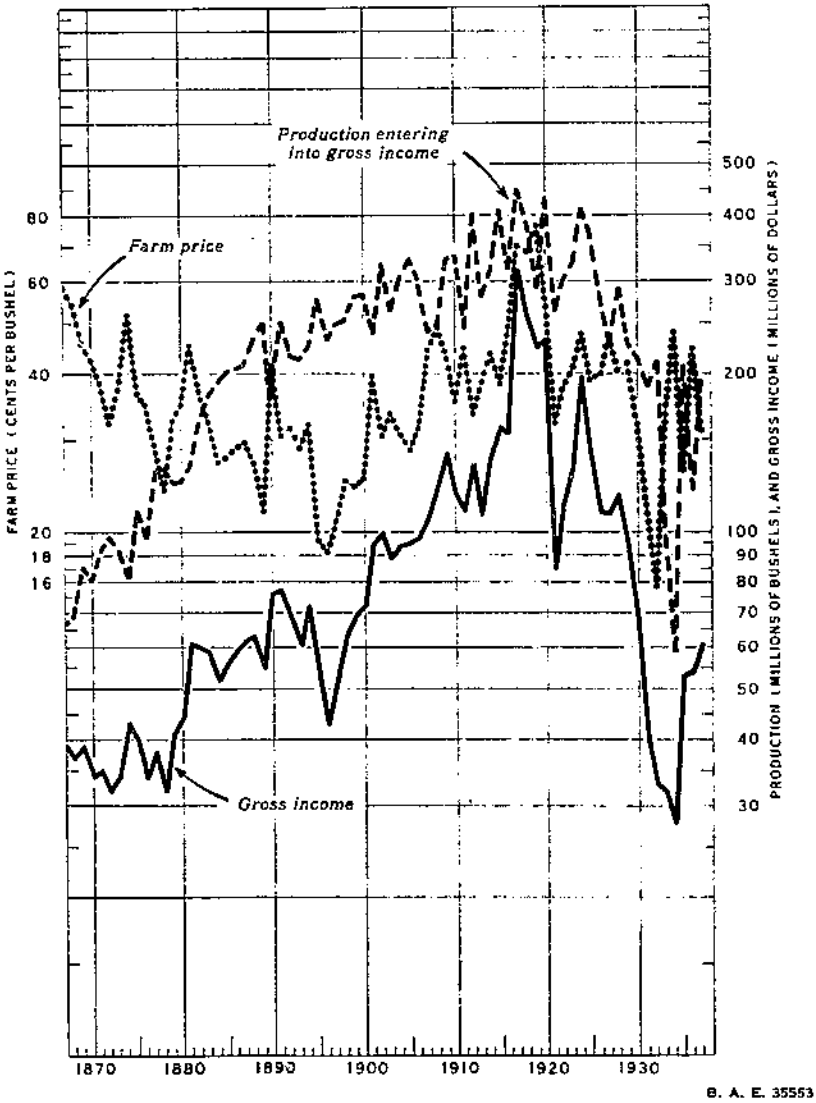


FIGURE 13.—Oats: Production entering into gross income, farm price, gross income, crop years 1869–1937.

TABLE 17.—*Production, price, and gross income: Oats* [1]

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1869	284	286	46.1	58	131	154	39	46
1870	268	273	42.6	46	114	125	34	38
1871	306	293	38.5	47	118	135	35	41
1872	327	320	32.2	36	105	116	32	35
1873	307	314	37.4	37	115	117	34	35
1874	273	284	52.0	52	142	148	43	44
1875	365	334	36.7	52	134	175	40	52
1876	327	340	34.9	35	114	120	34	36
1877	435	399	28.8	34	125	137	38	41
1878	443	440	24.0	27	106	117	32	36
1879	415	425	32.6	31	135	131	41	40
1880	418	417	34.9	35	146	147	44	44
1881	446	436	45.5	41	203	177	61	54
1882	540	509	37.1	47	201	239	60	72
1883	606	584	32.4	40	196	230	59	70
1884	641	629	27.2	35	174	222	52	66
1885	674	663	27.9	31	188	205	56	62
1886	682	680	28.9	31	197	210	59	63
1887	696	691	29.7	31	207	213	62	64
1888	773	747	27.0	33	209	248	63	74
1889	831	812	21.9	27	182	217	55	66
1890	609	683	41.7	34	254	234	76	70
1891	837	761	30.6	42	256	317	77	96
1892	722	760	31.5	34	227	259	68	78
1893	707	712	28.9	32	204	228	61	68
1894	750	736	32.0	31	240	227	72	68
1895	925	867	19.3	27	179	232	54	70
1896	775	825	18.3	17	142	141	43	42
1897	830	811	21.0	17	174	139	52	41
1898	842	838	25.1	25	212	206	63	63
1899	937	906	24.5	26	229	232	69	71
1900	945	942	25.3	26	240	241	72	73
1901	800	848	39.7	33	318	281	95	84
1902	1,077	955	30.5	40	329	388	99	116
1903	885	949	33.7	34	299	325	89	97
1904	1,012	970	30.9	35	313	341	94	102
1905	1,104	1,073	28.8	29	318	309	95	93
1906	1,023	1,050	31.7	31	324	324	97	98
1907	801	875	44.4	42	355	364	107	110
1908	829	820	49.2	49	408	402	122	121
1909	1,014	952	42.8	48	434	457	142	149
1910	1,106	1,075	35.6	38	394	441	119	125
1911	886	960	44.9	37	397	365	110	103
1912	1,353	1,197	33.7	37	456	527	135	126
1913	1,039	1,144	38.6	35	401	412	108	115
1914	1,066	1,057	43.9	39	468	433	138	125
1915	1,435	1,312	38.3	39	550	590	158	137
1916	1,139	1,237	48.7	42	554	544	155	153
1917	1,443	1,342	70.1	60	1,011	859	314	228
1918	1,420	1,434	68.5	73	978	1,104	259	290
1919	1,107	1,214	76.7	67	848	850	225	223

[1] *Explanation.*—Total production: Crop year: B. A. E. data. Calendar year: Converted from crop years on the basis of average marketings (Crop Reporting Board files) 1920–29. Average marketings January-June=32.7 percent of preceding crop. In the computation 66.7 and 33.3 percent were used.

Production entering into gross income: 1909–35, annual data of ratio gross income ÷ farm values were applied, (Cf. table 16); 1869–1908, average ratio 1909–14 (30 percent) was used. Sales and home-consumption data of Bureau of Agricultural Economics for calendar years 1910–37 were applied.

Farm price: Crop year: 1869–1907, B. A. E. Dec. 1 farm price; 1908–37, B. A. E. season average farm price. Calendar year: 1869–1909, (B. A. E.) farm price was raised 6.3 percent. The following States are included: Since 1869, Wisconsin, Illinois, New York, Maine, Maryland, Virginia; since 1890, Minnesota; since 1891, South Dakota; since 1895, Nebraska. 1910–37, B. A. E. revised calendar-year farm prices.

Gross income: Crop year: Crop-year production entering into gross income × Dec. 1 farm price 1869–1907; × season average price 1908–37. Calendar year: Calendar-year production entering into gross income × adjusted (B. A. E.) farm price 1869–1909; × B. A. E. calendar-year farm price 1910–37.

235025°—40——4

TABLE 17.—*Production, price, and gross income: Oats* [1]—Continued

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1920	1,444	1,332	53.8	68	777	1,039	232	249
1921	1,045	1,178	32.2	32	337	424	85	109
1922	1,148	1,113	37.4	33	429	401	112	94
1923	1,227	1,201	40.7	38	500	504	132	121
1924	1,416	1,353	47.8	45	676	636	197	185
1925	1,405	1,409	38.9	41	546	620	145	151
1926	1,153	1,237	40.0	37	462	482	109	112
1927	1,093	1,113	47.1	43	515	501	106	106
1928	1,313	1,239	40.7	42	534	607	118	112
1929	1,113	1,180	41.8	41	466	519	95	107
1930	1,275	1,221	32.2	34	410	464	69	74
1931	1,124	1,174	21.3	22	239	305	40	42
1932	1,251	1,209	15.7	16	196	218	33	31
1933	733	906	33.5	25	245	227	32	36
1934	542	605	48.0	41	261	248	28	26
1935	1,195	978	26.3	28	315	381	53	45
1936	736	922	44.9	33	353	313	54	47
1937	1,146	1,026	31.3	34	359	431	61	66

TABLE 18.—*Production, price, and gross income: Barley* [1]

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1869	29.1	27.9	87.2	124	25	34	13	17
1870	29.0	29.0	85.3	76	25	22	12	11
1871	27.7	28.0	77.1	67	21	19	11	9
1872	32.0	31.1	73.8	64	24	20	12	10
1873	30.5	30.8	96.3	91	29	28	15	14
1874	36.1	35.0	96.2	121	35	42	17	21
1875	32.8	33.4	85.6	100	28	33	14	17
1876	40.7	39.2	68.5	74	28	29	14	15
1877	39.2	39.5	63.3	67	25	26	12	13
1878	37.4	37.7	58.4	64	22	24	11	12
1879	42.4	41.4	59.9	62	25	26	13	13
1880	45.3	44.7	66.3	65	30	29	15	15
1881	49.0	48.3	81.9	83	40	40	20	20
1882	60.1	57.9	63.1	78	38	45	19	23
1883	57.1	57.7	58.9	64	34	37	17	19
1884	67.9	65.7	48.3	59	33	39	16	20
1885	64.0	64.8	55.7	53	36	34	18	17
1886	73.5	71.6	53.1	53	39	38	20	19
1887	72.4	72.6	52.0	55	38	40	19	20
1888	76.0	75.3	59.1	62	45	47	22	23
1889	80.8	79.8	41.5	50	34	40	17	20

[1] *Explanation.*—Total Production: Crop year: B. A. E. data. Calendar year: Converted from crop years on the basis of average marketings (Crop Reporting Board files) 1920–29. Average marketings July–December=78 percent, January–June=22 percent rounded off to 80 and 20 percent.

Production entering into gross income: 1909–37, yearly B. A. E. data of ratio gross income÷farm value (see table 16); 1869–1908 average ratio 1909–14 (51.5 percent rounded off to 50 percent).

Farm price: Crop year: 1869–1907, (B. A. E.) Dec. 1 farm price; 1908–37, B. A. E. season-average price. Calendar year: 1869–1909, (B. A. E.) price was raised 5.3 percent. The following States are included: since 1869, Wisconsin, Illinois, New York; since 1890, Minnesota; since 1891, South Dakota. 1910–35: B. A. E. revised calendar year farm price.

Gross income: Same as oats.

TABLE 18.—*Production, price, and gross income: Barley* [1]—Continued

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1890	69.9	72.1	62.1	45	43	33	22	16
1891	94.2	89.4	52.2	54	49	48	25	24
1892	95.2	95.0	46.6	50	44	47	22	24
1893	87.1	88.7	40.2	43	35	38	18	19
1894	74.2	76.8	43.7	41	32	32	16	16
1895	104.5	98.4	32.8	36	34	35	17	18
1896	97.5	98.9	29.6	20	29	20	14	10
1897	102.6	101.6	34.3	21	35	21	18	11
1898	98.2	99.1	38.9	32	38	31	19	16
1899	118.2	114.2	38.8	34	46	39	24	19
1900	96.6	100.9	40.7	33	39	33	20	17
1901	123.8	118.7	45.4	45	56	54	28	27
1902	146.2	141.8	45.3	51	66	72	33	36
1903	149.3	148.6	44.7	41	67	61	33	30
1904	166.1	162.8	41.2	37	68	60	34	30
1905	171.6	170.5	39.4	34	68	58	34	29
1906	179.1	177.6	41.8	34	75	60	38	30
1907	150.6	156.3	66.5	59	100	92	50	46
1908	170.8	166.7	56.6	57	97	95	48	48
1909	173.1	172.7	55.8	55	97	95	50	50
1910	142.4	149	60.7	57	86	85	45	45
1911	145.1	144	82.5	77	120	107	67	63
1912	196.9	187	50.0	60	100	138	53	54
1913	158.8	166	52.5	52	83	86	41	46
1914	177.7	174	53.7	49	95	89	46	42
1915	207.0	202	52.0	52	108	115	49	47
1916	159.2	168	80.4	69	128	113	56	56
1917	182.2	178	123.2	111	224	194	93	77
1918	225.1	216	95.1	112	214	206	85	83
1919	131.1	150	124.4	110	163	160	62	82
1920	171.0	163	84.4	110	144	102	58	65
1921	132.7	140	47.8	51	63	73	25	31
1922	152.9	149	49.9	49	76	76	31	30
1923	159.0	158	54.6	54	87	88	34	34
1924	165.5	164	74.2	71	123	112	51	48
1925	192.5	187	61.4	65	118	133	46	48
1926	166.0	171	57.9	54	96	94	29	29
1927	239.1	224	68.9	66	165	150	55	49
1928	328.4	310	56.8	60	186	214	62	63
1929	279.9	290	53.9	55	151	162	41	46
1930	300.2	296	40.5	43	122	130	32	33
1931	199.4	219	32.8	33	65	74	12	15
1932	296.3	278	22.1	23	66	78	17	14
1933	153.8	183	43.5	34	67	59	20	19
1934	116.7	125	68.6	58	80	72	27	24
1935	285.8	252	37.8	41	108	139	37	32
1936	147.5	175	78.4	60	116	103	41	46
1937	219.6	205	55.6	58	122	144	37	43

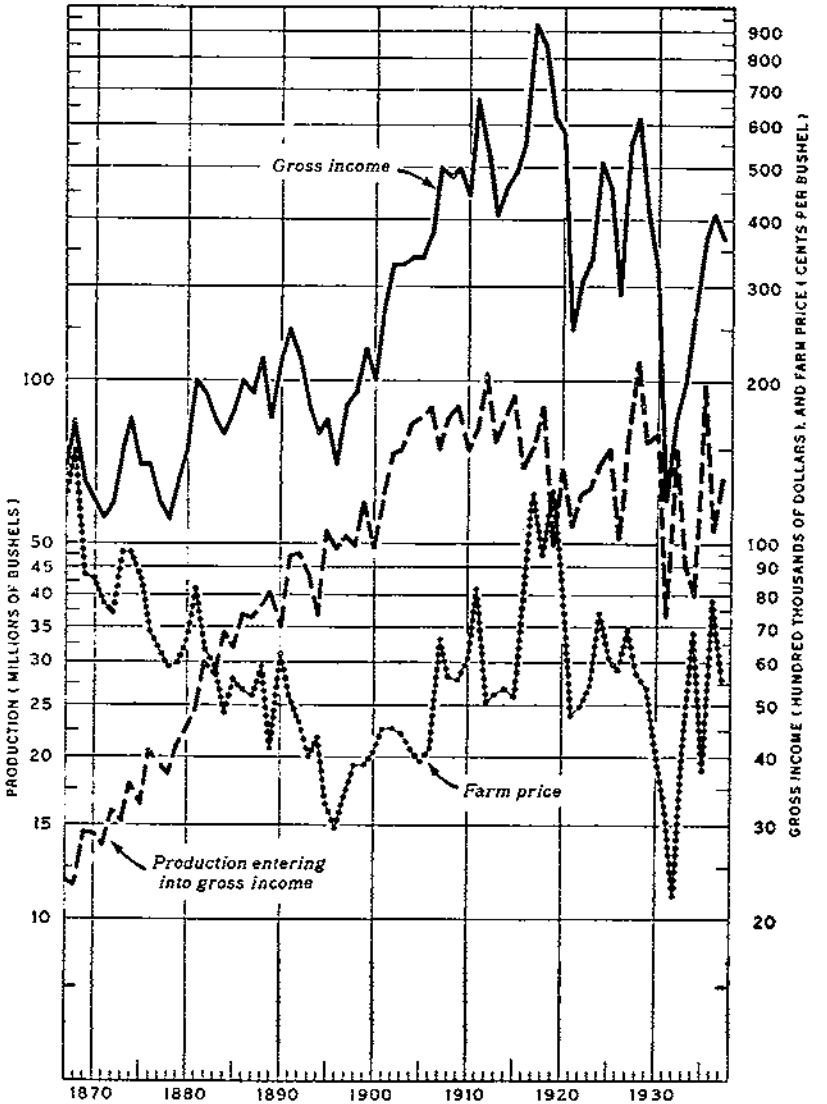
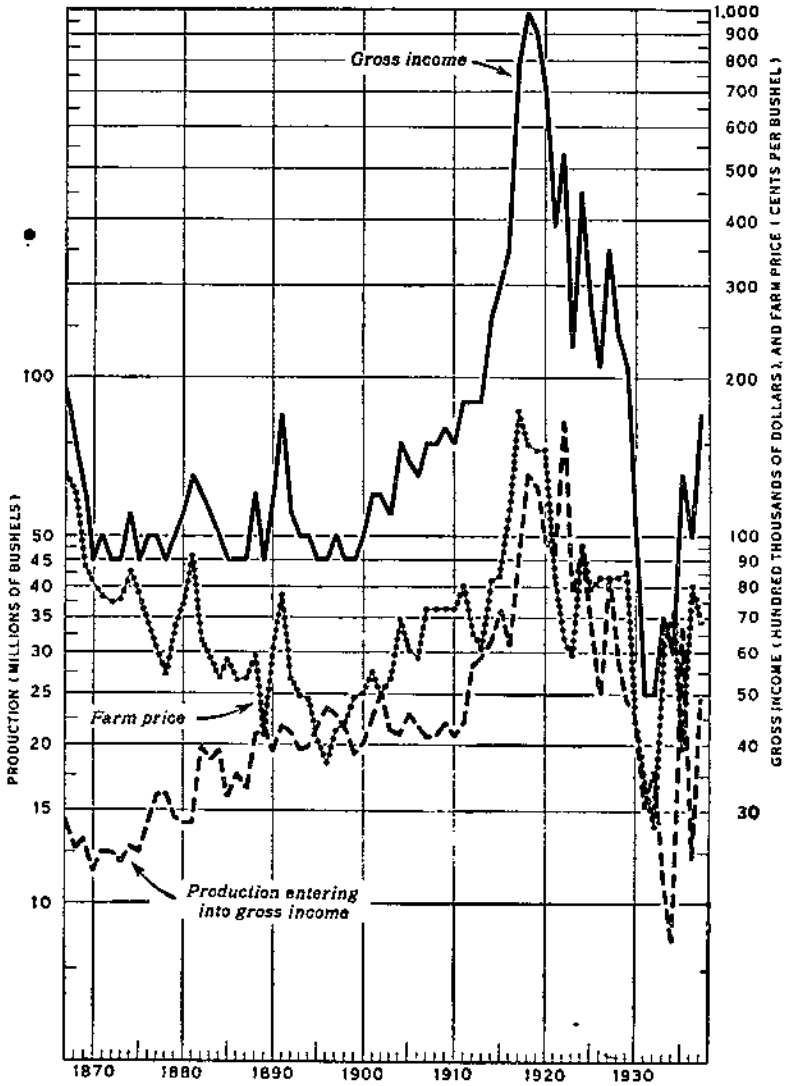


FIGURE 14.—Barley: Production entering into gross income, farm price, gross income, crop years 1869–1937.



B. A. E. 35555

FIGURE 15.—Rye: Production entering into gross income, farm price, gross income, crop years 1869–1937.

TABLE 19.—*Production, price, and gross income: Rye* [1]

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1869	17.9	17.7	87.3	111	16	20	12	14
1870	15.6	16.1	80.5	89	13	14	9	11
1871	17.0	16.7	76.7	85	13	14	10	10
1872	16.8	16.8	74.4	78	12	13	9	9
1873	16.1	16.3	75.7	75	12	12	9	9
1874	17.3	17.0	85.6	86	15	15	11	11
1875	16.9	17.0	75.9	90	13	15	9	11
1876	19.3	18.8	68.0	77	13	14	10	11
1877	21.9	21.4	60.6	73	13	16	10	12
1878	21.8	21.8	54.5	56	12	12	9	9
1879	19.3	20.2	67.4	57	13	11	10	8
1880	19.3	19.4	74.5	80	14	15	11	11
1881	19.2	19.3	91.7	92	18	18	13	13
1882	26.7	25.2	63.1	70	17	20	12	15
1883	25.4	25.6	58.4	64	15	16	11	12
1884	26.6	26.4	53.4	61	14	16	10	12
1885	21.7	22.7	58.0	60	13	14	9	10
1886	23.9	23.4	53.0	57	13	13	9	10
1887	22.5	22.8	53.5	53	12	12	9	9
1888	28.4	27.2	59.2	58	17	16	12	12
1889	29.5	29.3	42.0	48	12	14	9	10
1890	26.4	27.0	62.3	53	16	14	12	11
1891	29.6	29.0	77.2	83	23	24	17	18
1892	28.7	28.9	53.7	70	15	20	11	15
1893	26.7	27.1	40.6	52	13	14	10	10
1894	26.8	26.7	48.8	48	13	13	10	9
1895	29.6	29.1	40.7	51	12	15	9	11
1896	31.9	31.4	36.9	37	12	12	9	8
1897	31.1	31.3	42.6	38	13	12	10	9
1898	29.0	29.4	44.1	48	13	14	9	10
1899	26.0	26.6	49.5	56	13	15	9	11
1900	27.4	27.1	50.1	56	14	15	10	11
1901	30.8	30.1	55.0	54	17	16	12	12
1902	33.9	33.3	50.0	55	17	18	12	13
1903	28.9	29.9	53.5	51	15	15	11	11
1904	28.5	28.0	69.2	64	20	18	15	14
1905	31.2	30.7	60.3	67	19	21	14	15
1906	29.6	29.9	58.5	58	17	17	13	13
1907	28.2	28.5	72.6	69	21	20	15	14
1908	28.6	28.5	72.8	72	21	21	15	15
1909	30.1	29.8	73.0	73	22	22	16	16
1910	29.1	29.3	72.9	72.5	21	22	15	15
1911	31.4	30.9	80.7	78.2	25	24	18	18
1912	37.9	36.6	65.0	69.7	25	29	18	17
1913	40.1	39.0	61.2	59.5	25	26	18	18
1914	42.1	41.8	82.3	72.7	35	29	26	24
1915	46.8	45.8	84.0	86.9	39	43	30	28
1916	43.1	43.9	112.4	101.3	48	42	35	36
1917	60.3	56.8	173.4	160.7	105	90	79	67
1918	83.4	78.8	149.6	161.8	125	140	98	87
1919	78.7	79.7	145.9	138.1	115	112	90	83

[1] *Explanation.*—Total production: Crop year: B. A. E. data. Calendar year: Converted from crop years on basis of average marketings, 1920–29 (Crop Reporting Board files). Average marketings July–December =79.7 percent of crop; marketings January–June=20.3 percent of preceding crop; rounded off to 80 and 20 percent.

Production entering into gross income: 1909–37, actual yearly B. A. E. ratio of gross income÷farm value (see table 16). Average ratio 1909–14, 73.7 percent was applied for 1869–1909.

Farm price: Crop year: 1869–1907, B. A. E. Dec. 1 farm price; 1908–37, B. A. E. season average price. Calendar year: 1869–1909, (B. A. E.) price was raised 3.4 percent. The following States are included: Since 1869, Wisconsin, Illinois, New York, Maryland, Virginia; since 1899, Minnesota. 1910–37, B. A. E. calendar year farm price.

Gross income: Same as oats.

TABLE 19.—*Production, price, and gross income: Rye*—Continued

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1920	61.9	65.2	146.4	157.2	91	104	72	88
1921	61.0	61.2	84.0	93.1	51	62	39	40
1922	101.0	93.0	63.9	64.7	65	70	53	47
1923	56.0	65.0	59.3	60.7	33	42	23	31
1924	58.4	57.9	95.3	83.5	56	45	45	43
1925	42.3	45.5	79.0	85.3	33	45	27	29
1926	34.9	36.4	83.0	80.8	29	29	21	22
1927	51.1	47.9	83.5	81.0	43	41	35	32
1928	37.9	40.5	83.6	84.1	32	38	24	28
1929	35.3	35.8	85.7	85.6	30	31	21	21
1930	45.1	43.2	44.5	48.0	20	25	10	11
1931	33.4	35.7	34.1	32.7	11	12	5	5
1932	39.4	38.2	28.1	28.7	11	11	5	4
1933	21.4	25.0	62.7	52.7	13	11	7	10
1934	17.1	18.0	71.8	67.4	12	11	6	8
1935	38.8	50.3	39.5	42.0	23	26	13	7
1936	25.3	32.0	80.9	65.0	20	19	10	16
1937	40.4	44.6	68.8	75.3	34	36	17	20

TABLE 20.—*Production, price, and gross income: Buckwheat* [1]

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1869	10.44	10.47	86.9	95.5	9	10	5	6
1870	9.25	9.78	79.7	81.8	7	8	4	5
1871	9.27	9.27	82.4	86.3	8	8	5	5
1872	10.34	9.86	83.7	81.1	9	8	5	5
1873	10.37	10.35	81.5	87.0	8	9	5	5
1874	10.03	10.19	80.3	78.5	8	8	5	5
1875	10.99	10.55	69.5	75.8	8	8	5	5
1876	9.61	10.23	71.3	68.4	7	7	4	4
1877	11.85	10.85	69.3	73.7	8	8	5	5
1878	12.00	11.93	52.8	58.7	6	7	4	4
1879	11.74	11.86	59.6	59.0	7	7	4	4
1880	11.91	11.34	59.2	61.7	7	7	4	4
1881	8.68	9.72	86.7	72.0	8	7	4	4
1882	10.68	9.78	72.8	81.8	8	8	5	5
1883	7.14	8.74	82.0	80.1	6	7	3	4
1884	10.14	8.79	58.4	68.3	6	6	4	4
1885	11.57	10.92	56.0	54.9	6	6	4	4
1886	10.77	11.13	54.3	53.9	6	6	3	4
1887	9.67	10.17	56.6	59.0	5	6	3	4
1888	9.73	9.79	62.9	61.8	6	6	4	4
1889	11.65	10.70	50.9	55.6	6	6	4	4

[1] *Explanation.*—Total production: Crop year: B. A. E. data. Calendar year: Converted from crop years on basis of marketings (Crop Reporting Board files) 1920–29. Average marketings September-December=55 percent of crop; marketings January-August=45 percent of preceding crop.

Production entering into gross income: 1924–37, actural yearly B.A.E. ratio of gross income÷farm value (see table 16); 1869–1918, average ratio 1924–35 (69.2 percent).

Farm price: Crop year: 1869–1907, (B. A. E.) Dec. 1 farm price; 1908–37, B. A. E. season-average farm price. Calendar year: computed by dividing "calendar year gross income" by "calendar-year production entering into gross income."

Gross income: Crop year: 1869–1907, "Crop-year production entering into gross income" × Dec. 1 price; 1908–37, × B. A. E. season average farm price.

Calendar year: As no calendar-year farm price is available, crop-year gross income was converted to calendar-year gross income on the basis of marketings.

TABLE 20.—*Production, price, and gross income: Buckwheat*—Continued

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1890	11.98	11.83	57.3	50.7	7	6	4	4
1891	12.86	12.46	57.1	56.2	7	7	4	4
1892	12.12	12.46	52.2	56.2	6	7	4	4
1893	10.33	11.13	58.4	53.9	6	6	4	4
1894	11.02	10.71	55.1	56.0	6	6	4	4
1895	12.43	11.80	45.3	50.8	6	6	3	4
1896	13.79	13.17	39.0	38.0	5	5	3	3
1897	14.32	14.09	41.9	42.6	6	6	4	4
1898	12.19	13.14	44.8	45.7	5	6	3	4
1899	11.20	11.65	56.1	51.5	6	6	4	4
1900	11.71	11.48	55.8	52.3	7	6	4	4
1901	15.14	13.60	56.3	58.8	9	8	5	5
1902	13.55	14.26	59.5	56.1	8	8	5	5
1903	14.26	13.94	60.8	57.4	9	8	5	5
1904	15.49	14.94	62.5	60.2	10	9	6	5
1905	16.00	15.77	58.3	57.1	9	9	6	5
1906	14.81	15.35	59.4	58.6	9	9	5	5
1907	14.22	14.48	69.9	62.2	10	9	6	5
1908	14.68	14.47	77.7	76.0	11	11	7	7
1909	14.76	14.73	72.3	74.7	11	11	7	7
1910	14.54	14.64	67.5	68.3	10	10	6	6
1911	13.89	14.18	75.8	70.5	11	10	6	6
1912	15.10	14.55	67.8	68.7	10	10	6	6
1913	10.21	12.42	76.2	72.5	8	9	5	5
1914	12.92	11.70	80.6	76.9	10	9	6	5
1915	12.52	12.70	81.6	78.7	10	10	6	5
1916	10.30	11.30	126.6	106.2	13	12	7	7
1917	13.60	12.11	167.1	148.6	23	18	12	10
1918	14.40	14.04	163.9	163.8	24	23	13	12
1919	12.71	13.47	158.7	163.3	20	22	10	11
1920	12.19	12.12	125.4	136.9	15	17	7	8
1921	11.82	11.98	87.9	108.4	10	13	5	6
1922	11.78	11.80	89.5	84.7	11	10	5	4
1923	11.60	11.68	95.8	94.2	11	11	5	5
1924	12.51	12.10	107.4	99.2	13	12	5	5
1925	12.56	12.54	87.2	95.7	11	12	4	5
1926	10.98	11.68	87.1	85.6	10	10	5	5
1927	12.82	12.00	86.9	83.3	11	10	5	4
1928	10.12	11.34	89.9	88.2	9	10	4	5
1929	8.69	9.33	96.3	96.5	8	9	4	4
1930	6.90	7.74	78.9	90.4	5	7	3	4
1931	8.89	8.02	42.3	62.3	4	5	2	2
1932	6.73	7.70	43.4	30.0	3	3	1	1
1933	7.34	7.34	55.8	54.5	4	4	2	2
1934	9.03	8.50	53.6	58.3	5	5	2	2
1935	8.33	8.64	55.0	57.9	5	5	2	2
1936	6.29	7.21	85.6	69.7	5	5	2	2
1937	6.78	6.56	68.4	75.3	4	5	2	2

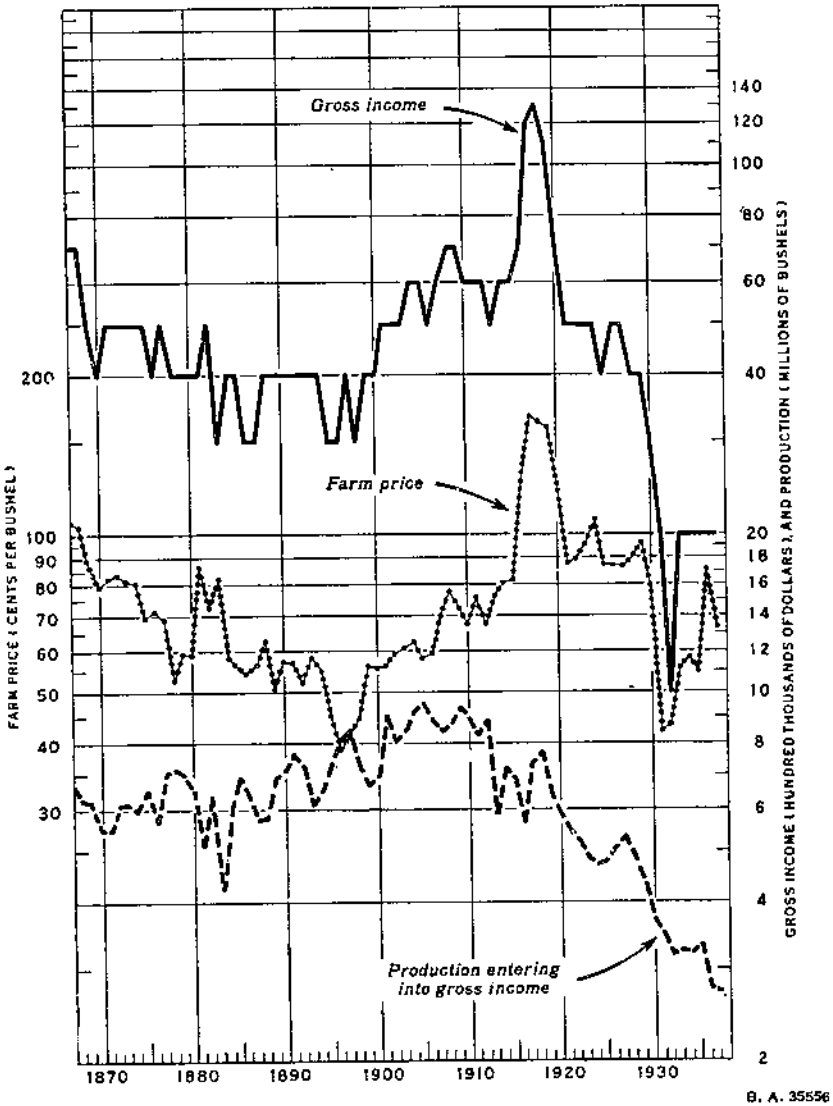
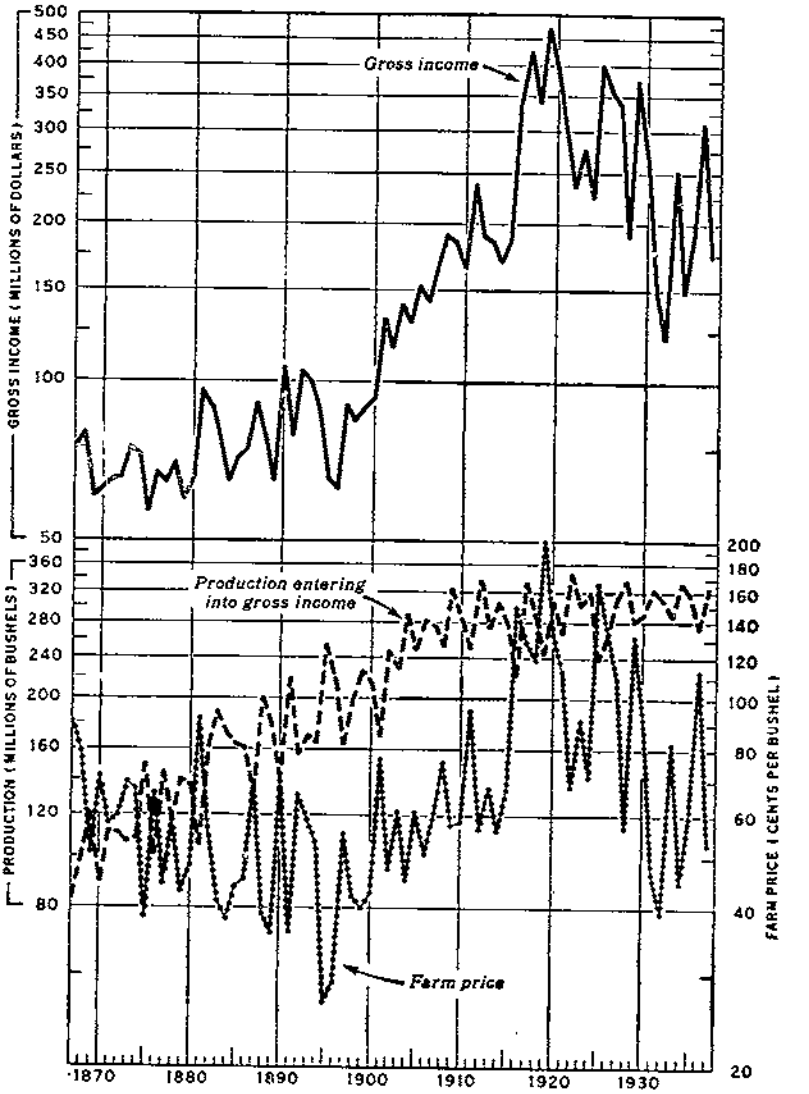


FIGURE 16.—Buckwheat: Production entering into gross income, farm price, gross income, crop years 1869–1937.



B. A. E. 35557

FIGURE 17.—Potatoes: Production entering into gross income, farm price, gross income, crop years 1869–1937.

TABLE 21.—*Production, price, and gross income: Potatoes* [1]

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1869	145	132	50.9	52	74	69	81	57
1870	108	126	70.8	59	76	74	63	81
1871	135	122	57.8	76	78	93	65	77
1872	134	135	59.8	59	80	79	66	65
1873	129	131	69.6	67	90	88	75	72
1874	131	130	67.2	82	88	106	73	88
1875	180	156	38.3	54	69	85	57	70
1876	123	152	65.9	45	81	68	67	57
1877	174	149	44.6	68	77	101	64	84
1878	143	159	58.5	46	84	73	70	61
1879	169	156	43.2	59	73	91	60	76
1880	165	166	48.2	44	80	73	66	60
1881	128	146	91.3	71	116	104	96	86
1882	197	163	54.5	86	108	139	89	115
1883	227	212	41.3	54	94	115	78	95
1884	208	218	38.2	36	79	77	65	64
1885	197	202	44.0	44	87	89	72	73
1886	195	196	45.5	48	89	94	74	78
1887	160	178	69.2	68	110	121	91	100
1888	240	200	39.1	66	94	132	78	109
1889	218	229	35.9	34	78	79	65	65
1890	170	194	69.6	54	128	105	106	87
1891	264	217	36.1	66	95	143	79	118
1892	196	227	65.7	48	125	109	104	90
1893	204	197	59.0	70	120	138	99	114
1894	198	201	53.5	61	106	122	88	101
1895	302	250	26.6	45	80	112	66	93
1896	263	283	29.0	24	76	68	63	56
1897	198	231	55.3	41	110	94	91	78
1898	240	219	42.2	57	101	126	84	104
1899	273	256	40.1	46	109	118	90	97
1900	260	266	43.0	43	112	114	93	94
1901	207	234	76.7	68	159	159	132	132
1902	297	252	47.4	67	141	169	117	140
1903	276	286	61.2	60	169	170	140	141
1904	349	312	45.3	70	158	218	131	181
1905	301	324	61.2	44	184	142	152	118
1906	341	320	50.7	59	173	187	143	155
1907	333	336	60.8	55	202	186	167	154
1908	305	318	75.3	71	230	226	190	187
1909	390	347	57.6	72	225	250	186	207
1910	342	366	58.4	54	200	198	166	164
1911	393	323	94.6	79	286	255	237	211
1912	406	355	56.6	86	230	305	190	253
1913	332	369	67.8	60	225	221	186	183
1914	368	350	56.2	68	207	238	171	197
1915	337	352	67.4	53	227	187	188	155
1916	270	303	149.7	107	405	324	335	268
1917	399	335	127.9	189	510	633	422	524
1918	346	373	118.8	115	411	429	340	355
1919	297	321	190.9	142	568	456	470	378

[1] *Explanation.*—Total production: Crop years: B. A. E. data. Calendar years: Converted from crop years on basis of average marketings (Crop Reporting Board files) 1920–29. Average marketings July–December=51.2 percent of crop; average marketings January–June=48.8 percent of preceding crop; both rounded off to 50 percent.

Production entering into gross income: 1924–37, actual yearly B. A. E. data of ratio gross income÷farm value (see table 16); 1869–1923, average ratio 1924–35 (82.8 percent).

Farm price: Crop year: 1869–1907, B. A. E. Dec. 1 farm price; 1908–37 B. A. E. season average farm price. Calendar year: 1869–1909, (B. A. E.) price was raised 4.3 percent. The following States are included: Since 1869, Wisconsin, New York, Maine, Maryland; since 1870, Virginia; since 1876, Minnesota; since 1895, Nebraska. 1910–37, B. A. E. calendar year farm price.

Gross income: Same as oats (1910–37, B. A. E. data, however, not yet available).

TABLE 21.—*Production, price, and gross income: Potatoes*—Continued

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1920	369	332	132.8	246	490	817	406	676
1921	325	346	112.8	104	367	360	304	298
1922	419	372	68.2	95	286	353	237	292
1923	366	393	91.4	85	335	334	277	277
1924	384	375	71.2	87	273	326	226	270
1925	296	340	165.8	114	491	388	398	318
1926	322	309	136.1	186	438	575	358	467
1927	370	346	108.5	132	401	457	336	378
1928	427	399	57.1	83	244	331	191	268
1929	332	380	131.8	94	438	357	374	291
1930	341	336	91.9	124	313	417	266	355
1931	384	362	46.3	73	178	264	150	223
1932	376	380	39.2	43	147	163	122	136
1933	342	359	82.1	66	281	237	253	197
1934	406	374	44.8	68	182	254	149	211
1935	386	396	59.7	49	231	194	191	160
1936	332	359	112.9	100	375	359	311	298
1937	393	362	52.9	88	207	319	173	264

TABLE 22.—*Production, price, and gross income: Sweetpotatoes* [1]

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1869	22.7	24.5	116.5	114.3	26	28	24	25
1870	30.9	28.4	88.5	95.1	27	27	25	25
1871	28.1	29.0	83.4	86.2	23	25	21	22
1872	27.1	27.4	83.8	83.9	23	23	21	21
1873	33.3	31.4	78.1	79.6	26	25	24	23
1874	30.2	31.1	79.2	77.2	24	24	22	22
1875	32.5	31.9	73.7	75.2	24	24	22	22
1876	38.2	36.5	62.8	63.0	24	23	22	21
1877	35.2	36.1	59.7	60.9	21	22	19	20
1878	38.7	37.7	59.4	58.4	23	22	21	20
1879	33.9	35.3	54.9	56.7	19	20	17	19
1880	40.1	38.3	50.5	52.2	20	20	18	18
1881	24.8	29.4	80.6	68.0	20	20	18	18
1882	41.7	36.6	60.1	65.6	25	24	23	18
1883	31.1	34.3	56.3	58.3	17	20	15	18
1884	32.4	32.0	57.3	56.3	19	18	17	16
1885	40.1	37.8	50.9	52.9	20	20	18	18
1886	39.1	39.4	53.3	53.3	21	21	19	19
1887	38.5	38.7	56.0	54.3	22	21	20	19
1888	44.8	42.9	47.1	49.0	21	21	19	19
1889	44.8	44.8	52.0	51.3	23	23	21	20

[1] *Explanation.*—Total production: Crop years: B. A. E. data. Calendar years: Converted from crop years on the basis of average marketing (Crop Reporting Board files) 1920–29. Average marketings July–December=70 percent of crop; marketings January–June=30 percent of preceding crop.

Production entering into gross income: 1924–37, actual yearly B. A. E. data of ratio gross income ÷ farm value (see table 16); 1869–1923, average ratio 1924–35 (90.8 percent).

Farm price: Crop year: 1869–1909, B. A. E. Dec. 1 farm price. Estimated for 1876, 77, 78, 81, 92, 93, 94, 98 (no Dec. 1 price available); 1910–37, season average farm price. Calendar year: Computed by dividing gross income by "production entering into gross income."

Gross income: Crop year: Same as oats. Calendar year: computed from crop years according to marketings.

TABLE 22.—*Production, price, and gross income: Sweetpotatoes*—Con.

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1890	45.0	44.9	52.6	53.5	24	24	22	21
1891	45.8	45.6	49.5	50.4	23	23	21	21
1892	46.4	46.2	45.3	47.6	21	22	19	20
1893	45.6	45.8	46.1	45.9	21	21	19	19
1894	50.0	48.5	42.0	43.3	21	21	19	19
1895	44.9	48.3	47.6	45.4	21	21	19	18
1896	42.0	42.9	43.1	44.3	18	19	18	17
1897	41.6	41.7	48.6	48.0	20	20	18	18
1898	50.7	48.0	43.4	43.8	22	21	20	19
1899	42.2	44.7	52.8	49.2	22	22	20	20
1900	45.7	44.7	50.5	51.5	23	23	21	21
1901	48.2	47.4	57.4	54.9	28	26	25	24
1902	49.0	48.8	57.8	57.4	28	28	25	26
1903	52.9	51.7	58.2	58.0	31	30	28	27
1904	55.5	54.7	60.4	60.3	34	33	31	30
1905	58.6	57.6	58.0	59.0	34	34	31	31
1906	57.8	58.1	62.1	60.2	36	35	33	32
1907	57.3	57.4	70.6	67.9	40	39	36	36
1908	62.3	60.8	66.5	67.4	41	41	37	37
1909	59.0	60.0	69.3	68.3	41	41	37	37
1910	60.3	59.9	78.9	76.8	48	46	44	41
1911	55.3	56.8	92.0	88.0	51	50	46	45
1912	56.6	56.2	86.8	89.0	49	50	44	45
1913	56.0	56.2	83.7	85.4	47	48	43	43
1914	54.1	54.7	85.2	84.1	46	46	42	42
1915	63.2	60.4	76.1	79.5	48	48	44	43
1916	61.5	62.0	96.6	90.3	59	56	54	51
1917	72.8	69.4	128.2	119.6	93	83	84	76
1918	68.6	69.8	151.5	144.7	104	101	94	91
1919	78.3	75.4	169.0	164.5	132	124	120	112
1920	77.0	77.4	141.7	149.9	109	116	99	105
1921	73.7	74.7	113.1	121.8	83	91	75	83
1922	78.4	77.0	100.4	103.9	79	80	72	73
1923	63.9	68.2	120.6	114.4	77	78	70	71
1924	44.9	50.6	149.6	138.3	67	70	61	66
1925	50.1	48.6	165.1	160.5	83	78	81	76
1926	63.3	59.3	117.4	129.8	74	77	73	75
1927	70.9	68.6	109.0	110.8	77	76	76	75
1928	59.2	62.7	118.0	114.8	70	72	68	71
1929	65.0	63.3	117.1	116.9	76	74	67	67
1930	54.4	57.6	108.2	111.1	59	64	52	56
1931	66.8	63.1	72.7	82.4	49	52	43	46
1932	86.4	80.5	54.2	58.4	47	47	39	34
1933	75.2	78.5	69.5	65.0	52	51	46	44
1934	77.5	76.8	79.8	76.8	62	59	51	50
1935	83.1	81.4	70.4	73.7	59	60	49	50
1936	64.1	69.8	94.0	86.0	60	60	50	50
1937	75.4	72.0	86.6	88.3	65	64	54	53

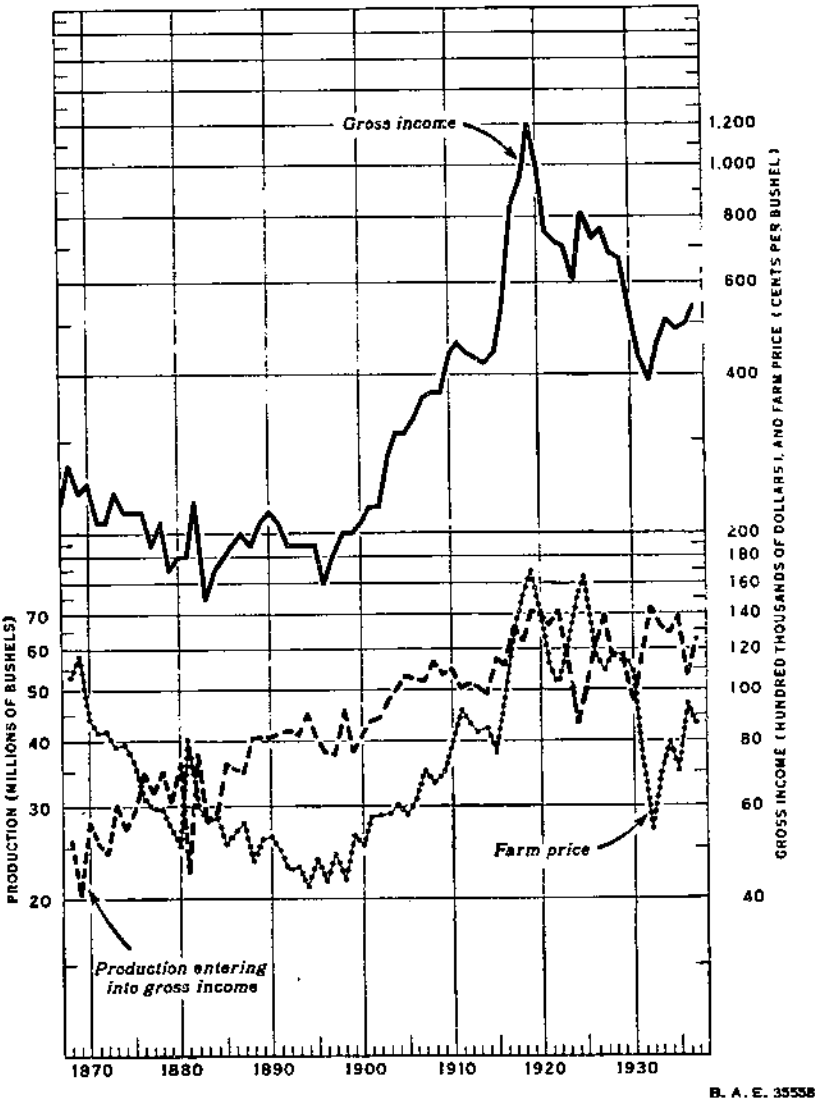


FIGURE 18.—Sweetpotatoes: Production entering into gross income, farm price, gross income, crop years 1869–1937.

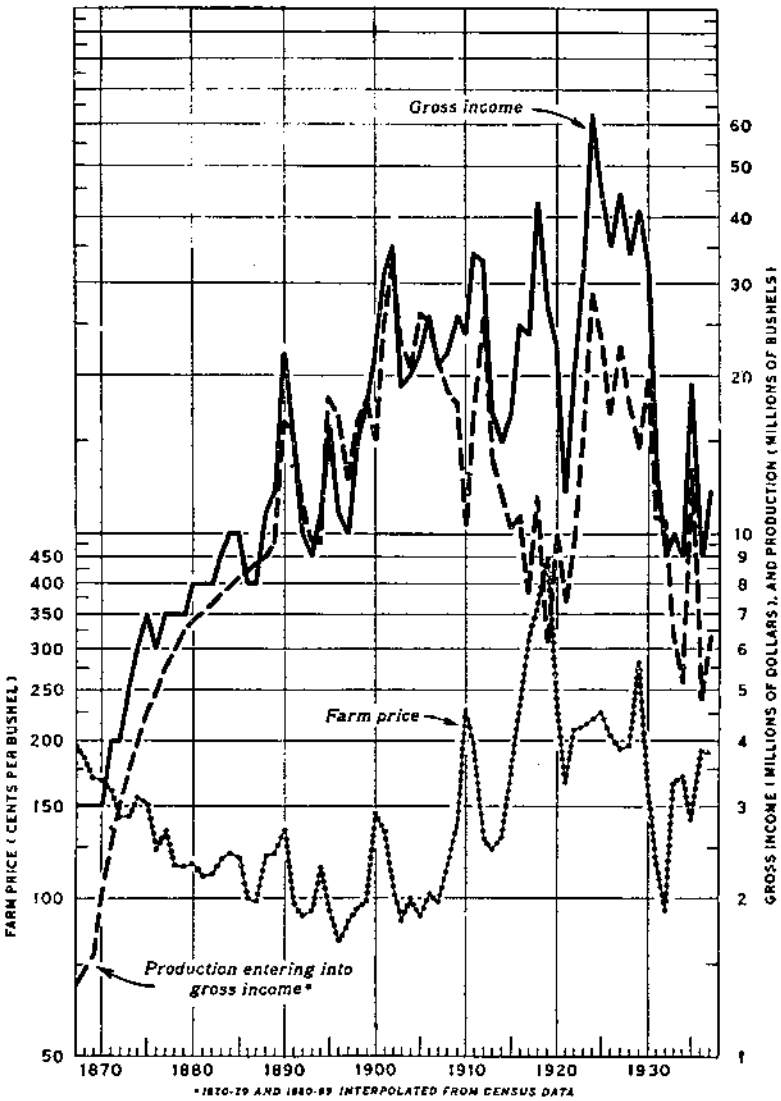


FIGURE 19.—Flaxseed: Production entering into gross income, farm price, gross income, crop years 1869–1937.

TABLE 23.—*Production, price, and gross income: Flaxseed* [1]

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1869	1.73	1.71	.....	1.68	.....	3	.....	3
1870	2.27	2.19	.....	1.67	.....	4	.....	3
1871	2.82	2.74	.....	1.59	.....	4	.....	4
1872	3.36	3.28	.....	1.43	.....	5	.....	4
1873	3.81	3.82	.....	1.43	.....	5	.....	5
1874	4.45	4.37	.....	1.55	.....	7	.....	6
1875	4.99	4.91	.....	1.51	.....	7	.....	7
1876	5.54	5.46	.....	1.23	.....	7	.....	6
1877	6.08	6.00	.....	1.34	.....	8	.....	7
1878	6.53	6.53	.....	1.16	.....	8	.....	7
1879	7.17	7.08	.....	1.15	.....	8	.....	7
1880	7.48	7.44	.....	1.17	.....	9	.....	8
1881	7.79	7.74	.....	1.10	.....	9	.....	8
1882	8.09	8.05	.....	1.11	.....	9	.....	8
1883	8.40	8.35	.....	1.18	.....	10	.....	9
1884	8.71	8.68	.....	1.22	.....	11	.....	10
1885	9.02	8.98	.....	1.18	.....	11	.....	10
1886	9.33	9.28	.....	.99	.....	9	.....	8
1887	9.63	9.59	.....	.97	.....	9	.....	8
1888	9.91	9.89	.....	1.20	.....	12	.....	11
1889	10.61	10.51	.....	1.22	.....	13	.....	12
1890	19.18	17.89	.....	1.34	.....	24	.....	22
1891	16.73	17.10	.....	.94	.....	16	.....	15
1892	11.91	12.55	.....	.84	.....	11	.....	10
1893	10.42	10.63	.....	.89	.....	9	.....	9
1894	10.49	10.48	.....	1.14	.....	12	.....	11
1895	21.41	19.77	.....	.88	.....	17	.....	16
1896	17.74	18.29	.....	.86	.....	12	.....	11
1897	13.24	13.91	.....	.78	.....	11	.....	10
1898	18.52	17.73	.....	.90	.....	16	.....	15
1899	19.97	19.76	.....	.97	.....	19	.....	18
1900	16.02	16.61	.....	1.36	.....	24	.....	22
1901	27.60	25.86	.....	1.33	.....	34	.....	31
1902	36.08	34.81	1.05	1.37	38	48	35	44
1903	25.36	26.97	.81	.92	21	25	19	23
1904	22.62	23.03	.99	1.00	22	23	20	21
1905	28.69	27.78	.84	1.07	24	30	22	27
1906	27.64	27.79	1.02	1.01	28	28	26	26
1907	23.79	21.37	.96	1.06	23	26	21	24
1908	20.63	21.11	1.16	1.09	24	23	22	21
1909	19.51	19.67	1.42	1.45	28	29	26	26
1910	11.38	12.60	2.28	2.08	26	26	24	24
1911	18.54	17.47	1.97	2.16	37	38	34	35
1912	28.11	26.70	1.29	1.69	36	45	33	41
1913	15.10	17.06	1.23	1.17	19	20	17	18
1914	12.94	13.26	1.31	1.33	17	18	15	16
1915	11.27	11.52	1.68	1.60	19	18	17	16
1916	11.83	11.75	2.31	2.01	27	24	25	22
1917	8.40	8.91	3.11	2.84	26	25	24	23
1918	12.78	12.12	3.59	3.59	46	44	42	40
1919	6.77	7.67	4.42	4.06	30	31	27	28
1920	10.99	10.28	2.33	3.50	25	36	23	33
1921	8.11	8.53	1.65	1.50	13	13	12	12
1922	10.52	10.16	2.08	2.08	22	21	20	19
1923	16.56	15.66	2.12	2.36	35	37	32	34
1924	31.22	29.02	2.18	2.18	68	63	62	57
1925	22.33	23.66	2.26	2.44	51	58	46	53
1926	18.53	19.10	2.03	2.07	38	40	35	38
1927	25.17	24.17	1.92	1.96	48	47	44	43
1928	19.12	20.03	1.94	1.96	37	39	34	36
1929	15.92	16.40	2.81	2.46	45	40	41	36

[1] *Explanation.*—Total production: Crop years: 1869–88, interpolated census figures; 1889–1937, B. A. E. data. Calendar years: converted from crop years on the basis of marketings (Crop Reporting Board files) 1926–29. Average marketings July–December=87 percent of crop; marketings January–June=13 percent of preceding crop; rounded off to 85 and 15 percent.

Production entering into gross income: 1869–1937, average ratio gross income÷farm value 1919–35 was applied (91.1 percent). Ratio figures are now available since 1909, but the changes would be insignificant.

Farm price: Crop year: 1902–07, B. A. E. Dec. 1 farm price; 1908–37, B. A. E. season average farm price. Calendar year: 1869–1909, (B. A. E.) calendar-year farm price. The following States are included: since 1869, Wisconsin; since 1891, South Dakota; since 1895, Minnesota; 1910–37, B. A. E. calendar-year farm price.

Gross income: Crop year: As Dec. 1 prices are available only since 1902, no data on "crop year income" could be computed prior to 1902. Calendar-year data were used for crop years, since differences are small in most years.

TABLE 23.—*Production, price, and gross income: Flaxseed* – Continued

Year	Production		Farm price per bushel		Farm value		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bu.	*Mil. bu.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
1930	21.67	20.81	1.61	2.12	35	44	32	40
1931	11.76	13.25	1.17	1.23	14	16	13	15
1932	11.51	11.54	.88	.97	10	11	9	10
1933	6.90	7.59	1.63	1.32	11	10	10	9
1934	5.66	5.85	1.70	1.66	10	10	9	9
1935	14.52	13.19	1.42	1.52	21	20	19	18
1936	5.27	6.66	1.90	1.71	10	11	9	10
1937	6.97	6.72	1.88	1.90	13	13	12	11

HAY

Production entering into gross income and gross income are computed from revised B. A. E. estimates of tame-hay production.[25] In B. A. E. gross-income estimates, interstate sales cannot be excluded, since the total income for the United States is derived from State data. For this reason, the B. A. E. ratio of gross income to farm value was not used. Instead, it was assumed that to avoid double counting only that part of the hay crop enters into gross income that is sold as feed for cattle, horses, and mules in cities. According to unofficial estimates by the Department of Agriculture, the hay from 1.6 acres is consumed per cow in cities, from 2.92 acres per heavy horse, from 1.25 acres per light horse and mule.[26] Census data on

[25] UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS, CROP REPORTING BOARD. REVISED ESTIMATES OF TAME HAY ACREAGE, YIELD, AND PRODUCTION, 1866–1928. 56 pp. December 1934. [Mimeographed.]
——— REVISIONS, ANNUAL LEGUME CROPS AND ALL TAME HAY * * * 1924–1935 * * *. 29 pp. January 1937. [Mimeographed.]

At first the authors attempted to base the income computation on the production of all hay, that is, tame and wild hay. In the final approach, however, the use of "all hay" production data would not have resulted in any noticeable refinement. For the benefit of those who may be interested in production data of "total hay," a table is added which shows the computation for total hay production, based on B. A. E. data for tame hay, and census data for total hay. Line 3 gives the percentage that had to be added to tame hay for each census year; line 4b gives the corrections to be made in intercensal years.

Estimates of total hay production, crop years

Item	1869	1879	1889	1899	1909	1919	1924	1929
(1) Production:								
(a) All hay . . . million tons	27.32	35.15	66.83	71.11	87.22	90.36	88.38	85.28
(b) Tame hay . . . do	24.50	30.62	50.31	53.98	68.82	76.59	78.93	76.10
(2) Difference between all hay and tame hay. . . . . million tons	2.82	4.53	16.52	17.13	18.40	13.77	9.45	9.18
(3) Percentage by which all hay is greater than tame hay	11.5	14.8	32.8	31.7	26.7	18.0	12.0	12.1
(4) Percentages to be added or subtracted to item (3) in order to interpolate changes in intercensus years								
Increase or decrease between:								
(a) Census years	.....	3.3	18.0	−1.1	−5.0	−8.7	−6.0	.1
(b) Intercensal years	.....	.33	1.80	−.11	−.50	−.87	−1.20	.....

[26] These average requirements might have been converted into average production requirements per animal unit, in which case the estimates of production entering into gross income would not have been subject to variations in yield. The authors assumed, however, that although the consumption per animal unit probably does not vary greatly, it is conceivable that sales for ultimate urban consumption may actually respond to variations in yield and prices. Insofar as the estimates of production entering into gross income are unnecessarily influenced by variations in yield, this possible criticism holds only for the period 1893–1913.

cows in cities show that in 1900, 3.7 percent of the tame-hay acreage was needed to feed cattle in cities; in 1920, 3.4 percent. B. A. E. estimates for 1924–30 indicate that this percentage had dropped to 2 in 1930.

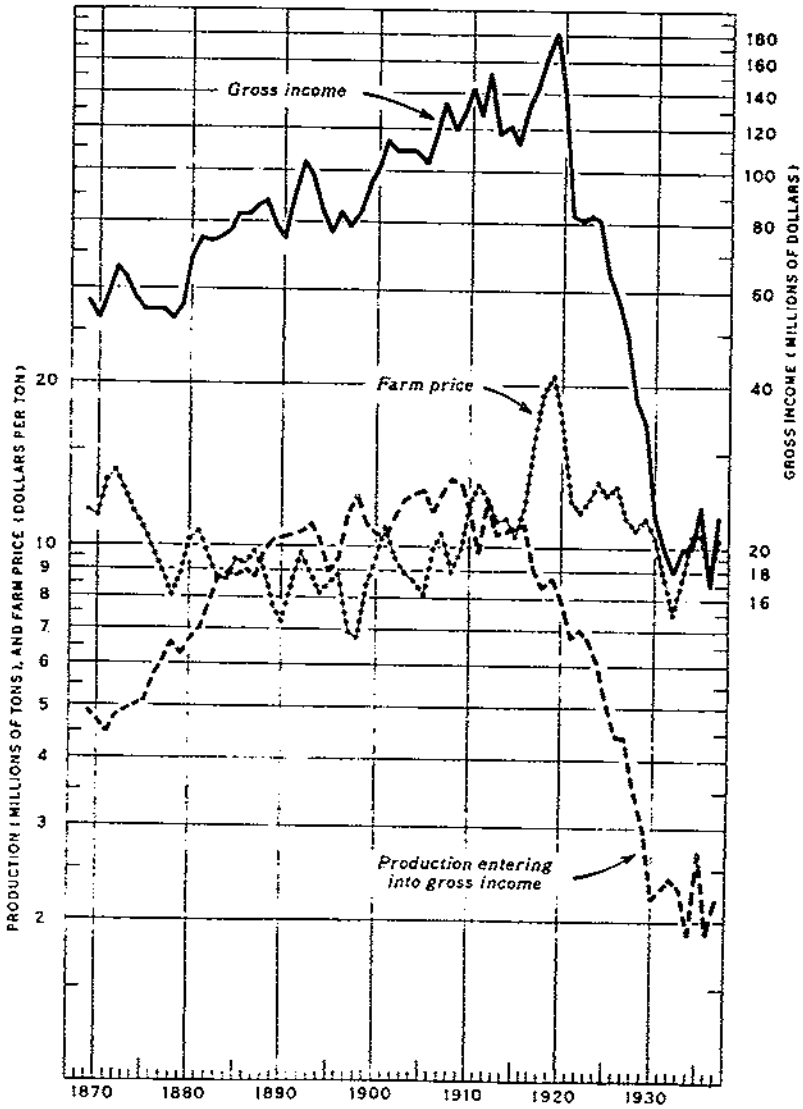


FIGURE 20.—Hay: Production entering into gross income, farm price, gross income, crop years 1869–1937.

To measure feed needs for city horses and mules, B. A. E. estimates of horses and mules in cities were used since 1900. Feed needs for cows, horses, and mules in cities combined amounted to 20.5 percent in 1900 and 3.4 percent in 1930. For the period before 1901, a constant percentage of 20.5 was applied; for 1930–35 the percentage was

kept constant at 3.4; for 1936–37 at 3 percent. As the feed-need estimates per animal are averages expressed in acres, it was not possible to take account of varying yields, and the percentage of tame-hay acreage needed to feed animals in cities was applied to the production of tame hay in order to obtain "production entering into gross income" expressed in tons. In 1920–29 (Crop Reporting Board) 56 percent of the crop-year marketings were marketed from July to December and 44 percent from January to June. In the computation, 55 and 45 percent, respectively, were used. As season average farm prices are available only for recent years, and (because of the rather equal distribution of marketings) production entering into gross income shows notable differences only in years of severe fluctuations in production or prices, gross income for calendar years was computed for all years that do not show notable fluctuations. For these years, calendar-year production and income data were used for crop years also; data for these years are in brackets. Severe changes in production or prices or both from one year to the next prevailed in 1879, 1880, 1888, 1889, 1897, 1898, 1899, 1906, 1907, 1908, 1910, 1911, 1912, 1913, 1916, 1917, 1918, 1919, 1920, 1921, 1927, 1928, 1929–34. Crop-year income in these years was computed from calendar-year income on the basis of marketings. Crop-year farm prices are the quotients of crop-year income and production. For 1869–1909 the (B. A. E.) calendar-year farm price was used. This includes prices from New York, Wisconsin, Maryland, Maine, and Virginia since 1869. As prices from important surplus-producing States are not included, the (B. A. E.) price is 12.4 percent higher than the B. A. E. 1910–14 price. The (B. A. E.) price was adjusted accordingly. For the years since 1910, B. A. E. calendar-year farm prices were employed. As the concept used in the computation of gross income is different from that used by the Department of Agriculture, the authors' estimates are lower, particularly in more recent years (cf. table 5). Production entering into gross income, farm price, and gross income for crop-years 1869–1937 are shown in figure 20 and table 24.

TABLE 24.—*Production, price, and gross income: Hay*

Year	Percent of acreage needed for feeding cows in cities	Percent of acreage needed for feeding horses and mules in cities	Total percent of the hay crop used for feeding animals in cities	Total production of tame hay [1]	Production entering into gross income		Farm price per ton		Gross income	
					Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Percent	*Percent*	*Percent*	*Million tons*	*Million tons*	*Million tons*	*Dollars*	*Dollars*	*Million dollars*	*Mil. on dollars*
1860			20.5	24.5	(4.9)	4.9	(11.64)	11.64	(57)	57
1870			20.5	21.3	(4.7)	4.7	(11.38)	11.38	(53)	53
1871			20.5	22.2	(4.5)	4.5	(13.20)	13.20	(59)	59
1872			20.5	23.9	(4.8)	4.8	(13.84)	13.84	(66)	66
1873			20.5	23.9	(4.9)	4.9	(12.87)	12.87	(63)	63
1874			20.5	24.5	(5.0)	5.0	(11.58)	11.58	(58)	58
1875			20.5	25.5	(5.1)	5.1	(10.80)	10.80	(55)	55
1876			20.5	28.5	(5.6)	5.6	(9.82)	9.82	(55)	55
1877			20.5	30.5	(6.1)	6.1	(8.95)	8.98	(55)	55
1878			20.5	33.3	(6.6)	6.6	(8.04)	8.04	(53)	53
1879			20.5	30.6	6.3	6.5	8.89	7.83	56	51

TABLE 24.—*Production, price, and gross income: Hay*—Continued

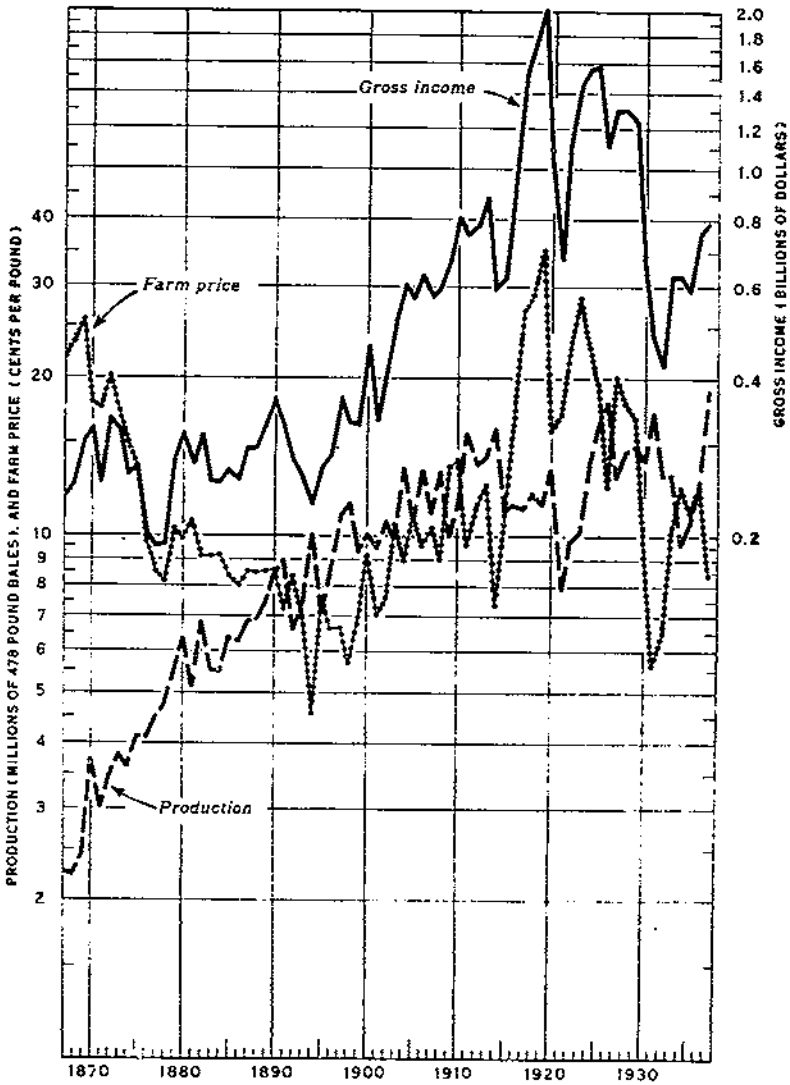
Year	Percent of acreage needed for feeding cows in cities	Percent of acreage needed for feeding horses and mules in cities	Total percent of the hay crop used for feeding animals in cities	Total production of tame hay	Production entering into gross income		Farm price per ton		Gross income	
					Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Percent	*Percent*	*Percent*	*Million tons*	*Million tons*	*Million tons*	*Dollars*	*Dollars*	*Million dollars*	*Million dollars*
1880			20.5	32.5	6.7	6.5	10.30	10.11	69	66
1881			20.5	35.5	(7.0)	7.0	(10.68)	10.68	(75)	75
1882			20.5	39.5	(7.7)	7.7	(9.64)	9.64	(74)	74
1883			20.5	43.9	(8.6)	8.6	(8.77)	8.77	(75)	75
1884			20.5	43.1	(8.9)	8.9	(8.67)	8.67	(77)	77
1885			20.5	43.0	(8.8)	8.8	(9.45)	9.45	(83)	83
1886			20.5	44.9	(9.0)	9.0	(9.24)	9.24	(83)	83
1887			20.5	41.6	(8.8)	8.8	(9.80)	9.80	(86)	86
1888			20.5	47.2	9.7	9.2	9.07	9.97	88	92
1889			20.5	50.3	10.3	10.0	7.67	7.98	79	80
1890			20.5	50.5	(10.4)	10.4	(7.23)	7.23	(75)	75
1891			20.5	51.1	(10.5)	10.5	(8.55)	8.55	(90)	90
1892			20.5	52.7	(10.7)	10.7	(9.72)	9.72	(104)	104
1893			20.5	53.5	(11.0)	11.0	(8.84)	8.84	(97)	97
1894			20.5	47.8	(10.3)	10.3	(8.18)	8.18	(84)	84
1895			20.5	40.5	(9.0)	9.0	(8.56)	8.56	(77)	77
1896			20.5	50.6	(9.5)	9.5	(8.85)	8.85	(84)	84
1897			20.5	55.8	11.4	11.0	6.93	7.42	79	82
1898			20.5	60.4	12.4	12.0	6.77	6.16	84	74
1899			20.5	54.0	11.1	11.7	8.47	7.51	94	88
1900	3.7	16.8	20.5	49.8	(10.6)	10.6	(9.60)	9.60	(102)	102
1901	3.7	16.6	20.3	53.1	(10.5)	10.5	(10.86)	10.86	(114)	114
1902	3.7	16.3	20.0	59.1	(11.4)	11.4	(9.55)	9.55	(109)	109
1903	3.7	15.8	19.5	63.6	(12.2)	12.2	(8.92)	8.92	(109)	109
1904	3.7	15.7	19.4	65.6	(12.6)	12.6	(8.63)	8.63	(109)	109
1905	3.7	15.6	19.3	66.6	(12.8)	12.8	(8.12)	8.12	(104)	104
1906	3.7	15.6	19.3	60.4	11.7	12.2	9.91	8.32	116	102
1907	3.7	15.3	19.0	66.3	12.6	12.2	10.63	11.89	134	145
1908	3.7	15.0	18.7	71.6	13.4	13.0	8.96	9.11	120	118
1909	3.7	15.2	18.9	68.8	13.0	13.2	9.92	8.88	129	117
1910	3.7	15.3	19.0	62.9	12.0	12.4	11.92	11.22	143	139
1911	3.6	15.2	18.8	52.1	9.8	10.8	13.06	12.80	128	138
1912	3.6	14.2	17.8	60.1	12.3	11.2	12.36	13.43	152	150
1913	3.6	13.4	17.0	62.3	10.6	11.4	11.13	10.97	118	125
1914	3.6	12.6	16.2	65.8	(10.7)	10.7	(11.27)	11.27	(121)	121
1915	3.5	11.3	14.8	73.3	(10.8)	10.8	(10.48)	10.48	(113)	113
1916	3.5	10.0	13.5	81.2	11.0	10.9	12.00	10.53	132	115
1917	3.5	9.3	12.8	71.1	9.1	10.0	15.71	13.68	143	137
1918	3.5	8.7	12.2	68.5	8.4	8.7	19.29	18.11	162	158
1919	3.5	7.9	11.4	76.6	8.7	8.6	20.80	20.58	181	177
1920	3.4	7.1	10.5	76.2	8.0	8.3	17.25	21.00	138	174
1921	3.4	6.3	9.6	71.0	6.8	7.3	12.21	12.69	83	93
1922	3.3	5.5	8.8	80.8	(7.0)	7.0	(11.64)	11.64	(81)	81
1923	3.3	5.2	8.5	75.3	(6.7)	6.7	(12.35)	12.35	(83)	83
1924	3.2	4.2	7.4	78.9	(6.1)	6.1	(13.27)	13.27	(81)	81
1925	3.2	3.6	7.0	67.3	(5.2)	5.2	(12.54)	12.54	(65)	65
1926	2.9	3.3	6.2	67.1	(4.4)	4.4	(13.07)	13.07	(58)	58
1927	2.6	2.7	5.3	83.3	4.4	4.3	11.36	12.00	50	52
1928	2.4	2.4	4.8	72.2	3.5	3.9	10.86	10.63	38	41
1929	2.1	1.9	4.0	76.1	3.0	3.2	11.33	11.56	34	37
1930	2.0	1.4	3.4	64.0	2.2	2.6	10.45	11.31	23	29
1931	2.0	1.3	3.4	66.6	2.3	2.3	9.70	9.76	20	22
1932	2.0	1.2	3.4	71.8	2.4	2.4	7.50	7.52	18	18
1933	2.0	1.1	3.4	66.5	2.3	2.3	6.70	6.81	20	16
1934	2.0	1.0	3.4	55.3	1.9	2.1	10.53	10.67	20	22
1935	2.0	1.0	3.4	78.1	(2.3)	2.3	(10.57)	10.57	(24)	24
1936	2.0	1.0	3.0	63.5	(1.9)	1.9	(8.93)	8.93	(17)	17
1937	2.0	1.0	3.0	73.8	(2.2)	2.2	(10.36)	10.36	(23)	23

[1] Crop year.

NOTE.—Figures in parentheses indicate that calendar-year production and income data are used for crop years also.

Cotton

For cotton, B. A. E. crop-year production figures (running bales) were converted to 500 pounds gross-weight bales, 1869–98. Adjustment of running bales was based on net weight of lint per bale as



B. A. E. 35561

FIGURE 21.—Cotton: Production, farm price, gross income, crop years 1869–1937.

given in Bureau of Statistics Circular 32 (*25, pp. 8–9*). Since 1899, B. A. E. production data (expressed in 500 pounds gross-weight bales) were used. Total production equals production entering into gross income. "Calendar year production" figures for 1869–1909 are computed from crop-year production on the basis of monthly

marketings of farmers, 1924–35 (*22, 1935, p. 429*). January–July marketings are 20 percent, those from August to December 80 percent of the respective crops. Since 1910, actual sales data of the B. A. E. are available for calendar years.[27] For calendar years 1869–1909 (B. A. E.) calendar-year price was used which is based on New Orleans prices weighted by monthly marketings. For 1910–37 B. A. E. calendar-year farm prices were used in the income, price, and production index computations. Owing to the absence of December 1 prices 1869–76, no gross-income data for crop years could be obtained for these years. Calendar-year data have been used. Production, farm price, and gross income for crop years 1869–1937 are shown in figure 21 and table 25.

TABLE 25.—*Production, price and gross income: Cotton*

Year	Production [1]		Farm price per pound		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bales	*Mil. bales*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*
1869	2.52	2.46		25.8		303
1870	4.02	3.72		18.0		320
1871	2.76	3.01		17.6		253
1872	3.65	3.47		20.2		335
1873	3.87	3.83		17.3		317
1874	3.53	3.60		15.1		260
1875	4.30	4.15		13.6		270
1876	4.12	4.15	9.71	11.6	201	230
1877	4.49	4.42	8.53	11.2	192	237
1878	4.74	4.70	8.16	9.8	194	220
1879	5.47	5.32	10.28	10.7	282	272
1880	6.36	6.18	9.83	11.7	313	346
1881	5.14	5.38	10.66	11.2	274	288
1882	6.83	6.49	9.12	10.8	312	335
1883	5.52	5.78	9.13	10.0	253	277
1884	5.47	5.48	9.19	10.3	252	270
1885	6.37	6.19	8.39	9.5	267	281
1886	6.31	6.32	8.06	8.8	255	266
1887	6.88	6.77	8.55	9.5	295	307
1888	6.92	6.92	8.50	9.6	294	317
1889	7.47	7.36	8.55	9.8	319	345
1890	8.56	8.34	8.59	9.9	368	395
1891	8.94	8.86	7.24	8.1	324	343
1892	6.66	7.11	8.34	8.0	278	272
1893	7.43	7.28	7.00	8.0	260	278
1894	10.02	9.51	4.59	6.0	230	273
1895	7.15	7.72	7.62	7.4	272	273
1896	8.52	8.24	6.66	7.4	283	292
1897	10.99	10.50	6.68	6.1	367	306
1898	11.54	11.43	5.73	5.1	330	279
1899	9.35	9.78	6.98	6.6	326	309
1900	10.12	9.97	9.15	9.3	463	443
1901	9.51	9.63	7.03	8.1	334	373
1902	10.63	10.41	7.60	8.2	404	408
1903	9.85	10.01	10.49	10.6	517	507
1904	13.44	12.72	8.98	10.8	603	657
1905	10.58	11.15	10.78	9.9	570	528
1906	13.27	12.73	9.58	10.7	636	651
1907	11.11	11.54	10.36	11.1	575	612
1908	13.24	12.81	9.01	9.7	597	594
1909	10.00	10.65	13.60	12.7	680	647

[1] Bales of 478 pounds net, which are equivalent to bales of 500 pounds gross weight.

[27] UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS. INCOME PARITY FOR AGRICULTURE, PART I, FARM INCOME, SEC. 1, INCOME FROM COTTON AND COTTONSEED, CALENDAR YEARS 1910–37. 59 pp. April 1938. See p. 5. [Mimeographed.]

TABLE 25.—*Production, price, and gross income: Cotton*—Continued

Year	Production		Farm price per pound		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bales	*Mil. bales*	*Cts.*	*Cts.*	*Mil. dol.*	*Mil. dol.*
1910	11.61	11.20	13.95	13.9	810	781
1911	15.69	14.83	9.60	10.5	753	779
1912	13.70	14.13	11.49	10.9	787	772
1913	14.15	13.98	12.51	12.5	885	870
1914	16.11	12.56	7.36	8.4	593	525
1915	11.17	14.83	11.22	9.5	627	707
1916	11.45	12.22	17.33	15.6	992	955
1917	11.28	11.11	27.12	24.4	1,530	1,355
1918	12.02	10.21	28.92	29.7	1,738	1,516
1919	11.41	12.70	35.41	32.1	2,020	2,038
1920	13.43	10.75	15.92	25.4	1,069	1,367
1921	7.94	11.43	17.01	13.5	676	779
1922	9.76	10.21	22.87	20.8	1,116	1,061
1923	10.14	10.34	28.69	28.0	1,454	1,448
1924	13.63	12.76	22.91	23.9	1,561	1,523
1925	16.10	15.30	19.59	20.9	1,577	1,601
1926	17.98	16.40	12.47	13.3	1,121	1,095
1927	12.96	15.06	20.19	17.9	1,308	1,347
1928	14.48	14.52	17.99	18.1	1,302	1,294
1929	14.82	15.65	16.79	17.4	1,245	1,363
1930	13.93	14.02	9.46	10.4	659	727
1931	17.10	14.88	5.66	6.1	484	455
1932	13.00	13.80	6.52	6.1	424	419
1933	13.05	12.28	10.17	8.6	630	529
1934	9.64	12.30	12.36	12.3	629	759
1935	10.64	10.85	11.09	11.2	590	608
1936	12.40	12.56	12.30	12.2	764	763
1937	18.95	16.82	8.40	8.7	795	734

COTTONSEED

Beginning with 1909 for crop years and 1910 for calendar years, income data for cottonseed, as computed by the Bureau of Agricultural Economics were used.[28] For 1874–1908 gross income is computed from the total value of cottonseed as published annually by the Bureau of the Census (*21, p. 68*). Farm income from cottonseed was 65.1 percent of the total average value of crude cottonseed products 1909–15. This factor (taken as 66.7 percent) was applied in order to convert total value of crude cottonseed products to farm income from cottonseed for 1874–1908. Crop-year income was converted to calendar-year income on the basis of marketings. Cottonseed marketings were assumed to be seasonally equal to cotton-lint marketings. Table 26 contains the data on production, price, and gross income from cottonseed.

[28] See the following for crop years: Agricultural Outlook Charts, 1938, Cotton, October 1937; and Agricultural Outlook Charts, 1939, Oil Seeds, October 1938. For calendar years see reference cited in footnote 27.

TABLE 26.—*Production, price, and gross income: Cottonseed, 1874–1937*

Year	Production		Farm price per ton		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. tons	*Mil. tons*	*Dol.*	*Dol.*	*Mil. dol.*	*Mil. dol.*
1874	0.084		20.2		1.7	
1875	.123	0.115	21.9	21.7	2.7	2.5
1876	.098	.103	17.3	18.4	1.7	1.9
1877	.150	.140	17.3	17.1	2.6	2.4
1878	.181	.175	13.8	14.3	2.5	2.5
1879	.235	.224	15.7	15.6	3.7	3.5
1880	.182	.193	17.0	16.6	3.1	3.2
1881	.295	.272	19.0	18.8	5.6	5.1
1882	.392	.373	18.1	18.2	7.1	6.8
1883	.396	.395	16.4	16.7	6.5	6.6
1884	.490	.478	14.0	14.4	7.0	6.9
1885	.578	.562	12.6	12.8	7.3	7.2
1886	.694	.671	12.2	12.4	8.5	8.3
1887	.823	.797	13.9	13.6	11.4	10.8
1888	.794	.800	17.1	16.5	13.6	13.2
1889	.874	.858	12.5	13.3	10.9	11.4
1890	1.023	.993	12.9	12.8	13.2	12.7
1891	1.07	1.06	12.8	12.8	13.7	13.6
1892	1.05	1.05	11.8	12.1	12.4	12.7
1893	1.43	1.35	13.3	13.1	19.0	17.7
1894	1.68	1.63	9.9	10.5	16.6	17.1
1895	1.44	1.49	9.4	9.5	13.5	14.1
1896	1.63	1.59	10.7	10.5	17.5	16.7
1897	2.10	2.01	8.5	8.8	17.8	17.7
1898	2.35	2.30	8.0	8.0	18.7	18.5
1899	2.48	2.45	11.4	10.8	28.3	26.4
1900	2.42	2.43	13.3	12.9	32.1	31.3
1901	3.15	3.00	13.3	13.3	42.0	40.0
1902	3.27	3.25	14.5	14.3	47.5	46.4
1903	3.24	3.25	15.2	15.0	49.3	48.9
1904	3.34	3.32	13.8	14.1	46.2	46.8
1905	3.13	3.17	13.8	13.8	43.3	43.9
1906	3.84	3.70	16.4	15.9	62.9	59.0
1907	2.56	2.82	17.2	17.0	44.0	47.8
1908	3.67	3.45	15.6	15.9	57.4	54.7
1909	3.27	3.35	21.6	20.3	70.5	67.9
1910	4.11	3.80	24.4	26.1	100.1	99
1911	4.92	4.30	15.7	17.5	77.1	75
1912	4.58	4.38	16.8	18.1	77.0	79
1913	4.85	4.48	20.4	21.8	98.7	98
1914	5.78	5.05	14.3	15.3	82.5	77
1915	4.20	4.26	28.2	28.9	118.3	123
1916	4.48	4.29	43.2	45.0	193.6	193
1917	4.25	3.91	61.7	63.6	262.1	249
1918	4.48	4.11	61.5	65.4	275.6	269
1919	4.01	3.69	61.0	66.0	244.7	244
1920	4.07	3.54	22.4	30.8	91.3	109
1921	3.01	3.01	24.7	27.4	74.4	82
1922	3.24	2.90	27.2	30.1	88.2	87
1923	3.31	2.95	37.5	41.1	124.2	121
1924	4.61	4.22	30.9	33.3	142.5	140
1925	5.56	5.03	29.2	32.1	162.6	161
1926	6.31	5.71	20.7	22.4	130.8	128
1927	4.65	4.66	31.9	32.9	148.2	153
1928	5.06	4.66	32.0	34.0	162.1	158
1929	5.02	4.73	29.0	31.5	145.7	149
1930	4.72	4.34	19.7	22.4	92.8	97
1931	5.33	4.56	8.0	9.1	42.4	42
1932	4.62	4.11	8.7	10.3	40.4	42
1933	4.16	3.85	11.7	12.6	48.5	49
1934	3.55	3.21	29.8	32.5	105.9	104
1935	3.82	3.36	27.5	30.8	105.0	103
1936	4.50	4.26	31.4	33.2	141.3	142
1937	6.33	6.39	19.4	20.3	123.0	130

TOBACCO

Revised crop-year production figures of the Bureau of Agricultural Economics were used throughout for tobacco. For 1869–1908 crop-

year production was converted to calendar-year production on the basis of marketings 1924–29.[29] For 1909–35 actual sales during calendar years have been computed by the Bureau of Agricultural Economics.[30] The authors applied B. A. E. December 1 farm prices

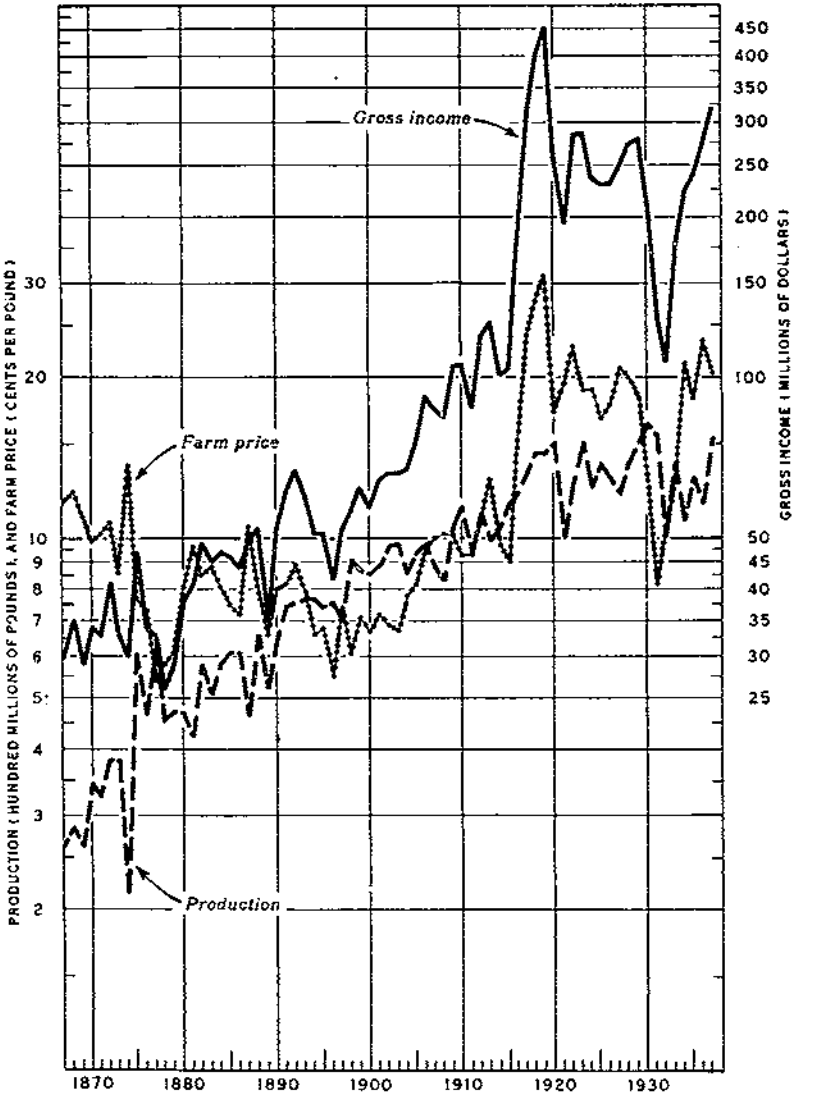


FIGURE 22.—Tobacco: Production, farm price, gross income, crop years 1869–1937.

1869–1908 for both crop and calendar years. It is not certain whether this price refers to December 1 or to the season average. The (B. A. E.) price is based on export prices. Tests made with export prices

[29] UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS. INDEX NUMBERS OF PRICES RECEIVED BY FARMERS FOR FARM PRODUCTS, 1910–35. September 1935. See p. 9. [Mimeographed.]

[30] ——— INCOME PARITY FOR AGRICULTURE, PART I, FARM INCOME, SEC. 2, INCOME FROM TOBACCO, CALENDAR YEARS 1909–37. 41 pp. May 1938. [Mimeographed.]

and the aforementioned B. A. E. price series demonstrated that the latter conforms much better to the movement of production and the business situation. Gross income is the product of total crop-year production and B. A. E. farm price for crop years, and of calendar-year production and B. A. E. farm price, 1869–1908. Since 1909, the B. A. E. season-average prices were applied for crop years and B. A. E. calendar-year income data (product of sales and calendar-year farm price) for calendar years. Production, farm price, and gross income for crop years 1869–1937 are shown in figure 22 and table 27.

TABLE 27.—*Production, price, and gross income: Tobacco*

Year	Production [1]		Farm price per pound		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. lb.	*Mil. lb.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*
1869	264	274	10.9	11.7	29	32
1870	345	309	9.7	10.4	34	32
1871	327	335	10.2	9.9	33	33
1872	385	359	10.7	10.6	41	38
1873	382	383	8.6	9.7	33	37
1874	217	291	13.7	10.7	30	31
1875	609	433	7.7	9.0	47	39
1876	466	530	7.3	7.5	34	40
1877	621	552	5.4	6.2	33	34
1878	455	529	5.8	5.5	26	29
1879	472	465	6.1	6.0	29	28
1880	469	470	8.1	7.2	38	34
1881	426	445	9.6	9.0	41	40
1882	579	510	8.5	8.8	49	45
1883	509	541	8.8	8.7	45	47
1884	580	547	8.1	8.4	47	46
1885	610	597	7.5	7.7	46	46
1886	609	609	7.2	7.4	44	45
1887	469	532	10.5	8.8	49	47
1888	661	576	7.9	8.9	52	51
1889	525	586	6.6	7.3	35	43
1890	648	592	8.0	7.4	52	44
1891	747	703	5.2	8.1	61	57
1892	57	752	8.9	8.6	67	65
1893	767	783	7.9	8.4	60	64
1894	767	767	6.6	7.2	51	55
1895	745	755	6.8	6.8	51	51
1896	760	753	5.5	6.1	42	46
1897	703	729	7.4	6.6	52	48
1898	909	816	6.1	6.6	56	54
1899	870	887	7.1	6.7	62	59
1900	852	861	6.7	7.0	57	60
1901	886	870	7.2	7.0	64	61
1902	960	927	6.9	7.0	66	65
1903	976	969	6.7	6.8	66	66
1904	857	911	7.8	7.2	67	66
1905	939	902	8.2	8.0	77	72
1906	973	957	9.6	9.0	93	86
1907	886	925	10.0	9.7	88	90
1908	836	859	10.2	10.0	85	86
1909	1,054	878	10.1	10.0	106	88
1910	1,142	1,027	9.3	9.9	106	102
1911	941	1,102	9.3	8.7	88	96
1912	1,117	1,029	10.7	10.5	120	108
1913	992	1,158	12.8	11.7	127	135
1914	1,037	957	9.7	10.4	101	99
1915	1,157	1,090	9.0	8.5	104	93
1916	1,207	1,205	14.8	11.5	179	139
1917	1,326	1,265	24.0	19.1	318	242
1918	1,445	1,386	27.9	25.1	403	343
1919	1,444	1,560	31.2	32.0	451	500

TABLE 27.—*Production, price, and gross income: Tobacco*—Continued

Year	Production		Farm price per pound		Gross income	
	Crop year	Calendar year	Crop year	Calendar year	Crop year	Calendar year
	Mil. bales	*Mil. bales*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*
1920	1,509	1,268	17.3	23.3	260	295
1921	1,005	1,475	19.5	17.1	196	252
1922	1,254	1,171	22.8	21.2	286	249
1923	1,518	1,345	19.0	20.5	288	276
1924	1,245	1,346	19.0	19.3	237	260
1925	1,376	1,390	16.8	18.7	231	260
1926	1,289	1,305	17.9	18.4	231	240
1927	1,211	1,411	20.7	17.0	250	246
1928	1,373	1,283	20.0	19.3	274	247
1929	1,533	1,409	18.3	19.8	281	279
1930	1,648	1,602	12.8	15.2	211	244
1931	1,564	1,482	8.2	10.6	129	157
1932	1,017	1,238	10.5	9.3	107	115
1933	1,371	1,229	13.0	12.7	178	157
1934	1,082	1,312	21.3	18.0	225	236
1935	1,297	1,337	18.4	18.1	238	243
1936	1,167	1,180	23.6	20.5	273	242
1937	1,553	1,385	20.5	23.0	319	319

RICE

Production data for rice are those of the Bureau of Agricultural Economics throughout; data before 1909 are unrevised.[31] Farm prices are available only since 1909; for earlier years the New York wholesale price is the only consistent series. Although the New York wholesale price does not fluctuate in complete accordance with farm prices, the major fluctuations are indicated. B. A. E. farm prices 1909–13 amounted to 31.9 percent of the New York wholesale price after the price per 100 pounds had been converted to the price per bushel. Since in 1909 and 1910 this percentage was slightly below 30, a conversion factor of 30 was applied to adjust for the difference between New York wholesale prices and farm prices. Marketings from August to December were 62 percent of total crop-year marketings, 1926–35 (*24, 1937, p. 81*), crop-year production was converted to calendar-year on the basis of 60 percent for August–December and 40 percent for January–July. Calendar-year production multiplied by calendar-year price gives calendar-year income. After 1909, crop-year production was multiplied by crop-year price, and the result converted to calendar year income by using the 60–40 proportions. B. A. E. income data 1924–33 show that gross income is 95.02 percent of farm value. As the data before 1909 are merely approximations, they were not adjusted; farm values since 1909 were lowered 5 percent.

Comparisons with census data indicate that the conversion factor based on the relation of the New York wholesale price to the farm price works out satisfactorily; the authors' calendar-year income for 1899 is $6.3 million, the crop-year income of the census year 1899, $6.1 million. Production, farm price, and gross income for calendar years 1869–1937 are shown in figure 23 and table 28.

[31] For 1890–1903, Bureau of Statistics, Circular 34 (*26*), barrels converted to bushels (3.6 bushels = 1 barrel); 1904–08, Technical Bulletin 297 (*4, p. 40*); since 1909 (*24, 1937, p. 79*).

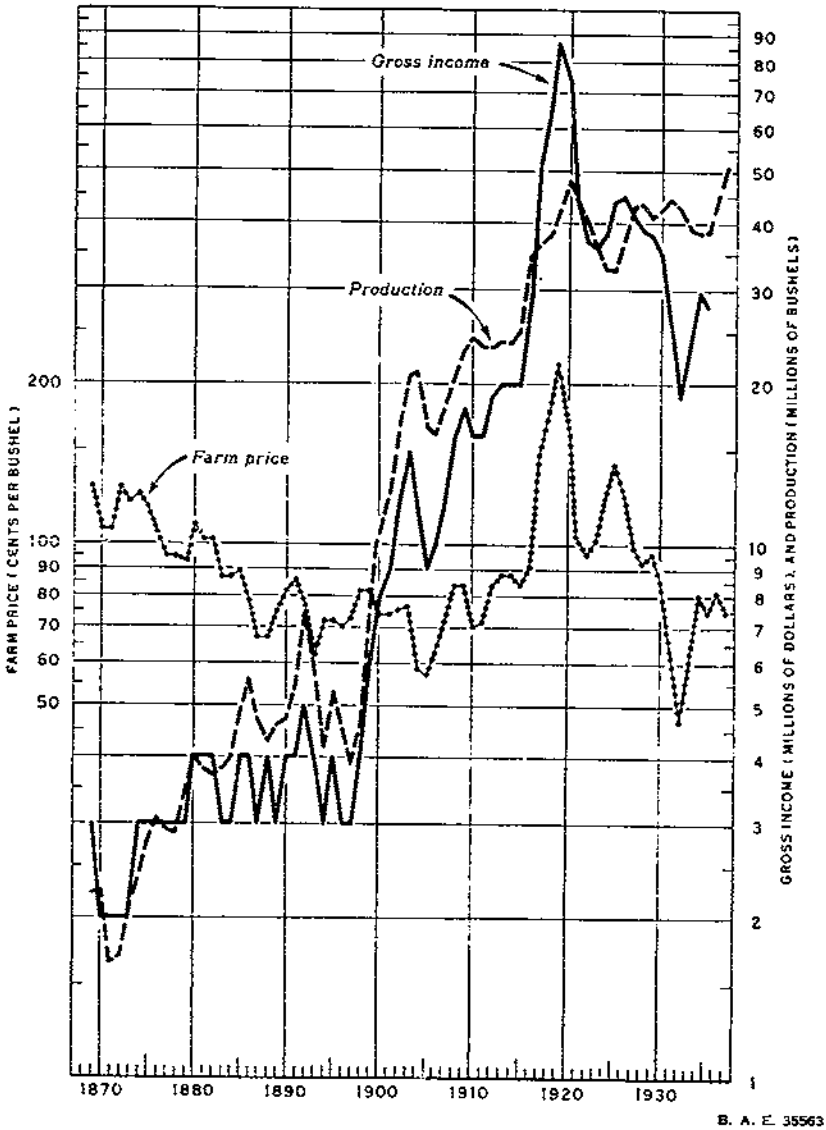


FIGURE 23.—Rice: Production entering into gross income, farm price, gross income, calendar years 1869–1937.

TABLE 28.—*Production, price, and gross income: Rice*

Year	Production		New York wholesale price per 100 pounds, calendar year	Estimated farm price per bushel, calendar year	B. A. E. farm price per bushel, crop year	Farm value, calendar year	Gross income, calendar year
	Crop year	Calendar year					
	Mil. bu.	*Mil. bu.*	*Dol.*	*Dol.*	*Dol.*	*Mil. dol.*	*Mil. dol.*
1869	2.05	2.22	9.45	1.28	.....	2.8	3
1870	1.98	2.25	7.83	1.06	.....	2.4	2
1871	1.41	1.84	7.83	1.06	.....	1.7	2
1872	1.88	1.69	9.45	1.28	.....	2.2	2
1873	2.24	2.09	8.91	1.20	.....	2.5	2
1874	2.44	2.36	9.18	1.24	.....	2.9	3
1875	3.02	2.79	8.64	1.17	.....	3.3	3
1876	3.12	3.08	7.69	1.04	.....	3.2	3
1877	2.80	2.93	7.02	.95	.....	2.8	3
1878	2.93	2.88	7.02	.95	.....	2.7	3
1879	3.96	3.55	6.88	.93	.....	3.3	3
1880	4.0	4.0	8.10	1.09	.....	4.4	4
1881	3.7	3.8	7.55	1.02	.....	3.9	4
1882	3.6	3.7	7.55	1.02	.....	3.8	4
1883	4.0	3.8	6.48	.87	.....	3.3	3
1884	3.9	3.9	6.48	.87	.....	3.4	3
1885	5.4	4.8	6.61	.89	.....	4.3	4
1886	5.6	5.6	5.81	.78	.....	4.4	4
1887	4.1	4.7	4.99	.67	.....	3.1	3
1888	4.5	4.3	4.99	.67	.....	3.9	4
1889	4.6	4.6	5.54	.75	.....	3.6	3
1890	4.9	4.7	6.10	.82	.....	3.9	4
1891	5.6	5.4	6.40	.86	.....	4.6	4
1892	8.6	7.4	5.70	.77	.....	5.7	5
1893	4.4	6.0	4.60	.62	.....	3.7	4
1894	4.0	4.2	5.30	.72	.....	3.0	3
1895	6.1	5.3	5.30	.72	.....	3.8	4
1896	3.5	4.5	5.20	.70	.....	3.2	3
1897	4.2	3.9	5.40	.73	.....	2.8	3
1898	4.9	4.6	6.10	.82	.....	3.8	4
1899	9.0	7.4	6.10	.82	.....	6.1	6
1900	14.0	12.0	5.50	.74	.....	8.9	8
1901	11.5	12.5	5.50	.74	.....	9.2	9
1902	20.2	16.7	5.60	.76	.....	12.7	12
1903	21.1	20.8	5.70	.77	.....	16.0	15
1904	21.1	21.1	4.40	.59	.....	12.4	12
1905	13.6	16.6	4.20	.57	.....	9.5	9
1906	17.9	16.1	4.70	.63	.....	10.1	10
1907	18.7	18.4	5.30	.72	.....	13.2	12
1908	21.9	20.6	6.20	.84	.....	17.3	16
1909	23.6	23.0	6.20	.84	.....	19.3	18
1910	24.7	24.2	.....	.70	.65	17.0	16
1911	22.7	23.5	.....	.72	.78	17.0	16
1912	23.7	23.3	.....	.84	.88	19.6	19
1913	24.2	24.0	.....	.85	.87	21.1	20
1914	23.5	23.8	.....	.88	.89	20.9	20
1915	26.1	25.1	.....	.84	.81	21.1	20
1916	39.5	34.1	.....	.91	.95	30.9	29
1917	34.7	36.6	.....	1.49	1.89	54.4	52
1918	40.0	37.9	.....	1.79	1.73	67.7	64
1919	42.7	41.6	.....	2.20	2.40	91.5	87
1920	51.6	48.1	.....	1.61	1.13	77.5	74
1921	39.3	44.2	.....	1.04	.96	45.9	44
1922	41.7	40.7	.....	.96	.95	38.9	37
1923	33.2	36.6	.....	1.02	1.09	37.7	36
1924	32.6	32.9	.....	1.22	1.32	40.3	38
1925	32.7	32.6	.....	1.42	1.49	46.4	44
1926	41.4	37.9	.....	1.24	1.11	47.1	45
1927	44.4	43.2	.....	.99	.92	42.9	41
1928	43.4	43.8	.....	.93	.94	40.8	39
1929	39.5	41.1	.....	.97	1.00	40.0	38
1930	44.9	42.7	.....	.86	.77	36.6	35
1931	44.6	44.8	.....	.62	.52	27.7	26
1932	41.6	42.8	.....	.47	.43	20.0	19
1933	37.7	39.2	.....	.63	.78	24.8	24
1934	39.0	38.5	.....	.81	.82	31.0	30
1935	38.8	38.9	.....	.75	.71	29.3	28
1936	49.0	44.9	.....	.82	.89	37.0	135
1937	53.4	51.6	.....	.75	.67	38.9	137

Dry Edible Beans

For dry edible beans, production figures 1879–1913 are interpolated census figures; before 1879 they are extrapolated trend (1880–1900) data. Owing to a complete lack of evidence concerning the move-

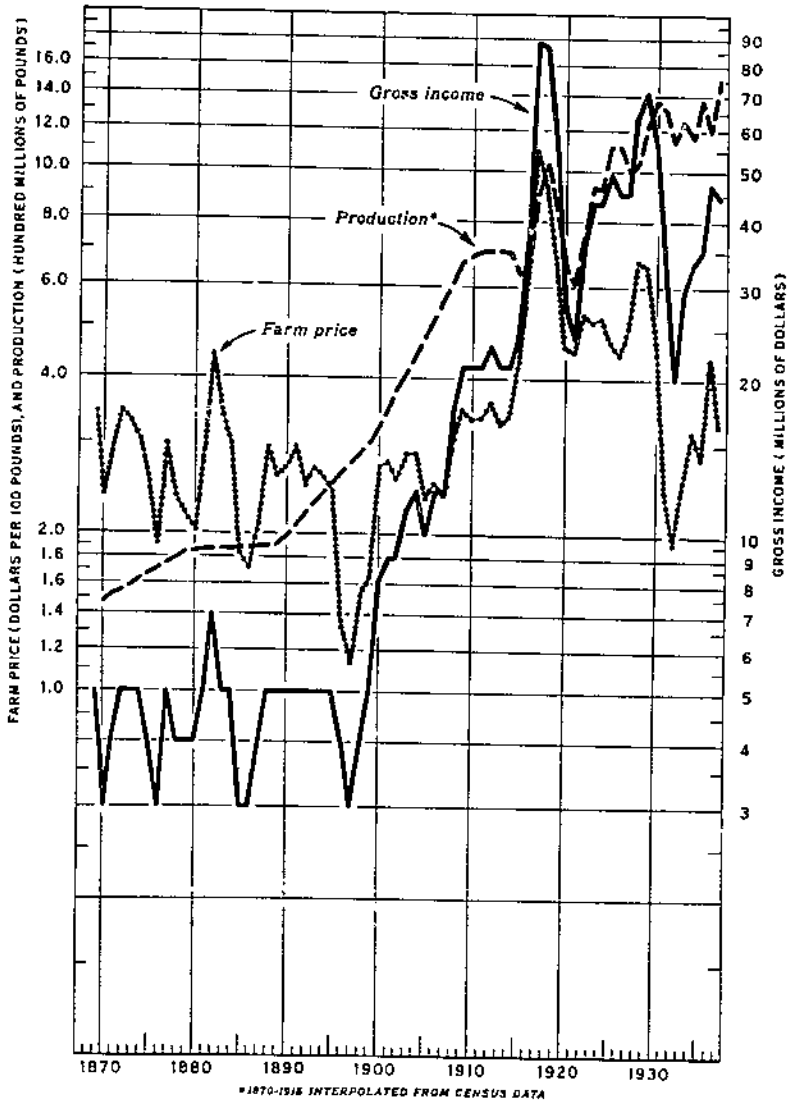


FIGURE 24.—Dry beans: Production entering into gross income, farm price, gross income, calendar years 1869–1937.

ment of production between census years, straight-line interpolation had to be resorted to. In view of the relative unimportance of the crop during these years, this device will not affect the total for the income subgroup or the grand total noticeably. For the years since

1914, B. A. E. production data were used.[32] Crop-year production was converted to calendar-year production on the basis of marketings (80 percent between September and December, 20 percent between January and August).

The (B. A. E.) farm price since 1869 covers New York, Wisconsin, and Maine. It had to be lowered 13 percent to make it comparable with the B. A. E. farm price since 1910. Farm value before 1924 was computed from production and adjusted farm prices. Gross income amounts to 91.5 percent of farm value, according to B. A. E. data on farm value and gross income 1924–35. Since 1924, B. A. E. crop-year farm income was converted to calendar-year income on the basis of marketings. Production, farm price, and gross income for calendar years 1869–1937 are shown in figure 24 and table 29.

TABLE 29.—*Production, price, and gross income: Dry beans*

Year	Production		Farm price per 100 pounds, calendar year	Farm value, calendar year	Gross income, calendar year	Year	Production		Farm price per 100 pounds, calendar year	Farm value, calendar year	Gross income, calendar year
	Crop year	Calendar year					Crop year	Calendar year			
	Mil. lb.	*Mil. lb.*	*Dol.*	*Mil. dol.*	*Mil. dol.*		*Mil. lb.*	*Mil. lb.*	*Dol.*	*Mil. dol.*	*Mil. dol.*
1869	144	—	3.42	3	5	1903	410	413	2.86	12	11
						1904	453	446	2.86	13	12
1870	148	147	2.37	3	3	1905	490	483	2.35	11	10
1871	152	151	2.85	4	4	1906	530	522	2.50	13	12
1872	155	154	3.42	5	5	1907	574	565	2.37	13	12
1873	159	158	3.27	5	5	1908	622	612	3.08	19	17
1874	163	162	3.03	5	5	1909	675	664	3.47	23	21
1875	167	166	2.55	4	4						
1876	171	170	1.90	3	3	1910	689	686	3.34	23	21
1877	175	174	2.98	5	5	1911	700	698	3.36	23	21
1878	180	179	2.33	4	4	1912	700	700	3.60	25	23
1879	185	184	2.17	4	4	1913	700	700	3.26	23	21
						1914	695	696	3.38	24	21
1880	185	185	2.02	4	4	1915	619	634	4.32	27	24
1881	186	186	2.80	5	5	1916	643	638	6.37	41	37
1882	186	186	4.40	8	7	1917	962	898	10.93	98	88
1883	187	187	3.36	6	5	1918	1,044	1,028	9.30	96	86
1884	187	187	2.98	6	5	1919	810	856	6.62	57	53
1885	188	188	1.85	3	3						
1886	188	188	1.71	3	3	1920	604	645	4.57	29.5	27
1887	189	189	2.08	4	4	1921	608	607	4.46	27.1	24
1888	189	189	2.94	6	5	1922	790	754	5.29	39.9	36
1889	190	190	2.58	5	5	1923	959	925	5.10	47.2	43
						1924	910	920	5.22	48.0	43
1890	200	198	2.70	5	5	1925	1,171	1,119	4.60	52.5	49
1891	210	208	2.92	6	5	1926	1,102	1,116	4.43	49.4	45
1892	220	218	2.46	5	5	1927	974	1,000	5.03	50.3	45
1893	231	229	2.67	6	5	1928	1,057	1,040	6.67	69.4	63
1894	242	240	2.55	6	5	1929	1,228	1,194	6.56	78.3	71
1895	253	251	2.41	6	5						
1896	265	263	1.35	4	4	1930	1,413	1,376	4.45	61.2	56
1897	277	275	1.13	3	3	1931	1,291	1,315	2.43	32.0	30
1898	290	287	1.53	4	4	1932	1,100	1,138	1.92	21.8	20
1899	304	301	1.64	5	5	1933	1,277	1,242	2.50	31.0	29
						1934	1,139	1,107	3.18	37.1	33
1900	329	324	2.70	9	8	1935	1,432	1,373	2.82	38.7	35
1901	357	351	2.76	10	9	1936	1,140	1,198	4.38	52.5	47
1902	387	381	2.55	10	9	1937	1,584	1,495	3.26	48.8	44

[32] Production data 1914–20 (*ibid., 1927, p. 906*); since 1921, Agricultural Outlook Charts, 1938, Rice, Dry Beans and Broomcorn, of the Bureau of Agricultural Economics.

Beet Sugar

Data on production of sugar beets, average prices per ton of beets to the producer, and on the farm value of sugar beets have been published since 1911 by the Bureau of Agricultural Economics (*22, 1923,*

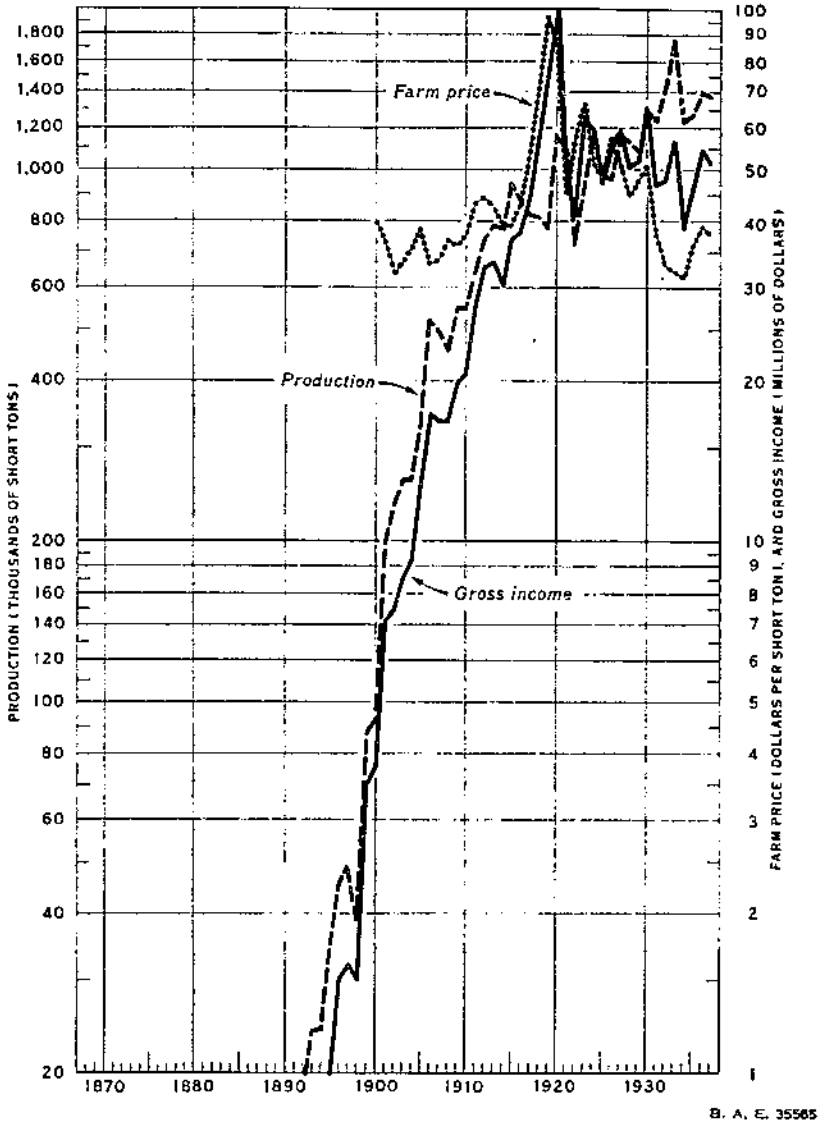


Figure 25.—Beet sugar: Production entering into gross income, farm price, gross income, calendar years 1869–1937.

p. 842; 1933, p. 484) and in Agricultural Statistics (*24, 1937, p. 107*). Before 1911, production figures are available only for "raw sugar from sugar beets" (*22, 1923, p. 845*); revised data of Bureau of Agricultural Economics and Bureau of Statistics Bulletin 66 (*27*) were

used. The only consistent series on prices is the New York wholesale price of raw sugar. Applying this wholesale price to raw sugar production from beets, the authors found that farm value computed as the product of "sugar beets produced" and "farm price of sugar beets" amounted to 44.4 percent of the value based on New York wholesale prices and production of "raw sugar from beets" in the average 1911–17. Before 1911, gross income from sugar beets was therefore computed as 45 percent of the value obtained by multiplying raw sugar produced from sugar beets by the New York wholesale price. This percentage, derived from the comparison of B. A. E. data on the farm value resulting from the sale of sugar beets and the value of raw sugar at wholesale prices, corresponds to the figure that is to be expected, according to the contracts of beet growers with the sugar manufacturers. These contracts provide that the growers receive one-half of the value of the manufactured product at wholesale prices after deduction of taxes. Comparison with census figures shows that this computation of income data yields close approximations to census estimates. The estimates based on the described method are: For 1899, 3.5 million dollars as against a census estimated of 3.3 million dollars; for 1909, 19.8 million dollars instead of a census figure of 19.7 million dollars. Production entering into gross income, farm price, and gross income for calendar years 1869–1937 are shown in figure 25 and table 30.

TABLE 30.—*Production, price, and gross income: Raw beet sugar, calendar years*

Year	Production	Wholesale price per ton of raw sugar, New York	Aggregate value	Estimated gross income
	1,000 short tons	*Dollars*	*Million dollars*	*Million dollars*
1883	0.61	148.5	0.10	0.05
1884	1.15	117.1	.13	.06
1885	.72	114.6	.08	.04
1886	.96	106.7	.10	.05
1887	.31	104.9	.03	.01
1888	2.24	115.0	.26	.1
1889	2.65	128.7	.34	.2
1890	4.16	108.9	.45	.2
1891	6.45	77.3	.50	.2
1892	14.5	66.2	.96	.4
1893	24.0	73.8	1.77	.8
1894	24.2	64.8	1.57	.7
1895	35.2	65.4	2.30	1.0
1896	45.2	72.5	3.28	1.5
1897	48.6	71.1	3.46	1.6
1898	39.1	84.7	3.31	1.5
1899	87.9	88.4	7.8	3.5
1900	92.5	91.3	8.4	3.8
1901	198.5	80.9	16.1	7.2
1902	235.0	70.8	16.6	7.5
1903	259.0	74.4	19.2	8.6
1904	260.0	79.5	20.7	9.3
1905	336.0	85.6	28.8	13.0
1906	520.0	73.7	38.4	17.3
1907	498.0	75.1	37.4	16.8
1908	458.0	81.5	37.3	16.8
1909	551.0	80.1	44.1	19.8
1910	548.0	83.8	45.9	20.7

Year	Production: Raw sugar from sugar beets	Production: Sugar beets	Farm price per ton of sugar beets	Estimated gross income
	1,000 short tons	*1,000 short tons*	*Dollars*	*Million dollars*
1911	644	5,062	5.50	27.8
1912	744	5,648	5.82	32.9
1913	788	5,886	5.69	33.5
1914	776	5,585	5.45	30.4
1915	940	6,511	5.67	37.0
1916	882	6,226	6.12	38.1
1917	823	5,980	7.39	44.2
1918	818	5,949	10.00	59.5
1919	777	6,421	11.74	75.4
1920	1,165	8,538	11.63	99.3
1921	1,091	7,782	6.35	49.4
1922	722	5,183	7.91	41.0
1923	943	7,006	8.99	63.0
1924	1,166	7,508	7.95	59.7
1925	977	7,381	6.39	47.1
1926	960	7,223	7.61	55.0
1927	1,170	7,753	7.67	59.5
1928	1,135	7,101	7.11	50.5
1929	1,089	7,315	7.08	51.8
1930	1,293	9,199	7.14	65.7
1931	1,237	7,903	5.94	46.9
1932	1,452	9,070	5.26	47.7
1933	1,757	11,030	5.13	56.6
1934	1,241	7,519	5.16	38.8
1935	1,268	7,908	5.76	45.6
1936	1,395	9,025	6.05	54.6
1937	1,376	8,798	5.88	51.7

Cane Sugar

For cane sugar, B. A. E. data on production, season-average farm prices, and farm value of sugarcane are available since 1919 (*24, 1937,*

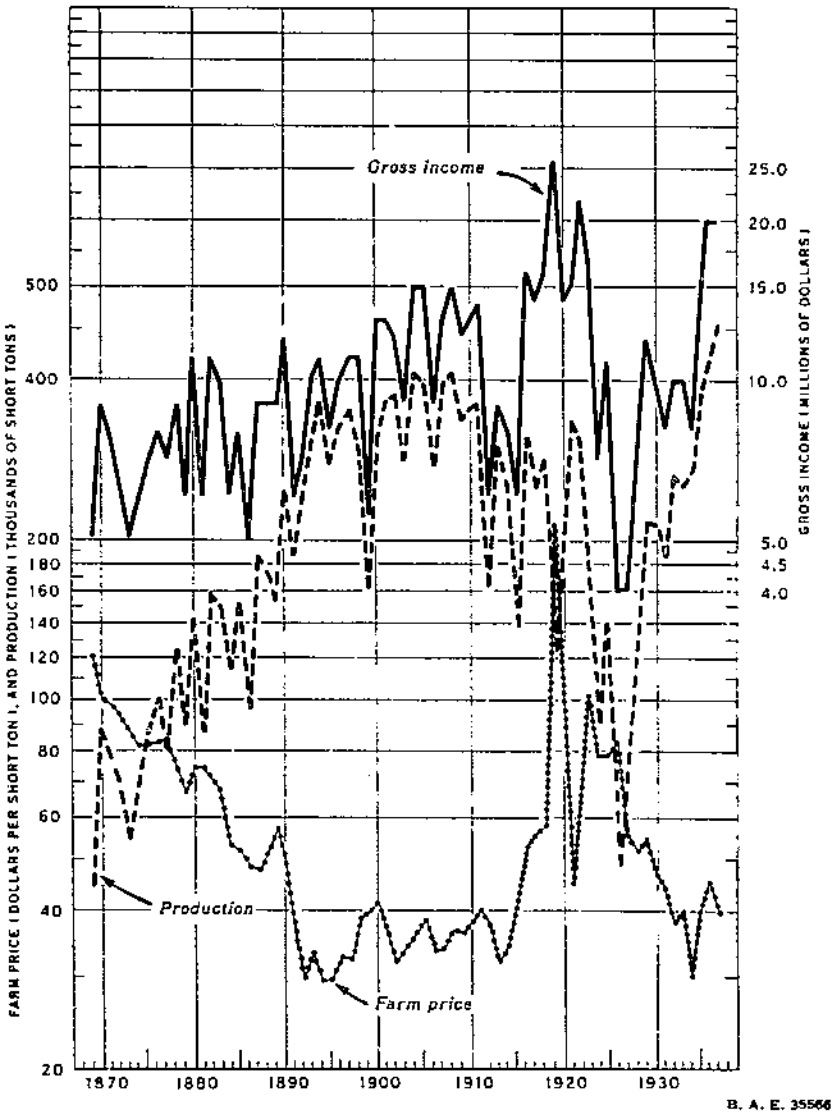


FIGURE 26.—Cane sugar: Production entering into gross income, farm price, gross income, calendar years 1869–1937.

p. 111). Before 1919, only production data on raw sugar from sugarcane and New York wholesale prices of raw sugar are available.[33] A high correlation exists between the uncorrected farm price of sugarcane

[33] None of the early standard publications (*5*) contain data on farm prices. (Data furnished by the Bureau of Agricultural Economics.)

and the New York wholesale price of raw sugar. There is no way of checking the assumption that this relationship results in a similar relationship between farm income from sugarcane computed on the basis of wholesale prices and of farm prices, respectively, as was found in the case of beet sugar. The authors' income computation assumes that cane growers receive 45 percent of the income based on wholesale prices, as they do from beet sugar. Since this computation was linked to actual income after 1919 and since the cane-sugar price fluctuates in accordance with the wholesale price, the result is probably a fair representation of actual farm income. No checks with census data are possible because the census figures on production and income from sugarcane combine sugar and sirup. Production entering into gross income, farm price, and gross income for calendar years 1869–1937 are shown in figure 26 and table 31.

TABLE 31.—*Production, price, and gross income: Raw cane sugar, calendar years*

Year	Production	Wholesale price per ton of raw sugar, New York	Aggregate value	Estimated gross income	Year	Production: Raw sugar from sugarcane	Production: Sugarcane	Wholesale price per ton of raw sugar, New York	Farm price per ton of sugarcane	Aggregate value	Estimated gross income
	1,000 short tons	*Dollars*	*Mil. dol.*	*Mil. dol.*		*1,000 short tons*	*1,000 short tons*	*Dollars*	*Dollars*	*Mil. dol.*	*Mil. dol.*
1869	44	271.2	11.9	5	1903	278	..	74.4	....	20.7	9
1870	89	230.0	20.5	9	1904	415	..	79.5	....	33.0	15
1871	78	216.2	16.9	8	1905	391	..	85.6	....	33.5	15
1872	67	206.2	13.8	6	1906	272	..	73.7	....	20.0	9
1873	54	191.2	10.3	5	1907	394	..	75.1	....	29.6	13
1874	71	182.6	13.0	6	1908	414	..	81.5	....	33.7	15
1875	86	183.1	15.7	7	1909	332	..	80.1	....	26.6	12
1876	100	185.6	18.6	8	1910	355	..	83.8	....	29.7	13
1877	80	188.1	15.0	7	1911	361	..	89.1	....	32.2	14
1878	125	164.9	20.6	9	1912	163	....	83.2	....	13.6	6
1879	89	148.5	13.2	6	1913	301	....	70.1	....	21.1	9
1880	143	164.1	23.5	11	1914	247	....	76.3	....	18.8	8
1881	86	165.0	14.2	6	1915	139	....	92.8	....	12.9	6
1882	159	155.9	24.8	11	1916	311	....	115.7	....	36.0	16
1883	151	148.5	22.4	10	1917	246	....	124.6	....	30.7	14
1884	113	117.1	13.2	6	1918	284	....	128.9	....	36.6	16
1885	151	114.6	17.3	8	1919	125	1,883	....	14.00	....	26
1886	96	106.7	10.2	5	1920	180	2,493	....	5.76	....	14
1887	188	104.9	19.7	9	1921	334	4,181	....	3.63	....	15
1888	172	115.0	19.8	9	1922	302	3,778	....	5.83	....	22
1889	151	128.7	19.4	9	1923	168	2,387	....	7.09	....	17
					1924	90	1,228	....	5.58	....	7
1890	249	108.9	27.1	12	1925	142	2,644	....	4.05	....	11
1891	185	77.3	14.3	6	1926	48	864	....	4.92	....	4
1892	249	66.2	16.5	7	1927	72	962	....	4.61	....	4
1893	305	73.8	22.5	10	1928	136	1,873	....	3.87	....	7
1894	365	64.8	23.7	11	1929	218	3,120	....	3.80	....	12
1895	272	65.4	17.8	8							
1896	322	72.5	23.3	10	1930	215	2,910	....	3.45	....	10
1897	354	71.1	25.2	11	1931	184	2,524	....	3.36	....	8
1898	284	84.7	24.1	11	1932	265	3,307	....	3.11	....	10
1899	161	88.4	14.2	6	1933	250	3,069	....	3.26	....	10
					1934	267	3,403	....	2.40	....	8
1900	312	91.3	28.5	13	1935	383	4,573	....	3.19	....	..
1901	364	80.9	29.4	13	1936	437	5,419	....	3.68	....	20
1902	373	70.8	26.4	12	1937	510	6,291	....	3.14	....	20

ORCHARD FRUITS

Apples, peaches, pears, prunes, plums, and cherries are included under orchard fruits. Since 1924, B. A. E. "actual production" and

season-average farm price were used for each fruit. As data on plums, prunes, and cherries are not available from 1919 to 1923, 11 percent was added to the income from apples, peaches, and pears—the percentage that cherries, plums, and prunes were of the income from these three fruits in 1924 and 1925.

Production figures for apples are available yearly since 1889;[34] for peaches and pears yearly since 1909. Census figures on the production of individual fruits were not published before 1889. In the 1880 census, reference is made to a special report by a Mr. Dodge which should give information about production in 1879, but the Bureau of the Census does not have this report and doubts whether it was ever published. The censuses since 1899 report both the total value of these fruits (total orchard fruits) and the total production in bushels. For 1889, total production alone is given; the earlier censuses contain "total value" alone. Owing to the extreme fluctuations in yield of the various fruits, the actual crops of the census years cannot be used to indicate the trend of production; consequently an interpolation on this basis would be meaningless. Fortunately, the Crop Reporting Board has published data on yields since 1866, showing separately the condition of the apple and peach crops expressed as a percentage of full yield.

Consistent price data can be computed for apples alone The Bureau of Agricultural Economics calculated a weighted-average farm price for Maryland and Virginia combined (unpublished); furthermore, monthly prices for New York are available. Marketings in New York State (measured by carlot shipments) from September to December are 63.5 percent of total marketings (*22, 1924, p. 666*) (based on marketings 1917–23). The authors computed a weighted average price for these 4 months, the weights based on marketings in each month. This average weighted New York farm price for apples was combined with the (B. A. E.) weighted-average farm price for Virginia and Maryland, New York having a weight of 2 as against 1 for Virginia and Maryland together (basis: census data on production in these States). This computed apple price was used to estimate the price of orchard fruits 1869–1909, when B. A. E. season-average farm prices begin.

The authors' first approach to estimating income from orchard fruits was to use production of apples and estimate production of other fruits. Owing to lack of adequate basic data, this procedure was not satisfactory and the following method was used. It should be clear, however, that even income estimates for very recent years need revision. Therefore, the estimates can merely be regarded as the best available approximations.

Table 32 shows full crop production for census years. This computation was necessary to obtain the production trend of total orchard fruits. The censuses 1890–1920 contain production figures for "all orchard fruits." In order to adjust for fluctuations in yield, the combined data (weighted) on the condition of the peach and apple crops (*22, 1923, pp. 732, 746*) (expressed as a percentage of full yield) were applied as correction factors. Thus, the authors obtain pro-

[34] YOUNGMAN, W. H., comp. STATISTICS AND CHARTS OF THE APPLE INDUSTRY. U. S. Bur. Agr. Econ. 99 pp. 1930. [Mimeographed.]
UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS. REVISED PRODUCTION OF APPLES, PEACHES, PEARS, GRAPES AND CHERRIES. 1919–1935. June 28, 1937. [Mimeographed.]
——— Agricultural Outlook Charts, October 1937, Fruits and Nuts.

duction (in bushels) of "all orchard fruits" upon the assumption of constant crop conditions (full yield) for census years; through straight-line interpolation they obtain the yearly production figures upon the assumption of full yield (table 32). As these data can be adjusted for annual fluctuations in yield, straight-line interpolation is warranted.

TABLE 32.—*Computation of trend data of the production of all "orchard fruits"*

[Based on census quantities]

Item	1889	1899	1909	1919
Actual production of all orchard fruits ... million bushels	187.2	212.4	214.7	217.0
Yield of apples and peaches ... percent	68.8	38.0	50.3	53.8
Production of all orchard fruits assuming full yield ... million bushels	267	558	430	403
Relatives (1899=100) ... percent	42.8	100.0	77.0	72.0

The censuses of 1870, 1880, and 1890 contain data on the value of all orchard fruits (table 33). These values were corrected for the fluctuations in prices by expressing the values in constant prices (1899=100). Values at 1899 prices are of actual crops. To arrive at "values for full crops" in the respective years, the data were corrected for fluctuations in yield. Thus, the full crop of 1899 (558 million bushels) would have had a value of $220.5 million. On the basis of this relationship between full crop in millions of bushels and its value at 1899 prices, the 1879 crop was 45.1 percent of the 1899 crop; that of 1869, 13.5 percent. These trend data are interpolated to arrive at yearly production data upon the assumption of full yield. The interpolated figures are then adjusted for the yearly fluctuations in yield. The adjusted data represent the estimated actual crops of all orchard fruits 1869–1919.

The use of prices of apples instead of prices of peaches, pears, etc., for orchard fruits other than apples would result in undervaluation. The authors found that in 1909 the volume of fruits other than apples constituted 37 percent of that of all orchard fruits but the value was 41 percent of the total, which means that the price of fruits other than apples was 10.7 percent higher than the price of apples.

TABLE 33.—*Computation of trend data of the production of "all orchard fruits"*

[Based on census values]

Item	1899	1879	1869
(1) Actual values of all orchard fruits ... million dollars	83.8	50.9	47.3
Apple price:			
(2) Per bushel ... cents	52	43	83
(3) Index (1899=100) ... percent	100	82.7	159.6
(4) Value of all orchard fruits at 1899 prices ... million dollars	83.8	61.6	29.6
(5) Yield of actual crop, percentage of "full crop"	38.0	62.3	99.2
(6) Value of all orchard fruits at 1899 prices assuming full yield ... million dollars	220.5	99.4	29.8
(7) Relatives of item (6,) 1899=100 ... percent	100	45.1	13.5
(8) Estimated production of all orchard fruits assuming full yield ... million bushels.	558	251	75.5

For 1919 this percentage was 11.7. Assuming that before 1889 the crop of fruits other than apples was 30 percent of the apple crop; from then to 1918, 50 percent, and thereafter 66 percent,[35] that is, that the

[35] The ratio for 1909 is 65.1 percent, according to census data. From what little information there is prior to 1909, the production trend of fruits other than apples was steeper than that of apples. The ratios indicate the trend, but their actual magnitude is more or less arbitrary. The possible error would not affect the income estimate appreciably, however.

crops of fruits other than apples were 23, 33, and 40 percent of the crop of total orchard fruits, the following percentages were added to the value of orchard fruits based on apple prices: 1866–89, 2.5; 1899–1918, 3.5, in order to correct for the higher value of fruits other than apples.

The price data, corrected for the price differential of fruits other than apples which include the three States only, are apparently not representative for the total United States. The census gives for some years both value and volume data for total orchard production. According to these data, the price series here used is too high and calls for downward adjustments: 26.3 percent in 1899 and 22.6 percent in 1909.[36] Therefore, they corrected the income data, obtained by multiplying actual production by this computed price, by lowering the values 26 percent from 1869 to 1899, and 23 percent from 1900 to 1908. Since 1909, the B. A. E. weighted season-average price of apples was used as given in publications of the United States Department of Agriculture. This price had to be raised 3.5 percent from 1909 to 1918 to adjust for the difference in the price of apples and of fruits other than apples.

The income data from orchard fruits for crop years (June–May) that resulted from these computations were then converted to calendar years on the basis of marketings. Marketings of apples from June to December amounted to 81.5 percent of the 1917–23 total marketings in the United States (*22, 1924, p. 667*). The crop of other orchard fruits is marketed during the calendar year. To take into account the changing importance of apple production, the following marketing percentages were computed: 1869–1888: 85 percent, June–December, 15 percent, January–May; 1889–1918: 90 percent, June–December, 10 percent, January–May; 1919–35: 95 percent, June–December, 5 percent, January–May. Calendar-year income for 1870 was thus computed by adding 15 percent of the 1869 crop-year income (income January–May 1870) and 85 percent of the 1870 crop-year income (June–December 1870).

Income in 1882 and 1895 seems to be exceedingly high, because large crops did not result in low prices; that is, prices in all three States were high despite large crops. Production in these States amounted to 23 percent of total United States production in 1909. The movement of the general price level does not explain the coincidence of large production and high prices, nor does the export situation give the clue to this unusual supply-price relationship. Exports of fresh apples during the crop year 1882 were about 5 percent of production and twice those in the preceding year, but prices were about 10 percent higher; dried-apple exports were more than 3 times as large with prices unchanged. Also during the year preceding and the year following 1895 exceedingly large quantities of both fresh and dried apples were exported. It does not seem reasonable that the small proportion of the crop exported at higher prices is a sufficient explanation for the high domestic prices in the face of high production in these 2 years. Production, farm price, and gross income for crop years 1869–1937 are shown in figure 27 and table 34.

[36] This price adjustment is not altogether satisfactory, as no comparisons for census before 1899 can be undertaken. But there is no other possible way to evaluate the differential between this computed price and other prices for the total United States.

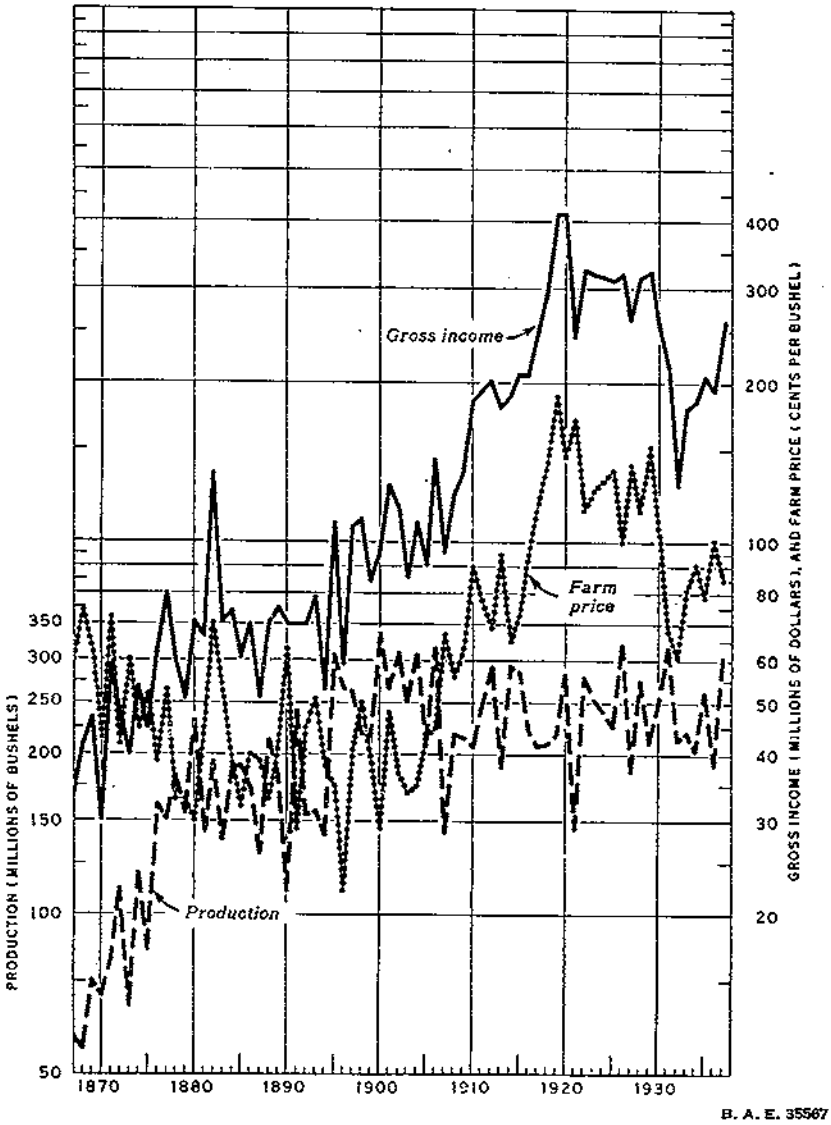


FIGURE 27.—Orchard fruits: Production, farm price, gross income, crop years 1869–1937.

TABLE 34.—*Production, price, and gross income: Orchard fruits*

Year	Production (assuming full crop)	Yield, percent of full crop	Production, "actual"	Weighted average farm price of apples per bushel	Corrected apple price per bushel	Estimated farm price of total orchard fruits per bushel	Gross income	
							Crop year	Calendar year
	Mil. bu.	*Pct.*	*Mil. bu.*	*Ct.*	*Ct.*	*Ct.*	*Mil. dol.*	*Mil. dol.*
1869	76	99.2	75	83	61	63	47	46
1870	85	82.2	70	57	42	43	30	33
1871	96	85.0	82	95	70	72	59	54
1872	108	103.8	112	56	41	42	48	50
1873	122	54.6	67	79	58	60	40	41
1874	138	86.4	119	60	44	45	54	52
1875	156	55.4	86	69	51	52	45	46
1876	176	92.3	162	51	38	39	63	61
1877	199	75.8	151	70	52	53	80	77
1878	224	81.6	183	43	32	33	60	63
1879	251	62.3	156	43	32	33	51	52
1880	253	91.2	231	40	30	30	70	68
1881	255	56.0	143	61	45	46	66	66
1882	257	75.3	194	92	68	70	135	125
1883	258	53.5	138	68	50	52	71	80
1884	260	72.9	190	51	38	39	74	74
1885	261	72.9	190	42	31	32	61	63
1886	263	65.9	173	53	39	40	70	69
1887	265	49.4	131	51	38	39	51	53
1888	266	80.3	214	43	32	33	70	68
1889	267	68.8	184	54	40	41	75	78
1890	288	38.4	111	82	61	63	70	71
1891	310	77.8	241	38	28	29	70	70
1892	333	46.4	154	59	44	45	70	70
1893	358	43.6	156	66	49	51	79	78
1894	385	36.6	141	49	36	38	53	56
1895	414	74.4	308	46	34	35	109	103
1896	445	59.8	266	29	21	22	59	64
1897	479	55.1	264	53	39	41	107	102
1898	516	42.6	220	65	48	50	110	110
1899	558	38.0	212	52	38	40	84	87
1900	544	61.7	336	36	28	29	96	94
1901	530	50.5	268	60	46	48	128	125
1902	516	60.4	312	46	35	37	115	117
1903	502	50.0	251	43	33	34	86	89
1904	489	62.9	308	44	34	35	108	106
1905	476	44.4	211	54	42	43	91	93
1906	464	67.8	315	57	44	45	143	138
1907	452	31.8	144	84	65	67	96	100
1908	441	49.4	218	70	54	56	122	120
1909	430	50.3	216	79	61	63	136	134
1910	427	48.6	207	----------	86.6	90	185	180
1911	424	57.9	245	----------	75.7	78	193	192
1912	421	69.5	292	----------	66.3	69	201	200
1913	419	45.4	190	----------	91.7	95	180	182
1914	416	70.4	293	----------	62.5	65	189	188
1915	414	68.8	285	----------	70.4	73	208	206
1916	412	54.5	224	----------	89.4	93	207	207
1917	409	51.0	209	----------	115.4	119	250	246
1918	406	51.8	210	----------	137.6	142	299	294
1919	----------	----------	218	----------	174.9	189	413	422
1920	----------	----------	282	----------	122.5	146	413	413
1921	----------	----------	146	----------	163.9	170	248	257
1922	----------	----------	281	----------	102.5	115	324	320
1923	----------	----------	255	----------	113.0	125	319	319
1924	----------	----------	241	----------	120.7	131	316	316
1925	----------	----------	227	----------	125.1	137	310	310
1926	----------	----------	321	----------	89.5	100	320	320
1927	----------	----------	187	----------	139.8	140	262	265
1928	----------	----------	277	----------	108.1	114	315	312
1929	----------	----------	212	----------	138.6	152	322	322
1930	----------	----------	248	----------	102.2	103	255	258
1931	----------	----------	315	----------	65.2	68	213	215
1932	----------	----------	213	----------	59.6	61	129	134
1933	----------	----------	221	----------	77.5	81	180	177
1934	----------	----------	204	----------	88.2	91	185	185
1935	----------	----------	261	----------	71.3	79	207	206
1936	----------	----------	193	----------	----------	101	195	195
1937	----------	----------	306	----------	----------	85	261	258

Citrus Fruits

Production estimates for citrus fruits made by the Bureau of Agricultural Economics begin in 1919. For the earlier years, production had to be computed from shipments and returns gathered by the California Fruit Growers Exchange and the Florida Citrus Exchange. Total shipments from California are available since 1886 (*10, p. 70*), from Florida (*30*) since 1884. The California data are given in number of cars, those for Florida in number of boxes; the number of boxes per car ranged from 374 to 396 between 1903 and 1913. Boxes were converted into cars on the basis of 374 boxes per car, before 1909. (W. H. Shaw of the National Bureau of Economic Research found later, that annual data on boxes per car are available. The results would not differ greatly, however.) Since 1895, f. o. b. returns of the California Fruit Growers Exchange have been published together with the percentage that exchange shipments were of total shipments. This percentage was applied in order to obtain f. o. b. returns for the entire State 1895–1909. Florida prices were assumed to equal California prices during this period; thus, the percentage that Florida shipments were of California shipments in each year was applied to the f. o. b. returns for California to obtain f. o. b. returns for Florida. This may result in a slight overvaluation, but between 1895 and 1908 the ratio of Florida shipments to California shipments fluctuated only between 4 and 30 percent; in most years the difference would be insignificant. Since 1909 separate data on f. o. b. returns for California and for Florida are available.[37] The f. o. b. returns include the costs of picking, hauling, packing, selling, and advertising. In accordance with the income concept used throughout this study, picking and hauling costs should be added to the price of the fruit on the tree in order to obtain gross income; selling and advertising costs, however, must be deducted from the f. o. b. income. Table 35 indicates the ratios of picking and hauling costs to the cost of the "fruit on tree" and of the gross-income items (price of "fruit on tree" plus costs of picking and hauling) to the f. o. b. income. The authors therefore deducted 27.9 percent from f. o. b. income in order to obtain gross income. The income data that resulted from using adjusted f. o. b. returns check with census figures for the early years and with B. A. E. gross income after 1919. For the years since 1919 B. A. E. production and farm-price data were used.[38]

The conversion from crop to calendar-year was based on marketings for more recent years. Carlot shipments of citrus fruit November–December 1924–28 were 23.9 percent, those from January to the end of the crop year 76.1 percent, of total crop-year shipments. Crop-year income was converted to calendar-year income by distributing income 25 and 75 percent respectively.[39] Gross income could not be computed before 1895,[40] because of the lack of price data. Since the census value of oranges for 1889 is $6.6 million, it seems probable that gross income in the 1880's may have fluctuated around $5 million. Production, farm price, and gross income for crop years 1869–1937 are shown in figure 28 and table 36.

[37] Annual reports of the Florida Citrus Exchange, State Department of Agriculture, Statistics of Florida Agriculture, 1932 (7); Annual Reports of the General Manager of the California Fruit Growers Exchange.
[38] United States Bureau of Agricultural Economics. Agricultural Outlook Charts, 1938, Fruits and Nuts.
[39] Marketing data from Youngman. See p. 33 of reference cited in footnote 34.
[40] For a few years after 1895 crops have been affected by the Florida freeze.

TABLE 35.—*Picking and hauling costs in relation to income from citrus fruits*

Item	1931–32 [1]	1932–33	1933–34	1934–35	1935–36	Average 1931–35
Price of fruit on tree per box.....dollars..	1.445	1.258	1.439	1.305	1.596	.....
Costs of picking and hauling .....do....	.146	.129	.134	.141	.148	.....
Picking and hauling as percentage of fruit on tree.....percent..	10.1	10.3	9.3	10.8	9.3	.....
Gross income as percentage of f. o. b. income.....percent..	71.02	71.13	72.38	71.34	74.63	72.10

[1] Annual reports of the general manager of the California Fruit Growers Exchange.

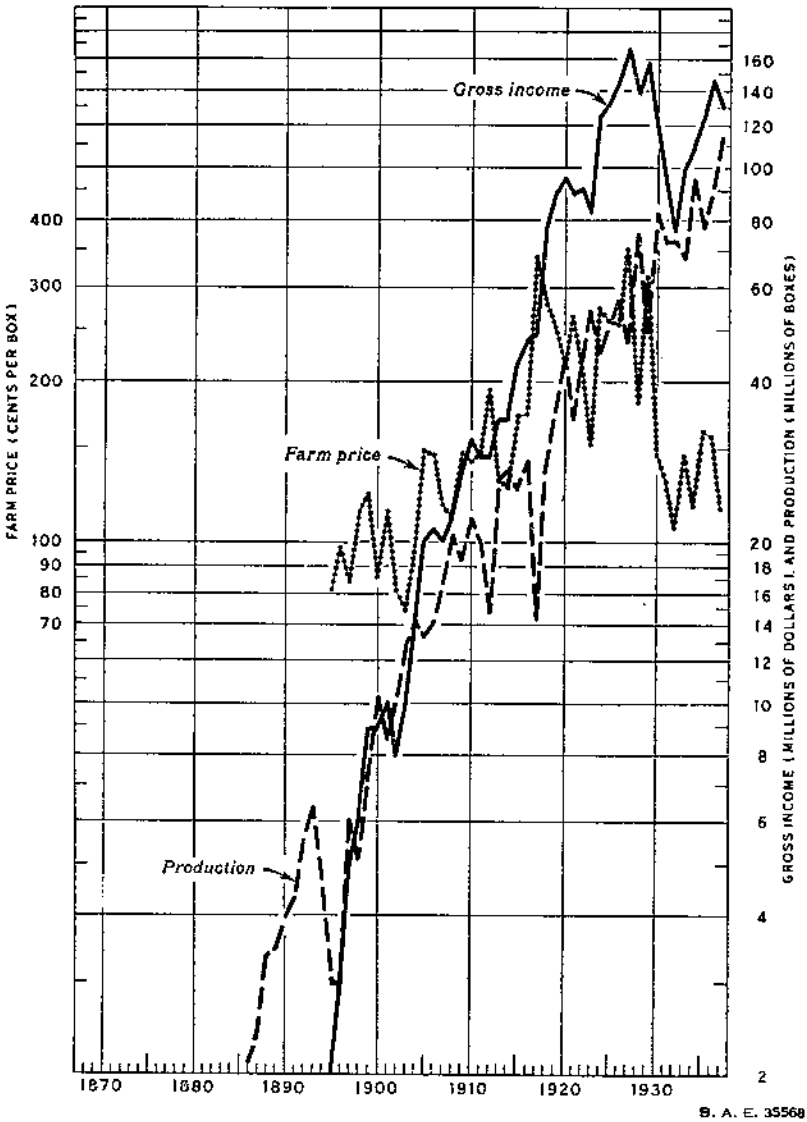


FIGURE 28.—Citrus fruits: Production, farm price, gross income, crop years 1869–1937.

TABLE 36.—*Production, price, and gross income: Citrus fruits, 1886–1937*

Year	Shipments, crop years				F. o. b. income, crop years			Gross income	
	California	Florida	Total	Florida in percent of California	California	Florida	Total	Crop year	Calendar year
	Million boxes	*Million boxes*	*Million boxes*	*Percent*	*Million dollars*	*Million dollars*	*Million dollars*	*Million dollars*	*Million dollars*
1886	0.83	1.26	2.09	152					
1887	.94	1.45	2.39	154					
1888	1.43	1.95	3.38	137					
1889	1.31	2.15	3.46	164					
1890	1.52	2.45	3.97	161					
1891	1.66	2.66	4.32	160					
1892	2.22	3.36	5.58	151					
1893	2.21	4.16	6.37	188					
1894	1.88	2.81	4.69	150					
1895	2.84	.11	2.95	4.0	3.2	0.1	3.3	2	2
1896	2.75	.22	2.97	7.9	3.7	.3	4.0	3	3
1897	5.67	.36	6.03	6.3	6.7	.4	7.1	5	3
1898	3.87	1.25	5.12	32.3	6.1	2.0	8.1	6	5
1899	6.66	.97	7.63	14.6	11.4	1.7	13.1	9	7
1900	9.01	1.35	10.36	15.0	10.7	1.6	12.3	9	9
1901	7.63	.97	8.60	12.8	11.9	1.5	13.4	10	9
1902	8.88	1.46	10.34	16.5	10.0	1.6	11.6	8	9
1903	11.02	1.95	12.97	17.7	11.5	2.0	13.5	10	9
1904	11.83	2.36	14.19	19.9	15.8	3.1	18.9	14	11
1905	10.30	2.96	13.26	28.8	21.2	6.1	27.3	20	15
1906	11.10	2.90	14.00	26.0	22.6	5.9	28.5	21	20
1907	12.96	3.79	16.75	29.3	21.2	6.2	27.3	20	20
1908	15.18	5.25	20.43	34.5	23.2	8.0	31.2	22	20
1909	12.40	6.10	18.50	49.2	25.3	12.4	37.7	27	24
1910	17.35	4.60	21.95	26.5	34.0	9.0	43.0	31	28
1911	15.21	4.75	19.96		29.0	11.7	40.7	29	31
1912	6.86	8.13	14.99		22.2	18.0	40.2	29	29
1913	18.08	7.96	26.04		30.7	16.6	47.3	34	30
1914	17.46	9.70	27.16		31.2	16.2	47.4	34	34
1915	16.86	8.37	25.23		41.5	18.5	60.0	43	36
1916	20.39	7.65	28.04		49.8	17.3	67.1	48	45
1917	8.77	5.58	14.35		47.8	20.7	68.5	49	49
1918	18.49	8.41	26.90		75.5	31.7	107.2	77	56
1919			35.23					90	80
1920			44.42					96	91
1921			33.87					90	94
1922			44.64					92	91
1923			54.39					83	90
1924			45.57					125	93
1925			50.53					132	127
1926			56.02					145	135
1927			47.70					168	151
1928			75.93					139	161
1929			49.88					157	143
1930			82.28					120	148
1931			73.05					94	113
1932			73.25					77	90
1933			68.04					100	82
1934			94.71					110	102
1935			77.53					125	114
1936			91.81					146	130
1937			113.48					130	142

GRAPES

For grapes, production data 1919–37 are B. A. E. figures for the United States (*24, 1938, p. 190*), those for 1899–1918 are based on census data interpolated by Shear.[41] The interpolations are based on the annual condition of the grape crop as reported by the then Division of Crop and Livestock Estimates. "Full crops" for census years

[41] On file in the Bureau of Agricultural Economics.

were computed by using these yields and the trend of the full crop thus obtained was interpolated by applying annual yields; in addition, the result was checked with more detailed information about the

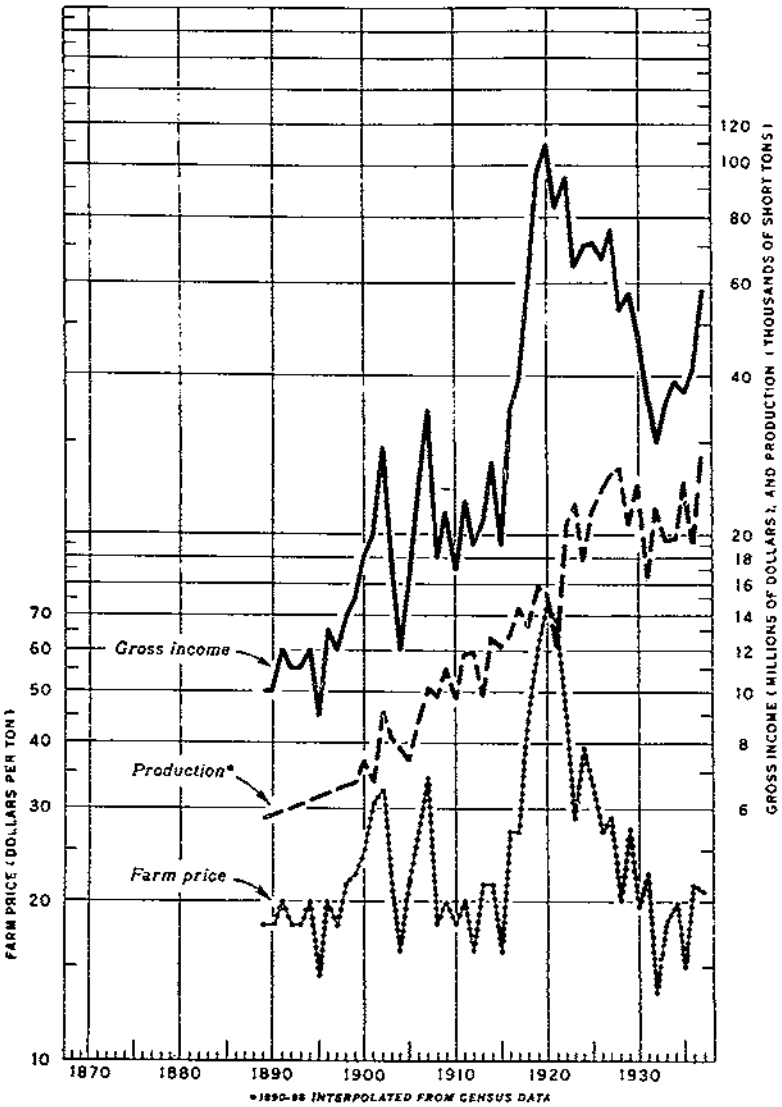


FIGURE 29.—Grapes: Production, farm price, gross income, calendar years 1869–1937.

development of the grape crops in California. The data for 1889–98 were computed by straight-line interpolation, as no annual series are available.

Farm prices have been published by the Bureau of Agricultural Economics since 1924. From 1919 to 1923 California farm prices

(*15, p. 122*) were raised 10 percent to make them comparable with B. A. E. farm prices. For 1917 and 1918, only the f. o. b. price of 4 wine varieties (*15, p. 120*) is available; this price was linked to the prices for the later years. From 1887 to 1916 prices of sweet-wine grapes [42] were linked to the more recent price series by raising them 180 percent. These prices are published only in graphic form. In view of the wide fluctuations in prices of the various varieties, it is not possible to state that this price series is representative. However, a comparison of census data with these estimates indicates that the adjusted prices used in the computation are very close to the actual prices. According to these estimates, income amounted to 15.1 million dollars in 1899, 22.0 million dollars in 1909, and 95.4 million dollars in 1919, as against census estimates of 14.1, 22.0 and 95.6 million dollars in the corresponding years.

Harvesting and marketing of grapes falls within the calendar year, therefore no conversion is necessary.

Production, farm price, and gross income for calendar years 1869–1937 are shown in figure 29 and table 37.

TABLE 37.—*Production, price, and gross income: Grapes, calendar years, 1889–1937*

Year	Production	Estimated farm price per ton	Gross income	Year	Production	Estimated farm price per ton	Gross income
	Thousand short tons	*Dollars*	*Million dollars*		*Thousand short tons*	*Dollars*	*Million dollars*
1889	572	18.0	10	1913	984	21.6	21
				1914	1,255	21.6	27
1890	581	18.0	10	1915	1,216	16.0	19
1891	590	20.0	12	1916	1,274	27.0	34
1892	600	18.0	11	1917	1,441	27.0	39
1893	610	18.0	11	1918	1,325	44.0	58
1894	620	20.0	12	1919	1,575	60.6	95
1895	630	14.4	9				
1896	640	20.0	13	1920	1,521	71.8	100
1897	650	18.0	12	1921	1,220	67.9	83
1898	660	21.6	14	1922	2,065	45.0	94
1899	671	22.5	15	1923	2,250	28.5	64
				1924	1,775	39.2	70
1900	737	25.0	18	1925	2,200	32.2	71
1901	670	30.6	20	1926	2,444	27.0	66
1902	908	32.4	29	1927	2,592	28.9	75
1903	811	21.6	18	1928	2,654	20.1	53
1904	775	16.0	12	1929	2,085	27.3	57
1905	737	21.6	16				
1906	872	27.0	24	1930	2,456	19.5	48
1907	1,016	34.0	34	1931	1,646	22.6	37
1908	976	18.0	18	1932	2,231	13.4	30
1909	1,099	20.0	22	1933	1,939	18.0	35
				1934	1,958	19.7	39
1910	967	18.0	17	1935	2,488	14.9	37
1911	1,172	20.0	23	1936	1,916	21.6	41
1912	1,198	16.0	19	1937	2,777	20.8	58

PEANUTS

For peanuts, farm-value and gross-income data of the Bureau of Agricultural Economics start in 1924, production data in 1916.[43] Census figures on the production of peanuts harvested for nuts have been published since 1889 in bushels. As (B. A. E.) farm price refers to pounds, the census production data were converted into pounds. The conversion factor from bushels to pounds is different

[42] SHEAR, S. W., and PEARCE, G. G. SUPPLY AND PRICE TRENDS IN THE CALIFORNIA WINE-GRAPE INDUSTRY. Giannini Found. Agr. Econ. Mimeographed Rpt. 34, Pt. 2. Berkeley, June 1934. See Chart 5.

[43] Production data, 1916–21 (*24, 1924, p. 793*). For data since 1921, see the following: UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS, Agricultural Outlook Charts, 1938, Fruits and Nuts.

for the various varieties of peanuts: For Virginia growths it is 1:22, for runners 1:28, for Spanish 1:30. Virginia growths declined in relative importance. At present, it is about half of the other two

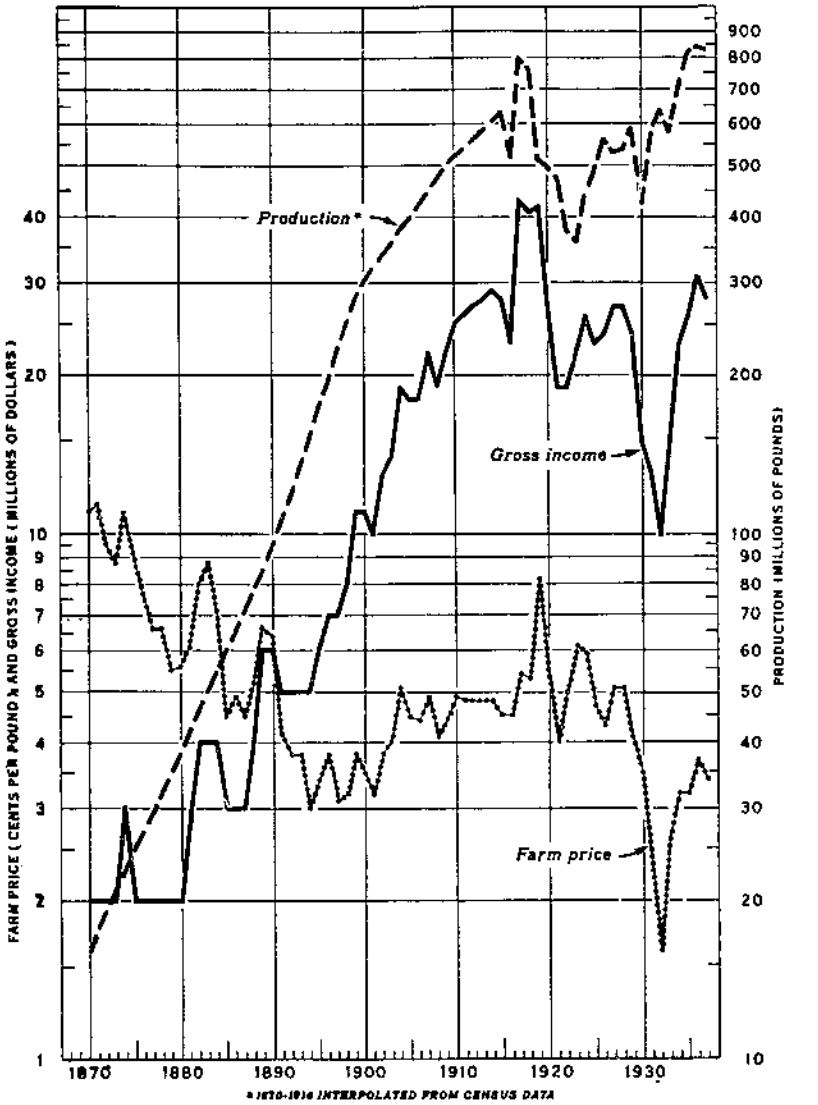


FIGURE 30.—Peanuts: Production, farm price, gross income, calendar years 1869–1937.

combined. Therefore a weight of 1 was applied for Virginia and of 2 for the others in the computation of the conversion from bushels to pounds after 1915. For 1909–14 the weights are 1 and 1; before 1909, 2 and 1. Thus the conversion before 1909 is on the basis of 24 pounds to a bushel; for 1909–14, 26 pounds; and after 1915, 27 pounds.

Census data on production were interpolated to get yearly production figures 1889–1915. The data for 1869–88 are extrapolated trend figures of census data. The (B. A. E.) farm price refers to Virginia peanuts and had to be raised 29.2 percent to be comparable with the more inclusive B. A. E. farm price. Crop-year production was converted to calendar-year production on the basis of marketings (80 percent August–December, 20 percent January–July). As the census data refer to production of peanuts harvested for nuts, farm value is equal to gross income. For 1916–23, B. A. E. production figures for total peanuts were multiplied by farm prices to get farm value. Between 1924 and 1935 farm income represented 60.5 percent of the average farm value. Farm income 1916–23 was therefore assumed to be 60 percent of farm value. After 1924, crop-year gross income as computed by the B. A. E. was converted to calendar-year income on the basis of marketings.

Production, farm price, and gross income for calendar years 1869–1937 are shown in figure 30 and table 38.

TABLE 38.—*Production, price, and gross income: Peanuts, calendar years 1870–1937*

Year	Production	Farm price per pound	Gross income	Year	Production	Farm price per pound	Gross income
	Million pounds	*Cents*	*Million dollars*		*Million pounds*	*Cents*	*Million dollars*
1870	16.0	11.0	2	1904	374	5.1	19
1871	17.6	11.2	2	1895	396	4.5	18
1872	19.3	9.5	2	1906	418	4.4	18
1873	21.0	8.8	2	1907	443	4.9	22
1874	22.9	10.9	3	1908	470	4.1	19
1875	25.0	9.0	2	1909	499	4.4	22
1876	27.2	7.6	2				
1877	29.7	6.6	2	1910	519	4.9	25
1878	32.4	6.6	2	1911	537	4.8	26
1879	35.5	5.5	2	1912	558	4.8	27
				1913	580	4.8	28
1880	38.7	5.6	2	1914	604	4.8	29
1881	42.3	6.1	3	1915	630	4.5	28
1882	46.1	8.0	4	1916	517	4.5	23
1883	50.3	8.8	4	1917	798	5.4	43
1884	54.7	7.1	4	1918	767	5.3	41
1885	59.5	4.5	3	1919	512	8.2	42
1886	64.8	4.9	3				
1887	70.7	4.5	3	1920	497	5.4	27
1888	77.3	5.2	4	1921	472	4.0	19
1889	84.6	6.6	6	1922	378	5.0	19
				1923	359	6.1	22
1890	94.0	6.4	6	1924	438	5.9	26
1891	106	4.2	5	1925	485	4.7	23
1892	119	3.8	5	1926	563	4.3	24
1893	135	3.8	5	1927	530	5.1	27
1894	152	3.0	5	1928	534	5.1	27
1895	172	3.4	6	1929	588	4.1	24
1896	194	3.8	7				
1897	220	3.1	7	1930	425	3.5	15
1898	248	3.2	8	1931	576	2.3	13
1899	280	3.8	11	1932	637	1.6	10
				1933	580	2.6	15
1900	300	3.5	11	1934	710	3.2	23
1901	317	3.2	10	1935	824	3.2	26
1902	334	3.8	13	1936	846	3.7	31
1903	353	4.0	14	1937	829	3.4	28

DAIRY PRODUCTS

Income from dairy products is computed from B. A. E. data [44] on the production of the principal manufactured dairy products since

[44] For butter data see the following: UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS. THE DAIRY SITUATION. DS-30, 19 pp., illus. February 1934. [Mimeographed.]

For data on condensed and evaporated milk see: UNITED STATES BUREAU OF AGRICULTURAL ECONOMICS. THE DAIRY SITUATION. DS-68, 12 pp, illus. April 16, 1937. [Mimeographed.]

For a detailed explanation of the methods used in arriving at the estimates, see VIAL, E. E. PRODUCTION AND CONSUMPTION OF MANUFACTURED DAIRY PRODUCTS (*89*).

1869, and on B. A. E. tentative revisions and interpolations of census figures for milk production (fig. 31).[45]

The B. A. E. production series for processed dairy products contains separate data for butter (farm and factory), cheese, and condensed and evaporated milk production. These production figures were used in their original form as compiled by the Bureau of Agricultural Economics.

The (B. A. E.) farm price of butter includes farm prices of the following States: since 1869, New York, Wisconsin, Maryland, Virginia, Maine, Illinois; since 1895, Nebraska. These States seem to be representative, since for 1910–14 the farm price derived from them is equal to the B. A. E. weighted farm price; moreover, they produce a large part of total production. Gross income from butter production is computed by multiplying farm price by butter production (table 40).

Prices of cheese had to be computed on the basis of New York (*13*) and Wisconsin (*11*) farm prices. New York and Wisconsin together produced 80 percent of the manufactured, and 45 percent of farm cheese in 1870; 70 percent of total cheese in 1900; and 72 percent of total cheese in 1930. The weighted-average Wisconsin-New York cheese price may therefore be taken as representative. The prices were weighted according to census production in 1870, 1900, and 1930 in New York and Wisconsin. In 1910, New York production was about 10 times greater than Wisconsin; in 1900, 1½ times greater; and in 1930 production in Wisconsin was 4 times greater than production in New York. Between these weights interpolations were made for 5-year periods. The Wisconsin farm prices for cheese are given in cents per pound, the New York price was computed on the basis of the butter price; for 1850–1910, 2.2 pounds of butter were equal in value to 1 pound of cheese according to computations of Ronk (*13*). The value equivalents are given for 10-year periods, during which they fluctuated very little. These variable conversion factors were used to compute cheese prices from butter prices in New York. The weighted-average cheese price of New York and Wisconsin was multiplied by cheese production to obtain income from cheese production (farm and factory) (table 41).

The price of condensed and evaporated milk is equal to about one-tenth of the butter price, this being the conversion factor used by the Bureau of Agricultural Economics. Income from condensed and evaporated milk was obtained by multiplying production by price [46] (table 42). Aggregate income from butter, cheese, and condensed and evaporated milk production represents total income from manufactured dairy products, farm and factory.

During recent years total milk production has fluctuated less than production of manufactured dairy products. Therefore, milk utilization in fluid form was assumed not to be a constant percentage of manufactured dairy products (expressed in milk equivalent) but the difference between B. A. E. estimates on total milk production and production of total processed dairy products expressed in milk equivalents. The B. A. E. revisions of the census figures on total milk

[45] These data have been published in chart form only and may be subject to later revisions.

[46] The authors' income figures for census years are considerably lower than the cost of milk used in the manufacture of condensed milk as given in the Census of Manufactures. These costs amounted to $1.3 million and $4.7 million respectively in 1890 and 1900, whereas the authors' corresponding income figures from evaporated milk are $0.6 million and $4 million.

production start with 1899. These data and the smoothed series of production data of processed dairy products have almost a parallel movement. Consequently, the latter series was used and the series of total milk production was extrapolated from 1899 to 1869 on the basis of the actual relationship after 1899.

It proved impossible to compute gross income from fluid milk by applying prices of fluid milk. Neither the Wisconsin nor the New York series of fluid-milk prices is consistent during the period in question. The Wisconsin series at times represents wholesale and at other times retail prices. New York farm prices of milk for most of the years covered, are actually prices for milk sold at retail. Their use would therefore result in higher income than if computed at local farm prices. The B. A. E. computations of gross income from dairy production for 1924–37 show that the use of retail prices for the part of the fluid milk that has actually been retailed raises the total income from dairy production about 10 percent above the computation in which also the part of the milk that has been retailed was evaluated at wholesale prices. This means that the use of such unsatisfactory data on milk prices could only result in farm-income data for fluid milk that were far above actual income. On the other hand, fluctuations in milk prices seem to correspond closely to those in butter prices. (This conclusion is based on a comparison between New York State milk and butter farm prices.) Ronk states that for 1871–1930, 5.6 pounds of butter were on the average equal to 100 pounds of fluid milk, the slight changes over the entire period may be due to the incompleteness of the milk-price data. This factor, 5.6, is about the same as the usual conversion factor from butter to milk volume.

It was assumed, therefore, that the income from a certain quantity of milk would be about the same whether it resulted from the sale of fluid milk or the production of butter. Apparently, during most of the period covered, fluid milk held a slight premium over manufactured dairy products, so that the use of the price of manufactured dairy products results in a small undervaluation. For this reason the part of the milk that was fed to calves and does not enter into gross income was not deducted. This percentage fluctuated between 2 and 3, and it seems safe to assume that the omission of this correction approximately balances the undervaluation resulting from the use of manufactured dairy prices instead of fluid-milk prices. However, 3 percent of total milk production was deducted to adjust for the waste factor. This percentage is derived from recent census data; it is impossible to check whether this ratio holds also for early years. Gross-income data for fluid milk are shown in table 43.

The differences between the production of total manufactured dairy products expressed in fluid-milk equivalents and of total milk production for each year were thus computed as a percentage of manufactured dairy production, and this percentage was added to the income from manufactured dairy products in order to obtain income from total dairy production. An attempt was made to check the B. A. E.-N. B. E. R. gross-income data by comparing income derived from the production of total dairy and from manufactured milk-production data on the one hand and the butter price and the condition of the feed crop (of the preceding year) on the other hand. This check led to the following corrections: In 1882, the extrapolated figure of total milk

production is undoubtedly too high. The yield of the corn crop in 1881 was extremely low—19.8 bushels as against 27.3 in 1880 and 26.5 in 1882. This is expressed in the butter price of 1882, which was 24 cents as against 21 in 1881 and 20 in 1883. The extrapolated figure of total milk production for 1882 would indicate that fluid-milk production amounted to 83 percent of that of manufactured dairy products expressed in milk equivalent, as compared with about 65 percent in the preceding and following years. This percentage was therefore corrected from 83 to 65, according to the percentages in the immediately preceding and following years, which lowers the income figure correspondingly.

Similarly, the extrapolated data of total milk production from 1891 to 1894 seem too high for the same reason. The yield in 1890, 1892, 1893, and 1894 was low; the authors' fluid-milk production data (expressed as a percentage of manufactured milk) between 1891 and 1894 would again be too high and were also lowered on the basis of the percentage data of the preceding and following years. The yield of corn in 1901 was 18.2 bushels as against 28.1 in 1900, and 28.5 in 1902. The butter price rose from 17 cents in 1901 to 19 cents in 1902. The interpolated 1902 production figure of fluid milk would be too high—83 percent of the production of manufactured dairy as compared with 61 percent in 1901 and 75 percent in 1903. The figure was corrected accordingly.

Table 39 compares the B. A. E.-N. B. E. R. gross-income data from total dairy production with the preliminary estimates of the Department of Agriculture. Though the estimates are based on entirely

TABLE 39.—*Comparison of B. A. E. estimates with B. A. E.-N. B. E. R. estimates of gross income from dairy production, 1924–34*

Year (1)	B. A. E.-N. B. E. R. estimates (2)	Preliminary B. A. E. estimates (3)	Ratio of column (2) to column (3) (4)
	Million dollars	*Million dollars*	*Percent*
1924	1,610	1,678	95.95
1925	1,698	1,759	96.53
1926	1,799	1,805	99.67
1927	1,890	1,911	98.90
1928	1,960	1,994	98.39
1929	2,014	2,322	86.74
1930	1,707	2,030	84.09
1931	1,330	1,614	82.40
1932	1,011	1,250	87.16
1933	969	1,263	76.72
1934	1,067	1,478	72.19

different methods, they are fairly close until 1928. The differences of between 0.3 and 6.6 percent are probably due mainly to the fact that the B. A. E.-N. B. E. R. series is based on prices of manufactured dairy products instead of fluid-milk prices and the price differential is assumed to be compensated for by the inclusion of milk fed to calves. In 1929 the Department of Agriculture changed its methods. Retail prices were applied to the estimated part of milk production that was marketed at retail. The increase in the differences between the two estimates indicates that this part has been rising since 1929. As it is

GROSS FARM INCOME AND INDICES OF FARM PRODUCTION AND PRICES IN
STRAUSS, F., BEAN, L. H. DC 2

impossible to estimate the quantity of milk sold at retail for the years before 1929, the authors carried the estimates forward by using manufactured dairy prices as was done for the period before 1929, which

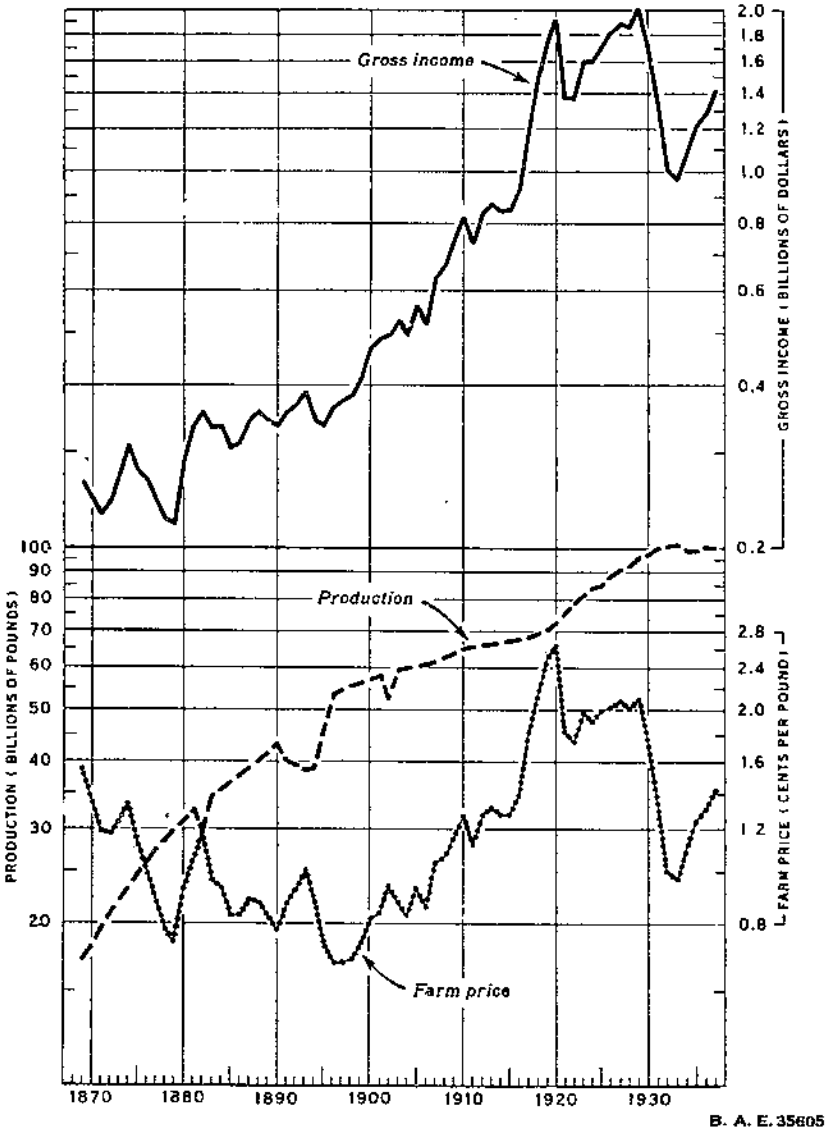


FIGURE 31.—Dairy products: Production, farm price, gross income, calendar years 1869–1937.

explains most of the increasing discrepancy between the two estimates. Production, price, and gross income from total dairy products are shown in figure 31 and table 44.

TABLE 40.—*Production, price, and gross income: Butter, farm and factory, calendar years*

Year	Production	Farm price per pound	Gross income	Year	Production	Farm price per pound	Gross income
	Million pounds	*Cents*	*Million dollars*		*Million pounds*	*Cents*	*Million dollars*
1869	514	32	164	1903	1,485	18	266
				1904	1,540	17	262
1870	412	28	115	1905	1,667	19	317
1871	470	24	113	1906	1,545	19	294
1872	434	24	104	1907	1,537	21	323
1873	566	25	142	1908	1,763	22	388
1874	585	27	158	1909	1,622	24	389
1875	556	23	128				
1876	677	21	142	1910	1,706	26	444
1877	696	18	125	1911	1,762	23	405
1878	726	16	116	1912	1,592	26	414
1879	807	15	121	1913	1,608	27	434
				1914	1,685	26	438
1880	816	19	155	1915	1,751	26	455
1881	803	21	169	1916	1,793	28	502
1882	743	24	178	1917	1,648	36	593
1883	844	20	169	1918	1,464	44	644
1884	869	19	165	1919	1,646	51	840
1885	933	17	159				
1886	989	17	168	1920	1,567	55	862
1887	978	18	176	1921	1,741	38	662
1888	978	18	176	1922	1,870	36	673
1889	1,292	17	220	1923	1,986	41	814
				1924	2,082	40	833
1890	1,171	16	187	1925	2,017	41	827
1891	1,091	18	196	1926	2,027	42	851
1892	1,058	19	201	1927	2,076	43	893
1893	1,047	21	220	1928	2,064	44	908
1894	1,063	18	191	1929	2,159	44	950
1895	1,297	15	195				
1896	1,604	14	225	1930	2,116	37	783
1897	1,533	14	215	1931	2,197	28	615
1898	1,473	14	206	1932	2,260	21	475
1899	1,493	15	224	1933	2,312	20	462
				1934	2,319	23	510
1900	1,540	17	262	1935	2,147	27	580
1901	1,575	17	268	1936	2,118	29	614
1902	1,401	19	266	1937	2,095	30	685

TABLE 41.—*Production, price, and gross income: Cheese, calendar years*

Year	Wisconsin cheese price per pound	New York butter price per pound	Conversion factor of butter price to cheese price	Estimated New York cheese price per pound	Weight given New York cheese price	Weighted average cheese price per pound	Cheese production	Gross income
	Cents	*Cents*		*Cents*		*Cents*	*Million pounds*	*Million dollars*
1869	17.1	39	2.3	17.0	10	17	163	28
1870	13.7	34	2.3	14.8	10	15	181	27
1871	12.3	30	2.1	14.3	10	14	164	23
1872	13.2	28	2.1	13.3	10	13	187	24
1873	12.3	31	2.1	14.8	10	15	212	32
1874	13.5	33	2.1	15.7	10	15	206	31
1875	12.0	28	2.1	13.3	6	13	233	30
1876	10.8	26	2.1	12.4	6	12	214	26
1877	11.5	22	2.1	10.5	6	11	235	26
1878	9.4	20	2.1	9.5	6	9	303	27
1879	8.3	18	2.1	8.6	6	9	243	22
1880	11.5	24	2.1	11.4	6	11	270	30
1881	11.1	25	2.0	12.5	6	12	304	36
1882	11.5	29	2.0	14.5	6	14	261	36
1883	11.3	23	2.0	11.5	6	11	281	31
1884	11.5	23	2.0	11.5	6	12	275	33
1885	9.5	19	2.0	9.5	3	10	260	26
1886	9.8	20	2.0	10.0	3	10	244	24
1887	10.6	22	2.0	11.0	3	11	268	30
1888	10.1	22	2.0	11.0	3	11	296	32
1889	9.3	20	2.0	10.0	3	10	301	30

TABLE 41.—*Production, price, and gross income: Cheese, calendar years*—Continued

Year	Wisconsin cheese price per pound	New York butter price per pound	Conversion factor of butter price to cheese price	Estimated New York cheese price per pound	Weight given New York cheese price	Weighted average cheese price per pound	Cheese production	Gross income
	Ct.	*Ct.*		*Ct.*		*Ct.*	*Million pounds*	*Million dollars*
1890	8.8	18	2.0	9.0	3	9	318	29
1891	9.6	22	2.0	11.0	3	11	293	32
1892	9.4	22	2.0	11.0	3	11	318	35
1893	9.9	24	2.0	12.0	3	11	254	28
1894	9.7	22	2.0	11.0	3	11	257	28
1895	8.6	19	2.0	9.5	1.5	9	234	21
1896	8.0	17	2.0	8.5	1.5	8	240	19
1897	8.5	17	2.0	8.5	1.5	8	311	25
1898	8.4	18	2.0	9.0	1.5	9	281	25
1899	10.1	19	2.0	9.5	1.5	10	299	30
1900	10.0	21	2.0	10.5	1.5	10	324	32
1901	9.8	20	1.8	11.1	1.5	11	362	40
1902	11.2	23	1.8	12.8	1.5	12	316	38
1903	11.1	22	1.8	12.2	1.5	12	323	39
1904	9.3	20	1.8	11.1	1.5	11	331	33
1905	11.7	23	1.8	12.8	1.0	12	327	39
1906	11.8	23	1.8	12.8	1.0	12	292	35
1907	13.4	27	1.8	15.0	1.0	14	286	40
1908	12.2	25	1.8	14.4	1.0	13	313	41
1909	14.6	29	1.8	16.1	1.0	15	321	48
1910	14.7	30	1.8	16.7	1.0	16	365	58
1911	12.7	28	1.8	15.6	1.0	14	357	50
1912	15.6	31	1.8	17.2	1.0	16	337	54
1913	14.3	33	1.8	18.3	1.0	16	375	60
1914	14.6	31	1.8	17.2	1.0	16	386	62
1915	14.2	31	1.8	17.2	.25	15	457	69
1916	17.5	33	1.8	18.3	.25	18	437	79
1917	22.5	43	1.8	23.9	.25	23	486	112
1918	25.9	51	1.8	28.3	.25	26	406	106
1919	29.0	60	1.8	33.3	.25	30	482	145
1920	24.9	64	1.8	35.6	.25	27	437	118
1921	18.4	46	1.8	25.6	.25	20	428	86
1922	19.3	42	1.8	23.3	.25	20	438	88
1923	22.2	49	1.8	27.2	.25	23	458	105
1924	18.2	46	1.8	25.6	.25	20	472	94
1925	21.5	48	1.8	26.7	.25	23	496	114
1926	20.1	48	1.8	26.7	.25	23	475	109
1927	22.6	50	1.8	27.8	.25	24	449	108
1928	22.1	50	1.8	27.8	.25	23	481	111
1929	20.2	50	1.8	27.8	.25	22	487	107
1930	16.4	42	1.8	23.3	.25	18	500	90
1931	12.5	32	1.8	17.8	.25	14	492	69
1932	10.0	24	1.8	13.3	.25	11	484	53
1933	10.3	24	1.8	13.3	.25	11	544	60
1934	11.1	27	1.8	15.0	.25	12	579	70
1935	12.3	32	1.8	17.8	.25	13	621	81
1936						14	641	90
1937						14	623	87

TABLE 42.—*Production, price, and gross income: Condensed and evaporated milk, calendar years*

Year	Production	Farm price per pound	Gross income	Year	Production	Farm price per pound	Gross income
	Mil. lb.	*Ct.*	*Mil. dol.*		*Mil. lb.*	*Ct.*	*Mil. dol.*
1869	4	3.2	0.1	1903	279	1.8	5
				1904	308	1.7	5
1870	4	2.8	.1	1905	339	1.9	6
1871	5	2.4	.1	1906	373	1.9	7
1872	5	2.4	.1	1907	410	2.1	9
1873	6	2.5	.2	1908	450	2.2	10
1874	7	2.7	.2	1909	495	2.4	12
1875	8	2.3	.2				
1876	9	2.1	.2	1910	556	2.6	14
1877	10	1.8	.2	1911	624	2.3	14
1878	12	1.6	.2	1912	701	2.6	18
1879	13	1.5	.2	1913	787	2.7	21
				1914	883	2.6	23
1880	15	1.9	.3	1915	1,028	2.6	27
1881	17	2.1	.4	1916	1,196	2.8	34
1882	19	2.4	.5	1917	1,391	3.6	50
1883	21	2.0	.4	1918	1,619	4.4	71
1884	24	1.9	.5	1919	1,883	5.1	96
1885	27	1.7	.5				
1886	31	1.7	.5	1920	1,416	5.5	78
1887	35	1.8	.6	1921	1,324	3.8	50
1888	40	1.8	.7	1922	1,281	3.6	46
1889	45	1.7	.8	1923	1,585	4.1	65
				1924	1,507	4.0	60
1890	52	1.6	.8	1925	1,548	4.1	64
1891	60	1.8	1.1	1926	1,456	4.2	61
1892	67	1.9	1.3	1927	1,576	4.3	68
1893	79	2.1	1.7	1928	1,604	4.4	71
1894	92	1.8	1.7	1929	1,849	4.4	81
1895	106	1.5	1.6				
1896	122	1.4	1.7	1930	1,761	3.7	65
1897	140	1.4	2.0	1931	1,682	2.8	47
1898	162	1.4	2.3	1932	1,780	2.1	37
1899	187	1.5	2.8	1933	1,899	2.0	38
				1934	1,908	2.3	44
1900	207	1.7	4	1935	----------	----------	45
1901	228	1.7	4	1936	----------	----------	46
1902	252	1.9	5	1937	----------	----------	47

TABLE 43.—*Production and gross income: Fluid milk, calendar years*

Year	Total milk production	Production of manufactured dairy products	Waste (3 percent of total milk)	Estimated production of fluid milk	Fluid milk as percent of manufactured dairy production	Gross income from fluid milk
	Bil. lb.	*Bil. lb.*	*Bil. lb.*	*Bil. lb.*	*Pct.*	*Mil. dol.*
1869	17.6	12.4	0.5	4.7	38	73
1870	18.8	10.5	.6	7.7	73	104
1871	20.1	11.5	.6	8.0	70	95
1872	21.4	11.0	.6	9.8	89	115
1873	22.7	14.0	.7	8.0	57	99
1874	24.0	14.3	.7	9.0	63	119
1875	25.4	14.0	.8	10.6	76	120
1876	26.8	16.4	.8	9.6	59	99
1877	28.2	17.0	.8	10.4	61	92
1878	29.5	18.3	.9	10.3	56	81
1979	30.8	19.4	.9	10.5	54	77
1880	32.1	19.9	1.0	11.2	56	104
1881	33.3	19.9	1.0	12.4	62	128
1882	30.9	18.2	.9	11.8	65	140
1883	35.6	20.6	1.1	13.9	67	134
1884	36.7	21.1	1.1	14.5	69	137
1885	37.8	22.3	1.1	14.4	65	120
1886	39.0	23.3	1.2	14.5	62	120
1887	40.2	23.3	1.2	15.7	67	138
1888	41.6	23.5	1.2	16.9	72	150
1889	43.0	30.2	1.3	11.5	38	95

TABLE 43.—*Production and gross income: Fluid milk, calendar years*—Continued.

Year	Total milk production	Production of manufactured dairy products	Waste (3 percent of total milk)	Estimated production of fluid milk	Fluid milk as percent of manufactured dairy production	Gross income from fluid milk
	Bil. lb.	*Bil. lb.*	*Bil. lb.*	*Bil. lb.*	*Pct.*	*Mil. dol.*
1890	44.5	27.9	1.3	15.3	55	119
1891	41.6	26.0	1.2	14.4	55	126
1892	40.8	25.5	1.2	14.1	55	130
1893	39.5	24.7	1.2	13.6	55	138
1894	40.2	25.1	1.2	13.9	55	122
1895	47.7	29.8	1.4	16.5	55	119
1896	55.2	36.3	1.7	17.2	47	116
1897	56.5	35.6	1.7	19.2	54	131
1898	57.5	34.1	1.7	21.7	64	150
1899	58.0	34.7	1.7	21.6	62	150
1900	58.8	36.0	1.8	21.0	58	173
1901	59.8	37.2	1.8	20.8	56	175
1902	54.5	33.1	1.6	19.8	60	185
1903	61.3	35.0	1.8	24.5	70	217
1904	62.0	36.3	1.9	23.8	66	198
1905	62.5	39.0	1.9	21.6	55	199
1906	63.1	36.2	1.9	25.0	69	232
1907	63.6	36.0	1.9	25.7	71	263
1908	64.8	41.1	1.9	21.8	53	232
1909	66.0	38.7	2.0	25.7	67	301
1910	67.1	40.7	2.0	24.4	60	310
1911	67.8	41.9	2.0	23.9	57	268
1912	68.4	38.3	2.1	28.0	73	355
1913	68.7	39.3	2.1	27.3	69	355
1914	69.1	41.2	2.1	25.8	63	329
1915	69.6	43.6	2.1	23.9	55	303
1916	70.0	44.7	2.1	23.2	52	319
1917	70.4	42.5	2.1	25.8	61	460
1918	71.5	38.4	2.1	31.0	81	665
1919	72.8	43.5	2.2	27.1	62	670
1920	74.8	40.3	2.2	32.3	80	846
1921	78.1	43.8	2.3	32.0	73	583
1922	81.6	46.5	2.4	32.7	70	585
1923	84.4	49.8	2.5	32.1	64	630
1924	87.1	51.8	2.6	32.7	63	622
1925	88.4	50.7	2.7	35.0	69	693
1926	91.0	50.5	2.8	38.6	76	777
1927	94.3	51.6	2.8	39.9	77	822
1928	95.9	51.7	2.9	41.3	80	871
1929	99.0	54.3	3.0	41.7	77	876
1930	100.2	53.3	3.0	43.9	82	769
1931	103.1	54.8	3.1	45.2	82	599
1932	103.9	56.2	3.1	44.6	79	446
1933	104.8	58.8	3.1	42.9	73	409
1934	101.5	57.6	3.0	40.9	71	443
1935	101.4	57.0	3.0	41.4	73	515
1936	103.2	57.7	3.1	42.4	73	548
1937	103.4	57.6	3.1	42.7	74	606

TABLE 44.—*Production, price, and gross income: Total dairy products, calendar years*

Year	Gross income from—					Total dairy products		
	Butter	Cheese	Condensed and evaporated milk	Total manufactured dairy products	Fluid milk	Production	Farm price per pound	Gross income
	Mil. dol.	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Bil. lb.*	*Ct.*	*Mil. dol.*
1869	164	28	0.1	192	73	17.1	1.55	265
1870	115	27	.1	143	104	18.2	1.36	247
1871	113	23	.1	136	95	19.5	1.18	231
1872	104	21	.1	126	115	20.8	1.17	244
1873	142	32	.2	174	99	22.0	1.24	273
1874	158	31	.2	189	119	23.3	1.33	308
1875	128	30	.2	158	120	24.6	1.13	278
1876	142	26	.2	168	99	26.0	1.02	267
1877	125	26	.2	151	92	27.4	.89	243
1878	116	27	.2	144	81	28.6	.78	225
1879	121	22	.2	143	77	29.9	.74	220
1880	155	30	.3	185	104	31.1	.93	289
1881	160	35	.4	206	128	32.3	1.03	334
1882	178	36	.5	215	140	33.0	1.18	355
1883	160	31	.4	200	134	34.5	.97	334
1884	165	33	.5	199	137	35.6	.94	336
1885	159	26	.5	185	120	36.7	.83	305
1886	168	24	.5	193	120	37.8	.83	313
1887	176	30	.6	206	138	39.0	.89	344
1888	176	32	.7	208	150	40.4	.88	358
1889	220	30	.8	250	95	41.7	.83	345
1890	187	29	.8	217	119	43.2	.78	336
1891	196	32	1.1	230	126	40.4	.88	356
1892	201	35	1.3	237	130	39.6	.93	367
1893	220	28	1.7	250	138	38.3	1.01	388
1894	191	28	1.7	221	122	39.0	.88	343
1895	195	21	1.6	217	119	46.3	.73	336
1896	225	19	1.7	246	116	53.5	.68	362
1897	215	25	2.0	242	131	54.8	.68	373
1898	206	25	2.3	234	150	55.8	.69	384
1899	224	30	2.8	257	159	56.3	.74	416
1900	262	32	4	298	173	57.0	.82	471
1901	268	40	4	312	175	58.0	.84	487
1902	266	38	5	309	185	52.9	.94	491
1903	266	39	5	310	217	59.5	.88	527
1904	262	33	5	300	198	60.1	.83	498
1905	317	39	6	362	199	60.6	.93	561
1906	294	35	7	336	232	61.2	.93	568
1907	323	40	9	371	263	61.7	1.03	631
1908	388	41	10	438	232	62.9	1.07	670
1909	389	48	12	449	301	64.0	1.17	750
1910	444	58	14	516	310	65.1	1.27	826
1911	405	50	14	470	268	65.8	1.12	738
1912	414	54	18	486	355	66.3	1.27	841
1913	434	60	21	515	355	66.6	1.31	870
1914	438	62	23	523	329	67.0	1.27	852
1915	455	60	37	551	303	67.5	1.27	854
1916	502	79	34	614	319	67.9	1.38	933
1917	593	112	50	755	460	68.3	1.78	1,215
1918	644	106	71	821	665	69.4	2.14	1,486
1919	840	145	96	1,080	670	70.6	2.48	1,750
1920	862	118	78	1,058	846	72.6	2.63	1,904
1921	662	86	50	798	583	75.8	1.82	1,381
1922	673	88	46	807	565	78.2	1.74	1,372
1923	814	105	65	985	630	81.9	1.97	1,615
1924	833	94	60	988	622	84.5	1.99	1,610
1925	827	114	64	1,005	693	85.7	1.98	1,698
1926	851	109	61	1,022	777	89.1	2.02	1,799
1927	893	108	68	1,068	822	91.5	2.07	1,890
1928	903	111	71	1,089	871	93.0	2.11	1,960
1929	950	107	81	1,138	876	96.0	2.09	2,014
1930	783	90	65	938	769	97.2	1.76	1,707
1931	615	69	47	731	599	100.0	1.33	1,330
1932	475	53	37	565	446	100.8	1.00	1,011
1933	462	50	38	560	409	101.7	.95	969
1934	510	70	44	624	443	98.5	1.08	1,067
1935	580	81	45	706	515	98.4	1.24	1,221
1936	614	90	46	750	548	100.1	1.30	1,298
1937	685	87	47	819	606	100.0	1.42	1,425

Poultry and Eggs

For 1925–37, recently revised estimates of the Bureau of Agricultural Economics on the number of chickens sold and consumed in farm households, and on the number of eggs sold and consumed in farm households have been used in the income computation for poultry and eggs.[47] The sales and home-consumption data are given in number and were converted to pounds on the basis of 3.7 pounds per chicken. Farm price of chickens and of eggs, 1909–37, are also B. A. E. revised figures (*23 v. 13, p. 46; 24, 1938, p. 371*) but differ slightly from those given in the aforementioned source which shows separate price data for chickens and eggs sold and consumed in farm households, owing to the different weighting of State prices for these two categories. As this segregation is not available for earlier years, prices for chickens and eggs sold were applied throughout. The differences are slight.

Data on chickens for earlier years are derived from census data. As is well known, these census data greatly underenumerate production. The Department of Agriculture states that

> while reasonably complete for numbers of farm poultry on hand at the time of taking the census, it seems evident that they are low in the reported number of eggs laid and sold, and of chickens raised and sold during the previous year. These production and sales figures are not enumerations of facts within the immediate knowledge of the farmer, but merely a record of his judgment or best guess, or that of his wife, or of the enumerator. Omissions and understatements under these conditions are to be expected.[48]

Using the best supporting evidence then available, the Department of Agriculture attempted to adjust the census data for errors resulting from differences in the date on which the enumeration was made and from differences in the census schedule. These adjustments led to upward corrections for the number of chickens on hand of 38 percent in 1880, 12 percent in 1900, 15 percent in 1910 and to a reduction of 25 percent of the census figure for 1890.[49] There exists a nearly constant ratio between the number of chickens on hand and the number raised for the census years 1910, 1920, and 1925, namely 143.0, 142.1, and 144.1 percent. The adjusted census figures, 1880–1910, of the number of chickens on hand were therefore converted to "number of chickens raised" by applying the approximate ratio figure, 145 percent, for 1910–25. As indicated, these estimates attempt to take care of the aforementioned inaccuracies in the census data. The most recent estimates by the Department of Agriculture utilized additional information as secured by extensive experimental enumerations by the field statisticians of the Crop Reporting Board, by data on rural and urban consumption, and by an analysis of data for sample flocks. This improved method resulted in the necessity of increasing the original estimates of the number of chickens raised 11.6 percent in 1930 and 11.8 percent in 1935. It was assumed that a similar ratio of omission was prevalent in earlier years; therefore the adjusted census figures on number of chickens raised were marked up 10 percent. The revised data, 1925–37, indicate that the number of chickens lost amounts to about 8 percent of the number raised. The revised data

[47] United States Bureau of Agricultural Economics. Farm production and disposition of chickens and eggs, 1925-1937. 57 pp. [Mimeographed.]

[48] Jones, S. A. Farm value, gross income and farm production, part II, methods and procedure in estimating production, disposition and income, 1924-1929, poultry and eggs. Preliminary report. 124 pp., illus. December 1930. See p. 3. [Mimeographed.]

[49] The revisions are explained in detail in the source cited in footnote 47.

on number of chickens raised were for this reason lowered 8 percent to obtain the number produced. Annual data were obtained by straight-line interpolation of adjusted census figures. The average

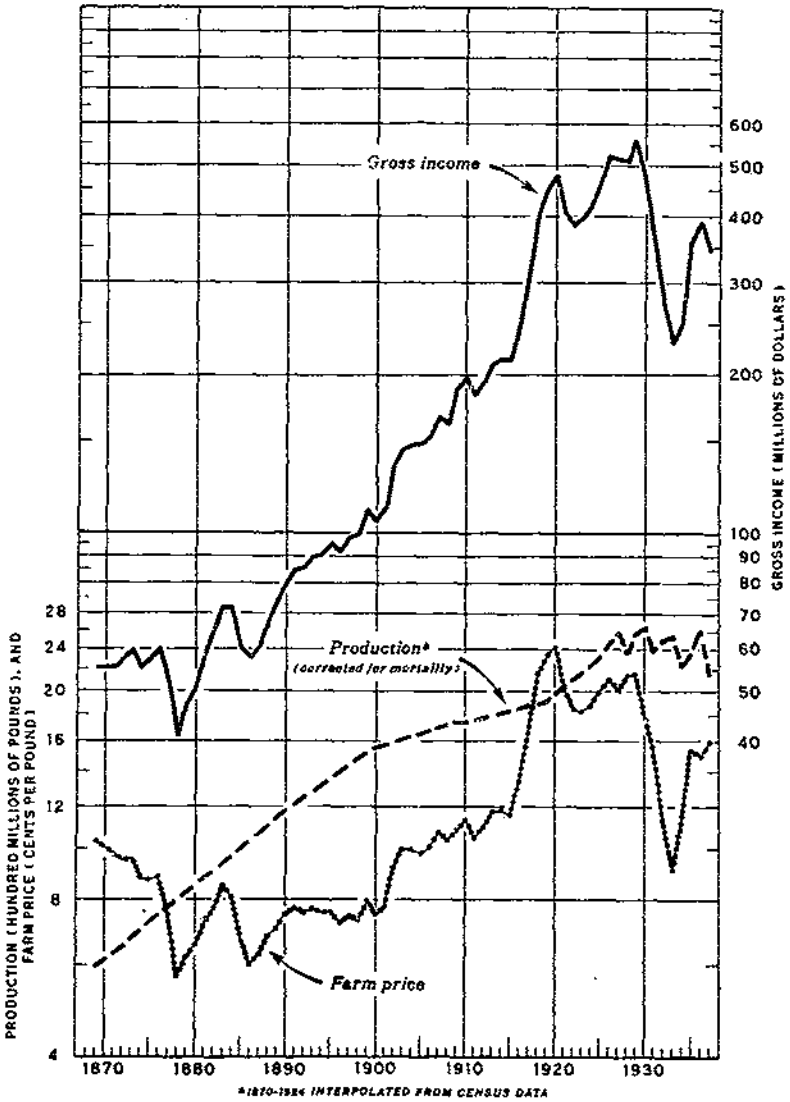


FIGURE 32.—Chickens: Production, farm price, gross income, calendar years 1869–1937.

live weight of the chickens sold and consumed on farms was estimated to have decreased from 4 to 3.7 pounds between 1900 and 1910. The (B. A. E.) farm price for chickens was applied from 1869 to 1908. It includes the following States: Since 1859, New York, Wisconsin, Maine, Illinois; since 1873, Maryland; since 1883, Virginia. It had to

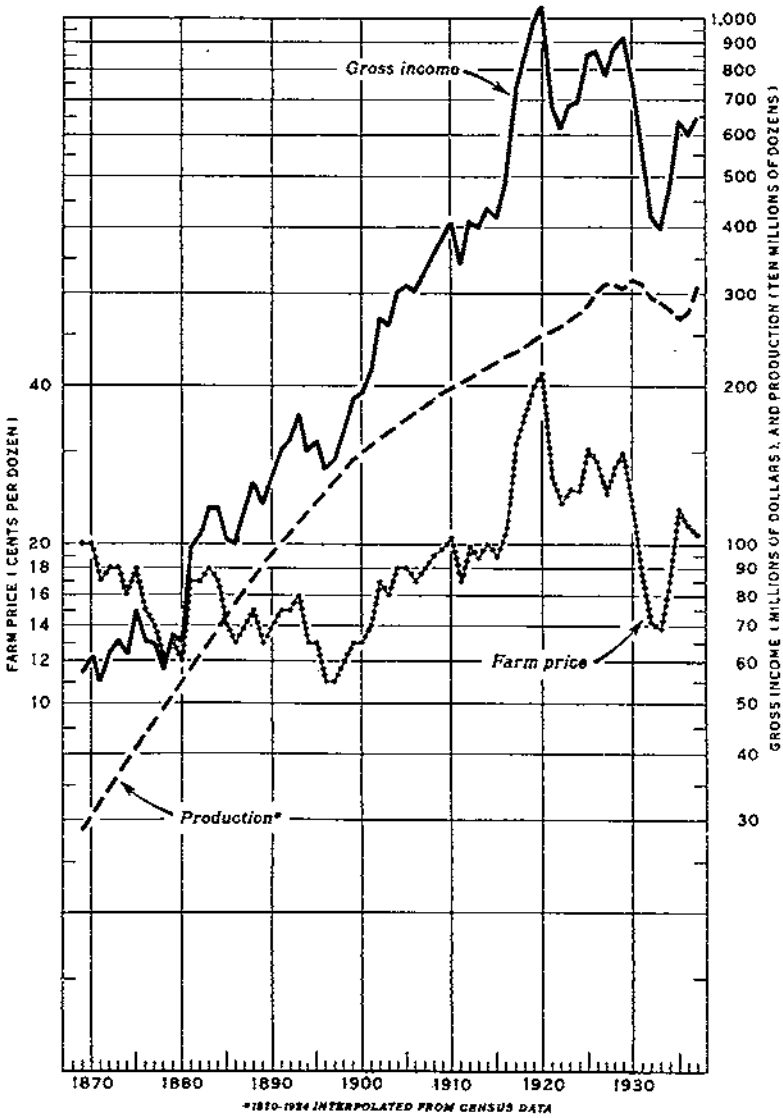
be lowered 9.6 percent to make it comparable with the B. A. E. price for the United States. Production, farm price, and gross income for calendar years 1869–1937 are shown in figure 32 and table 45.

Census data on egg production are even more strongly affected by the diverse dates of the census enumeration. From a comparison of census figures with estimates of the Department of Agriculture, which attempt to adjust for this variation, it appears that censuses taken in January show by far the largest underenumeration. It is impossible to correct for this factor exactly. But based on recent experience the January enumerations were raised 30 percent, on the basis of the 1935 census, the April enumerations 20 percent, and the June enumerations 15 percent. This adjustment is not entirely satisfactory, but as no additional evidence is available, it results in far closer approximations than would the use of census data. Annual data were procured by straight-line interpolation. For 1869–1908 the (B. A. E.) farm price of eggs was used. It is based on prices for the following States: Since 1869, New York, Wisconsin, Maine, Maryland, Virginia; since 1871, Illinois; since 1891, South Dakota; since 1895, Nebraska.

Production, farm price, and gross income for calendar years 1869–1937 are shown in figure 33 and table 46.

TABLE 45.—*Production, price, and gross income: Chickens, calendar years*

Year	Production	Weight per chicken	Production	Price per pound	Gross income	Year	Production	Weight per chicken	Production	Price per pound	Gross income
	Million chickens	*Pounds*	*Million pounds*	*Cents*	*Million dollars*		*Million chickens*	*Pounds*	*Million pounds*	*Cents*	*Million dollars*
1869	148	4.0	592	10.3	56	1903	413	3.91	1,615	9.0	145
						1904	422	3.88	1,637	9.0	147
1870	153	4.0	612	10.1	56	1905	431	3.85	1,659	9.8	148
1871	158	4.0	632	9.7	56	1906	440	3.82	1,681	10.0	153
1872	163	4.0	652	9.5	57	1907	449	3.79	1,702	10.7	167
1873	169	4.0	676	9.6	59	1908	458	3.76	1,723	10.3	162
1874	175	4.0	700	8.8	56	1909	(467)	3.73	1,742	10.8	188
1875	181	4.0	724	8.7	57						
1876	187	4.0	748	8.8	60	1910	471	3.7	1,743	11.3	197
1877	193	4.0	772	7.4	52	1911	475	3.7	1,758	10.4	183
1878	199	4.0	796	5.7	41	1912	480	3.7	1,776	10.9	194
1879	(206)	4.0	824	6.2	47	1913	485	3.7	1,794	11.7	210
						1914	490	3.7	1,813	11.8	214
1880	213	4.0	852	6.5	50	1915	495	3.7	1,833	11.6	213
1881	220	4.0	880	7.2	58	1916	500	3.7	1,850	13.4	248
1882	227	4.0	908	7.7	64	1917	505	3.7	1,868	16.9	316
1883	234	4.0	936	8.4	72	1918	511	3.7	1,891	21.6	408
1884	242	4.0	968	8.1	72	1919	(517)	3.7	1,913	23.4	448
1885	250	4.0	1,000	6.7	61						
1886	258	4.0	1,032	6.0	57	1920	533	3.7	1,972	24.3	479
1887	267	4.0	1,068	6.3	61	1921	549	3.7	2,031	20.1	408
1888	276	4.0	1,104	6.8	68	1922	567	3.7	2,098	18.4	386
1889	(286)	4.0	1,144	7.0	73	1923	586	3.7	2,168	18.3	397
						1924	605	3.7	2,238	18.8	421
1890	294	4.0	1,176	7.5	80	1925	(626)	3.7	2,316	19.8	459
1891	303	4.0	1,212	7.7	85	1926	665	3.7	2,460	21.1	519
1892	312	4.0	1,248	7.6	86	1927	694	3.7	2,568	19.9	511
1893	321	4.0	1,284	7.7	90	1928	640	3.7	2,368	21.4	507
1894	330	4.0	1,320	7.6	91	1929	692	3.7	2,560	21.7	556
1895	340	4.0	1,360	7.6	94						
1896	350	4.0	1,400	7.2	92	1930	714	3.7	2,642	17.[illegible]	470
1897	360	4.0	1,440	7.4	98	1931	647	3.7	2,394	15.0	359
1898	371	4.0	1,484	7.3	99	1932	673	3.7	2,490	11.1	276
1899	(382)	4.0	1,528	7.9	110	1933	685	3.7	2,534	9.1	231
						1934	605	3.7	2,238	11.2	251
1900	389	4.0	1,556	7.5	106	1935	632	3.7	2,338	15.3	358
1901	397	3.97	1,576	7.8	112	1936	703	3.7	2,601	15.0	390
1902	405	3.94	1,596	9.2	134	1937	584	3.7	2,161	16.0	346



B. A. E. 35616

FIGURE 33.—Eggs: Production, farm price, gross income, calendar years 1869–1937.

TABLE 46.—*Production, price, and gross income: Eggs, calendar years*

Year	Production	Farm price, per dozen	Gross income	Year	Production	Farm price, per dozen	Gross income
	Mil. doz.	*Ct.*	*Mil. dol.*		*Mil. doz.*	*Ct.*	*Mil. dol.*
1869	287	20	57	1903	1,630	16	261
				1904	1,680	18	302
1870	305	20	61	1905	1,730	18	311
1871	324	17	55	1906	1,780	17	303
1872	344	18	62	1907	1,830	18	329
1873	365	18	66	1908	1,880	19	357
1874	387	16	62	1909	(1,937)	19.6	380
1875	410	18	74				
1876	434	15	65	1910	1,980	20.5	406
1877	459	14	64	1911	2,025	16.9	342
1878	485	12	58	1912	2,075	19.8	411
1879	(513)	13	67	1913	2,125	18.8	400
				1914	2,175	20.1	437
1880	544	12	65	1915	2,225	18.9	421
1881	577	17	98	1916	2,275	21.4	487
1882	612	17	104	1917	2,325	31.3	728
1883	649	18	117	1918	2,375	35.2	836
1884	688	17	117	1919	(2,456)	39.9	980
1885	729	14	102				
1886	772	13	100	1920	2,500	42.3	1,058
1887	818	14	115	1921	2,550	26.9	686
1888	867	15	130	1922	2,600	23.9	621
1889	(919)	13	119	1923	2,675	25.6	685
				1924	2,750	25.2	693
1890	961	14	135	1925	2,832	30.4	861
1891	1,005	15	151	1926	3,010	28.8	869
1892	1,051	15	158	1927	3,131	25.0	783
1893	1,099	16	176	1928	3,140	28.0	879
1894	1,150	13	150	1929	3,077	29.9	920
1895	1,204	13	157				
1896	1,261	11	139	1930	3,178	23.7	753
1897	1,321	11	145	1931	3,135	17.5	549
1898	1,384	12	166	1932	2,951	14.2	419
1899	(1,451)	13	189	1933	2,888	13.8	399
				1934	2,808	17.0	477
1900	1,495	13	194	1935	2,718	23.4	636
1901	1,540	14	216	1936	2,773	21.7	602
1902	1,585	17	269	1937	3,090	20.9	646

WOOL

Before 1909 production data for wool, as published by the National Association of Wool Manufacturers, were used (*5, v. 1, p. 244; 1, p. 18*). Apparently the Bureau of Agricultural Economics considers this series the most reliable of those available (*24, 1937, p. 280, footnote*). Since 1909 revised production, price, and income data of the Department of Agriculture could be utilized.[50] The (B. A. E.) farm price was raised 16.9 percent to make it consistent with the B. A. E. farm price.

Production, farm price, and gross income for calendar years 1869–1937 are shown in figure 34 and table 47.

[50] Published in the meantime in the series Income Parity for Agriculture.

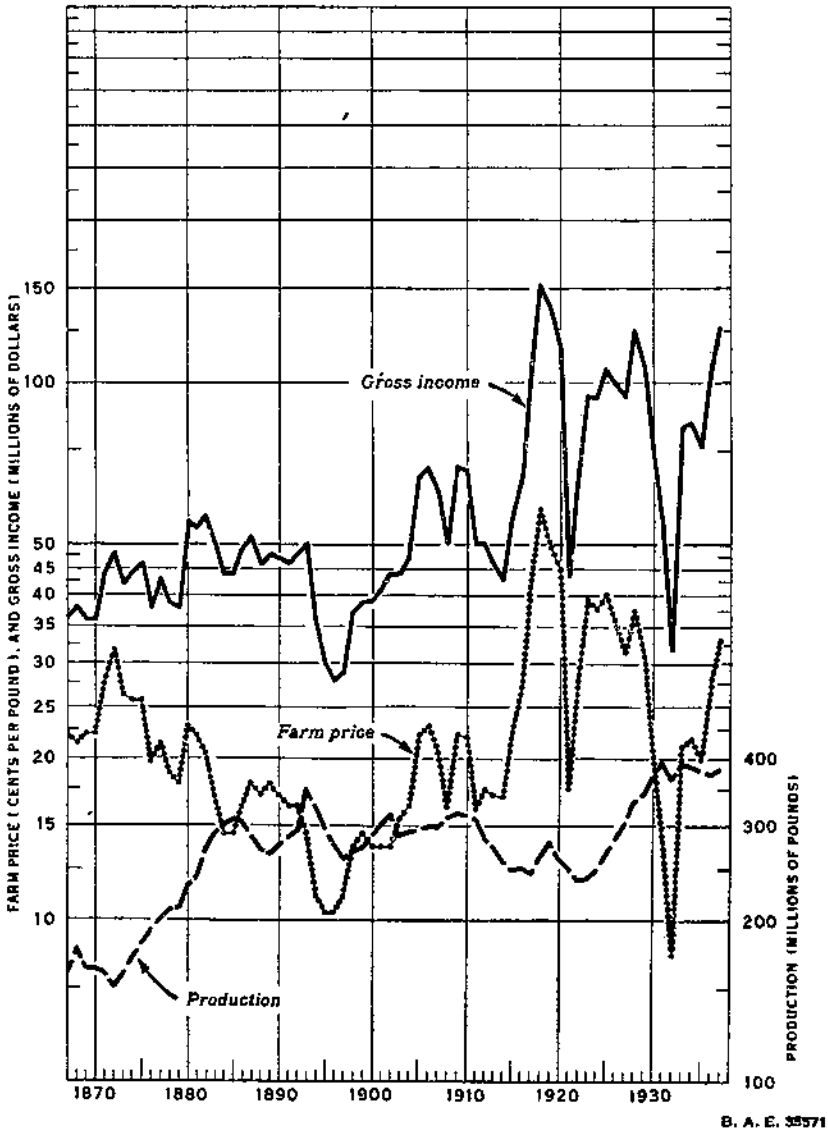


FIGURE 34.—Wool: Production, farm price, gross income, calendar years 1869–1937.

TABLE 47.—*Production, price, and gross income: Wool, calendar years*

Year	Production	Farm price per pound	Gross income	Year	Production	Farm price per pound	Gross income
	Million pounds	*Cents*	*Million dollars*		*Million pounds*	*Cents*	*Million dollars*
1869	162	22.2	36	1903	287	15.4	44
				1904	292	16.3	47
1870	162	22.2	36	1905	295	22.2	66
1871	160	27.4	44	1906	299	23.1	69
1872	150	31.7	48	1907	298	20.5	62
1873	158	26.5	42	1908	311	16.3	50
1874	170	25.7	44	1909	316	22.2	70
1875	181	25.7	46				
1876	192	19.7	38	1910	312	21.8	68
1877	200	21.4	43	1911	308	16.1	50
1878	208	18.8	39	1912	284	17.5	50
1879	211	18.0	38	1913	272	17.0	46
				1914	257	16.8	43
1880	232	23.1	54	1915	248	22.3	55
1881	240	22.2	53	1916	251	26.7	67
1882	272	20.5	56	1917	244	41.6	102
1883	290	17.1	50	1918	262	57.7	151
1884	300	14.5	44	1919	279	49.5	138
1885	308	14.5	44				
1886	302	16.3	49	1920	259	44.8	116
1887	285	18.0	51	1921	251	17.4	44
1888	269	17.1	46	1922	237	27.7	66
1889	265	18.0	48	1923	239	39.6	95
				1924	248	37.8	94
1890	276	17.1	47	1925	264	40.2	106
1891	285	16.3	46	1926	282	35.2	99
1892	294	16.3	48	1927	303	31.5	95
1893	349	14.5	50	1928	331	37.8	125
1894	325	11.1	36	1929	345	31.0	107
1895	294	10.3	30				
1896	272	10.3	28	1930	370	20.2	75
1897	259	11.1	29	1931	396	13.7	54
1898	267	13.7	37	1932	388	8.6	32
1899	272	14.5	39	1933	391	21.0	82
				1934	387	21.7	84
1900	288	13.7	39	1935	390	19.9	76
1901	303	13.7	41	1936	376	28.0	105
1902	316	13.7	44	1937	383	32.9	126

CATTLE

Department of Agriculture estimates of slaughter are available since 1899 (*24, 1938, p. 293*). The Department of Agriculture derives total slaughter (number of head) by estimating four kinds of slaughter separately: Federally inspected, noninspected wholesale, retail, and farm slaughter. By adjusting for the yearly variations in live weight per head of these four kinds of slaughter, a consistent slaughter series, expressed in pounds of live weight, is obtained. The (B. A. E.) calendar-year farm price of beef cattle includes the following States and cities: since 1869, New York, Virginia, Chicago, Maine, Wisconsin; since 1870, Iowa; since 1891, South Dakota. The (B. A. E.) price is 0.7 percent below the B. A. E. average price 1910–14 and was adjusted accordingly. Gross income from cattle since 1899 was computed by multiplying B. A. E. estimates of slaughter by the (B. A. E.) adjusted farm price of beef cattle.

Slaughter for 1869–98 was estimated on the basis of inventories of cattle on farms. Fortunately, the Department of Agriculture recently completed its revised estimates of annual livestock inventories since 1867 [51] which are undoubtedly a marked improvement over

[51] U. S. Bureau of Agricultural Economics. LIVESTOCK ON FARMS, JANUARY 1, 1867-1919. REVISED ESTIMATES, NUMBER, VALUE PER HEAD, TOTAL VALUE, BY STATES AND DIVISIONS. 137 pp. January 1938. [Mimeographed.]

previous estimates. The estimates of "cattle inventories" include "all cattle on farms," therefore it was necessary to obtain separate series for inventories of "cattle 1 year and over" and for "calves under 1 year."

The Censuses of Agriculture for 1910, 1920, and 1935, taken as of January 1, show 23.6, 23.2, and 23.6 percent of calves under 1 year (percentage of total cattle). The indications are—according to census data for earlier years adjusted for differences in the date of enumeration—that this ratio has not varied notably. A series of "inventories of cattle 1 year and over" was computed by subtracting 23.5 percent from the "inventories of all cattle on farms."

Some experts stress the nearly constant relationship between "inventories of cattle on farms" and slaughter. The 1900 Census of Agriculture says that "the number of beef cattle marketed in any 1 year bears a nearly constant ratio to the number of cows and calves remaining on farms" (p. CLIII). After studying this ratio extensively one of the early experts of the Department of Agriculture, Holmes (*8, p. 70*), wrote:

> Meat supply per head of meat animals in stock has increased particularly since 1870, 1880, and 1890. The practice of slaughtering cattle at younger ages, which began less than a score of years ago and which has continuously reduced the average age of cattle slaughtered to the present time, has a certain arithmetical result upon the fraction of meat production by any given number of cattle in stock.
>
> If at the present time 100 cattle in stock produce on the average 24.1 percent of their number annually for slaughter—calves under 1 year not included—computations of the fraction of slaughter under supposed former conditions at the older average age of years also indicate that the fraction of slaughter for cattle, not including calves under 1 year, was perhaps 20 or 21 percent.

Holmes' ratios for 1899 of cattle slaughtered to inventories of cattle 1 year and over are amazingly close to the ratios computed from B. A. E. data. Relating the B. A. E. estimates of slaughter to the B. A. E.-N. B. E. R. computed data on inventories of cattle 1 year and over, the following percentages were obtained: 1900, 23.2; 1901, 24.1; 1902, 23.9; 1903, 24.3; and 1904, 24.1.

The number of head slaughtered was consequently estimated by applying these ratios to the cattle-inventory series. The ratio was assumed to have increased continuously from 20.7 percent in 1867 to 24.1 percent in 1899. An average constant live weight of 950 pounds per head of cattle slaughtered was used to convert slaughter in number of head to slaughter in pounds of live weight, 1869–99. This corresponds to Department of Agriculture estimates for the years around 1899. The age at which cattle were slaughtered declined during this period, but it was assumed that this was compensated for by the better feed utilization due to improvements in breeding. The 1900 Census says: "owing to improvements in breeding * * * 2-year old steers are often produced at a weight equal to that of the older cattle marketed in preceding years." Although there is undoubtedly a margin of error in the assumption of a constant live weight, it is small. Over the entire period 1900–1930 the live weight in any 1 year did not depart more than 5 percent from the average.

An effort was made to check the slaughter estimates derived from

"inventories of cattle 1 year and over on farms" by computing a slaughter series based on consumption of beef per capita. Using B. A. E. slaughter estimates since 1899, farm and nonfarm per capita consumption of beef was computed in pounds. Per capita beef consumption of the farm population was 22.98 pounds in 1899, 32.46 pounds in 1910, 22.59 pounds in 1920, and 11.74 pounds in 1929. The nonfarm population consumed 212.53 pounds, 197.15 pounds, 153.88 pounds, and 118.0 pounds in the corresponding years. Assuming for 1869–98 a per capita consumption of 200 pounds for the nonfarm population and of 20 pounds for the farm population, and basing the computation for census years on estimates of farm and nonfarm population made by the Agricultural Adjustment Administration (*28*), it was found that the trend of slaughter as indicated by this method of estimating is similar to the trend computed on the basis of inventories. Intercensus year data were obtained from a straight-line interpolation of the percentage of farm population to total population. This check has meaning only insofar as the total movement of slaughter during these three decades is concerned; that is, it corroborates the indication that slaughter increased from about 4 billion to 10 billion pounds.

Only a slaughter series corresponding to inspected slaughter has formerly been available for 1879–99. This was known to include a serious bias arising from the sharp increase in Federal inspection. It apparently included about 42 percent of total slaughter in 1879 as against about 70 percent in 1899. The estimates of federally inspected slaughter (old series) as percentages of the B. A. E.—N. B. E. R. estimates of total slaughter of cattle are as follows:

1879	41.6	1886	41.1	1893	72.9
1880	42.9	1887	44.3	1894	76.0
1881	41.8	1888	50.3	1895	73.4
1882	41.9	1889	55.6	1896	74.9
1883	59.9	1890	61.8	1897	73.9
1884	40.3	1891	60.7	1898	62.5
1885	41.0	1892	68.8	1899	70.2

Gross income from the slaughter of cattle was computed for 1869–98 by multiplying slaughter estimates (in pounds) by the (B. A. E.) adjusted farm price of beef (expressed in cents per pound of live weight).

To income from slaughter the income from exports of live cattle was added. Calendar-year exports of live cattle before 1877 were computed by averaging 2 fiscal years; from 1877 to 1904 calendar-year export figures are those of the Cincinnati Price Current; since 1905, the figures are from the Department of Agriculture. According to data of the Department of Agriculture and of G. K. Holmes, the average weight of exported cattle is 1,250 pounds. Exports of cattle, expressed in pounds of live weight, were multiplied by the B. A. E. adjusted farm price of beef cattle to obtain gross income from exports of live cattle.

Production, farm price, and gross income for calendar years 1869–1937 are shown in figures 35 and 36 and tables 48–50.

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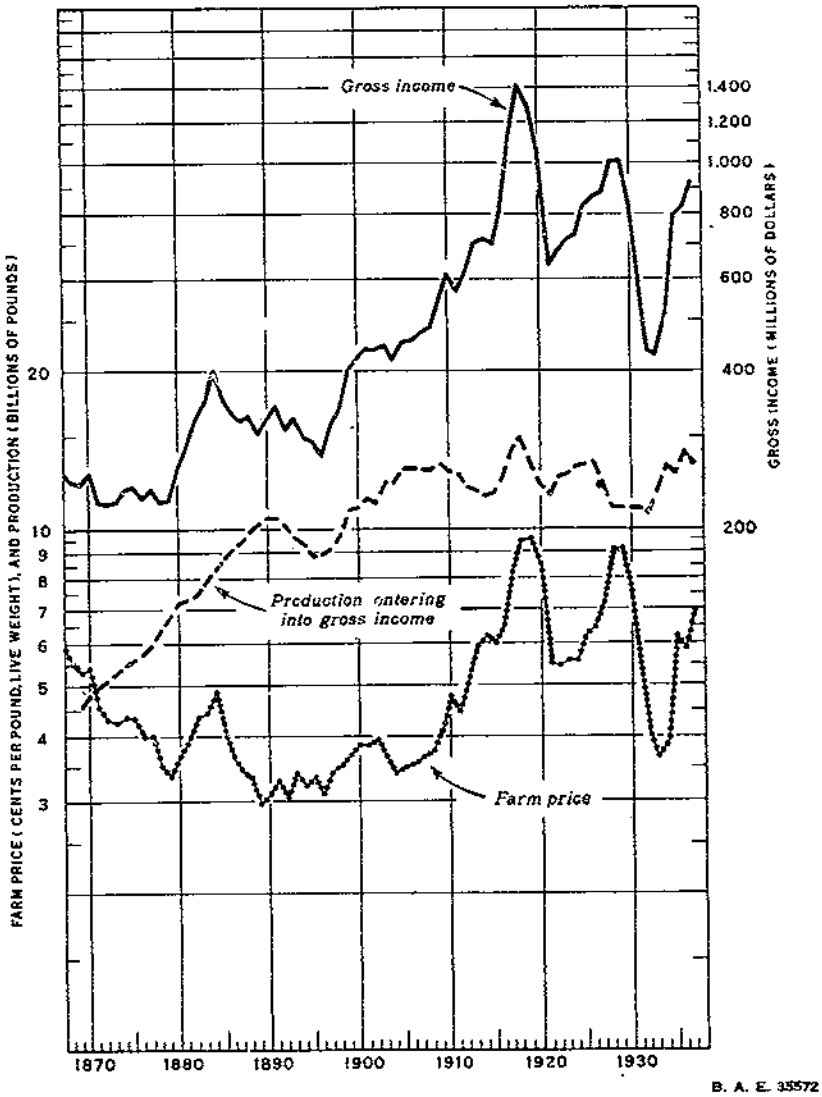

FIGURE 35.—Live cattle and beef products: Production, farm price, gross income, calendar years 1869–1937

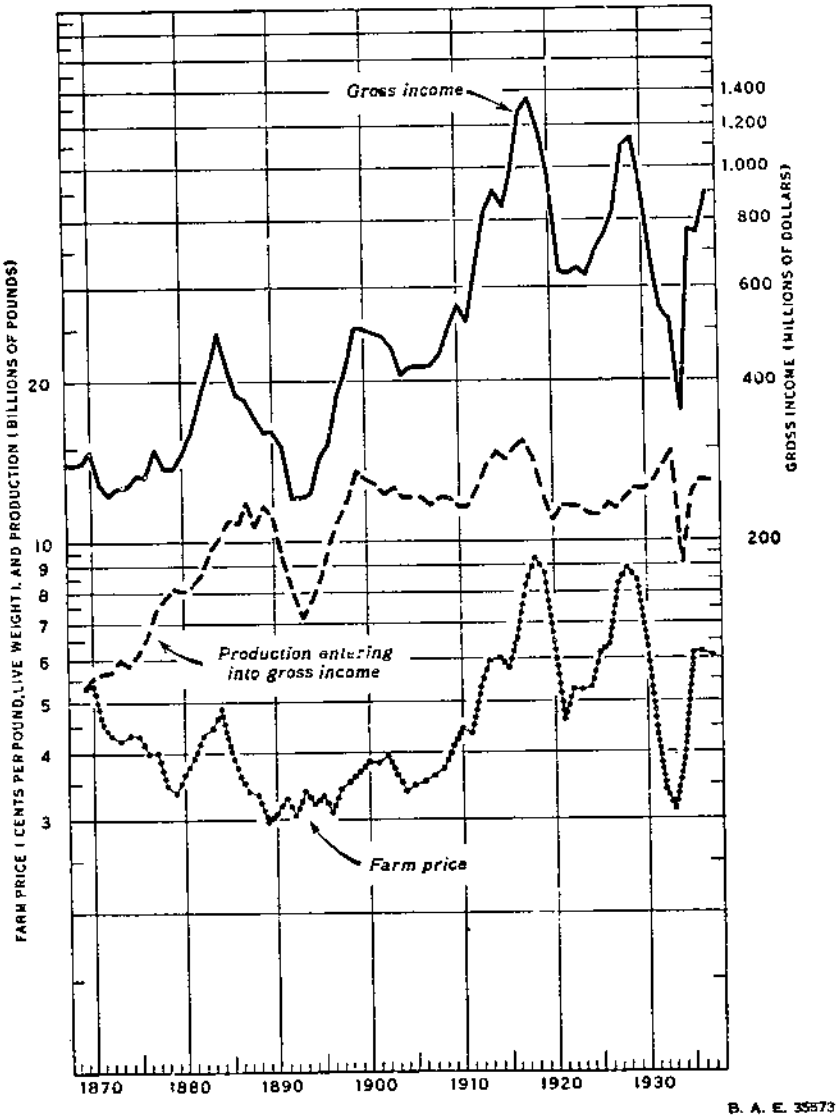

FIGURE 36.—Live cattle and beef products, adjusted for changes in inventories: Production, farm price, gross income, calendar years 1869–1937

TABLE 48.—*Production, price, and gross income: Cattle, calendar years* [1]

Year	Number of all cattle on farms	Estimated number of cattle minus calves on farms	Estimated percentage slaughtered	Estimate slaughter		Farm price per pound live weight	Gross income
				Number	Live weight		
	Thous.	*Thous.*	*Pct.*	*Thous.*	*Mil. lb.*	*Cts.*	*Mil. dol.*
1869	30,060	23,020	20.9	4,811	4,570	5.30	242
1870	31,082	23,780	21.0	4,994	4,744	5.40	256
1871	32,107	24,560	21.1	5,182	4,922	4.55	224
1872	33,078	25,310	21.2	5,366	5,098	4.33	221
1873	33,830	25,880	21.3	5,512	5,236	4.24	222
1874	34,821	26,640	21.4	5,701	5,416	4.36	236
1875	35,361	27,050	21.5	5,816	5,525	4.32	239
1876	36,140	27,650	21.6	5,972	5,673	4.00	227
1877	37,333	28,560	21.7	6,198	5,888	4.01	236
1878	39,396	30,140	21.8	6,570	6,241	3.49	218
1879	41,420	31,690	21.9	6,940	6,593	3.37	222
1880	43,347	33,150	22.0	7,293	6,928	3.66	253
1881	44,501	34,040	22.1	7,523	7,146	3.92	280
1882	45,738	34,990	22.2	7,768	7,380	4.33	319
1883	47,387	36,250	22.3	8,084	7,680	4.45	342
1884	49,804	38,100	22.4	8,534	8,107	4.86	394
1885	52,463	40,130	22.5	9,029	8,577	4.02	345
1886	54,868	41,970	22.6	9,485	9,011	3.62	326
1887	56,602	43,300	22.7	9,829	9,337	3.40	317
1888	58,599	44,820	22.8	10,219	9,703	3.34	324
1889	59,178	45,279	22.9	10,367	9,848	2.97	292
1890	60,014	45,900	23.0	10,557	10,029	3.08	309
1891	59,968	45,880	23.1	10,598	10,068	3.29	331
1892	58,126	44,460	23.2	10,315	9,799	3.04	298
1893	55,119	42,150	23.3	9,821	9,330	3.40	317
1894	51,713	39,550	23.4	9,255	8,792	3.21	282
1895	49,510	37,880	23.5	8,902	8,457	3.33	282
1896	49,205	37,620	23.6	8,878	8,434	3.10	261
1897	50,447	38,600	23.7	9,148	8,691	3.42	297
1898	52,868	40,450	23.8	9,627	9,146	3.52	322
1899	55,927	42,780		10,788	10,340	3.70	382
1900	59,739	45,700		10,792	10,470	3.85	403
1901	62,576	47,880		11,526	10,930	3.84	419
1902	64,418	49,280		11,751	10,780	3.94	424
1903	66,004	50,500		12,266	11,700	3.63	424
1904	66,442	50,830		12,257	11,610	3.39	394
1905	66,111	50,580		13,096	12,270	3.49	429
1906	65,009	49,730		13,456	12,410	3.52	437
1907	63,754	48,770		13,886	12,840	3.64	456
1908	61,989	47,420		13,569	12,620	3.73	470
1909	60,774	46,490		14,135	13,130	4.13	542
1910	58,993	45,130		14,140	12,750	4.78	600
1911	57,223	43,770		13,817	12,330	4.46	559
1912	55,675	42,590		13,386	11,990	5.12	614
1913	56,592	43,290		12,939	11,820	5.90	697
1914	59,461	45,490		12,676	11,520	6.23	718
1915	63,849	48,840		12,901	11,670	6.00	700
1916	67,438	51,580		13,793	12,430	6.47	804
1917	70,979	54,300		15,741	14,000	8.17	1,144
1918	73,040	55,860		17,093	15,010	9.44	1,417
1919	72,094	55,140		15,027	13,130	9.59	1,259
1920	70,400	53,850		13,470	12,120	8.42	1,021
1921	68,714	52,560		12,428	11,370	5.50	625
1922	68,795	52,620		13,706	12,440	5.43	675
1923	67,546	51,670		14,283	12,690	5.58	708
1924	65,996	50,500		14,750	13,100	5.55	727
1925	63,373	48,480		14,704	13,190	6.23	822
1926	60,576	46,340		14,766	13,430	6.43	864
1927	58,178	44,500		13,413	12,130	7.23	877
1928	57,322	43,850		12,028	10,950	9.12	998
1929	58,877	45,050		12,038	11,030	9.15	1,009
1930	61,003	46,660		12,035	11,000	7.46	821
1931	63,030	48,220		12,055	11,030	5.31	586
1932	65,770	50,320		11,918	10,699	4.07	435
1933	70,214	53,700		13,025	11,830	3.63	429
1934	74,262	56,820		14,968	13,220	3.88	513
1935	68,529	52,410		14,776	12,800	6.21	795
1936	67,929	51,970		16,093	14,081	5.85	824
1937	66,448	50,830		15,210	13,309	6.96	926

[1] Slaughter and exports of live cattle.

TABLE 49.—*Export volume, and income from slaughter and exports: Cattle, calendar years*

Year	Exports of cattle	Exports (live weight)	Income from exports	Income from slaughter plus exports	Year	Exports of cattle	Exports (live weight)	Income from exports	Income from slaughter plus exports
	Thous.	*Mil. lb.*	*Mil. dol.*	*Mil. dol.*		*Thous.*	*Mil. lb.*	*Mil. dol.*	*Mil. dol.*
1869	13.0	16	1	243	1903	520.0	650	25	449
1870	23.0	29	2	258	1904	599.2	749	25	419
1871	23.0	29	1	225	1905	571.2	714	25	454
1872	24.0	30	1	222	1906	494.4	618	22	459
1873	31.0	39	2	224	1907	402.0	502	18	474
1874	43.0	54	2	238	1908	277.0	346	13	483
1875	52.0	65	3	242	1909	185.0	231	10	552
1876	51.0	64	3	230	1910	110.0	138	7	616
1877	63.2	79	3	239	1911	164.0	205	9	568
1878	118.0	148	6	224	1912	46.0	57	3	617
1879	138.0	173	8	228	1913	26.0	33	2	699
					1914	7.0	9	1	719
1880	215.8	270	10	263	1915	16.0	20	1	701
1881	141.9	177	7	287	1916	12.0	15	1	805
1882	75.4	94	4	323	1917	20.0	25	2	1,146
1883	174.9	210	10	351	1918	17.0	21	2	1,419
1884	147.6	185	9	403	1919	70.0	88	8	1,267
1885	137.3	172	7	352					
1886	117.0	146	5	331	1920	85.0	106	9	1,030
1887	106.7	133	4	321	1921	197.0	246	14	639
1888	154.8	194	6	330	1922	111.0	139	8	683
1889	329.3	411	12	304	1923	37.0	46	3	711
					1924	61.0	76	4	731
1890	416.8	521	16	325	1925	81.0	101	6	828
1891	330.6	413	14	345	1926	23.0	29	2	866
1892	290.9	364	11	309	1927	19.0	24	2	879
1893	248.3	310	10	327	1928	11.0	14	1	1,000
1894	420.8	526	17	299	1929	8.0	10	1	1,010
1895	289.4	362	12	294					
1896	394.8	494	15	276	1930	7.0	9	1	822
1897	392.2	490	17	314	1931	4.0	5	...	586
1898	397.9	497	17	339	1932	4.0	5	...	435
1899	409.2	512	19	401	1933	3.0	4	...	420
					1934	10.0	13	...	513
1900	423.2	529	20	423	1935	3.0	4	...	705
1901	454.6	569	22	441	1936	4.0	...	...	824
1902	327.1	409	16	440	1937	...	...	...	926

TABLE 50.—*Changes in inventory values of cattle, and gross income from slaughter and exports adjusted for changes in inventory values, calendar years*

Year	Changes in number of cattle 1 year old and over	Changes in live weight	Changes in inventory value	Gross income from slaughter and exports, adjusted for inventory changes	Year	Changes in number of cattle 1 year old and over	Changes in live weight	Changes in inventory value	Gross income from slaughter and exports, adjusted for inventory changes
	Thous.	*Mil. lb.*	*Mil. dol.*	*Mil. dol.*		*Thous.*	*Mil. lb.*	*Mil. dol.*	*Mil. dol.*
1869	760	722	38	281	1903	330	314	12	461
					1904	−250	−238	−8	411
1870	780	741	40	298	1905	−850	−807	−28	426
1871	750	712	32	257	1906	−960	−912	−32	427
1872	570	541	23	245	1907	−1,350	−1,282	−47	427
1873	760	722	31	255	1908	−930	−884	−33	450
1874	410	390	17	255	1909	−1,360	−1,292	−53	499
1875	800	570	25	267					
1876	910	865	35	265	1910	−1,360	−1,292	−57	559
1877	1,580	1,500	60	299	1911	−1,180	−1,121	−49	519
1878	1,550	1,470	51	275	1912	700	665	35	652
1879	1,460	1,387	47	275	1913	2,200	2,090	125	824
					1914	3,350	3,183	191	910
1880	890	845	31	294	1915	2,740	2,603	150	851
1881	950	902	35	322	1916	2,720	2,584	170	975
1882	1,260	1,197	52	375	1917	1,560	1,482	122	1,268
1883	1,850	1,757	78	429	1918	−720	−684	−63	1,356
1884	2,030	1,928	94	497	1919	−1,290	−1,226	−106	1,161
1885	1,840	1,748	70	422					
1886	1,330	1,263	46	377	1920	−1,290	−1,226	−78	952
1887	1,520	1,444	49	370	1921	60	57	3	642
1888	450	427	14	344	1922	−950	−903	−48	635
1889	630	598	18	322	1923	−1,170	−1,112	−58	653
					1924	−2,020	−1,919	−102	629
1890	−20	−19	−1	324	1925	−2,140	−2,033	−125	703
1891	−1,420	−1,349	−44	301	1926	−1,840	−1,748	−111	755
1892	−2,310	−2,194	−67	242	1927	−650	−618	−51	828
1893	−2,600	−2,470	−84	243	1928	1,200	1,140	101	1,101
1894	−1,670	−1,586	−51	248	1929	1,610	1,530	129	1,139
1895	−260	−247	−8	286					
1896	980	931	29	305	1930	1,560	1,482	94	916
1897	1,850	1,757	60	374	1931	2,100	1,995	86	672
1898	2,330	2,213	78	417	1932	3,380	3,211	109	544
1899	2,920	2,774	103	504	1933	3,120	2,964	93	522
					1934	−4,410	−4,190	−163	350
1900	2,180	2,071	80	503	1935	−440	−418	−26	769
1901	1,400	1,330	51	492	1936	−1,140	−1,083	−67	757
1902	1,220	1,159	46	486	1937	−390	−370	−22	904

NOTE.—Minus sign means decrease from preceding year.

CALVES

Estimates of slaughter of calves also are based on the revised inventory estimates of the United States Department of Agriculture. The method was explained in the description of the cattle-slaughter estimates. According to Department of Agriculture data, 29.2 percent of the calves inventories were slaughtered in 1899. Holmes' estimate (*8, p. 71*) was 31 percent, and he maintained that "the fraction of calves dropped that go to slaughter has undoubtedly increased, partly because of the increase of dairying and partly because of the increased demand for veal in cities." The estimate of the fraction of calves inventories slaughtered 1869–98 here used assumes that 10 percent of the inventories were slaughtered in 1869 and that this percentage increased gradually to 1898. Owing to the roughness of these estimates, the income estimates can be regarded merely as approximations. Department of Agriculture figures for years about 1899 show live weight per head of 170 pounds; this figure was used to compute slaughter in pounds of live weight. To obtain gross income from the slaughter of calves, 1869–98, the B. A. E-N. B. E. R.

slaughter estimates were multiplied by the (B.A.E.) adjusted farm price of calves (veal). The States included in this price are: Wisconsin and Maryland since 1867; New York and Maine since 1882. The B. A. E. farm price, 1910–14, is 10.4 percent lower than the (B. A. E.) price,

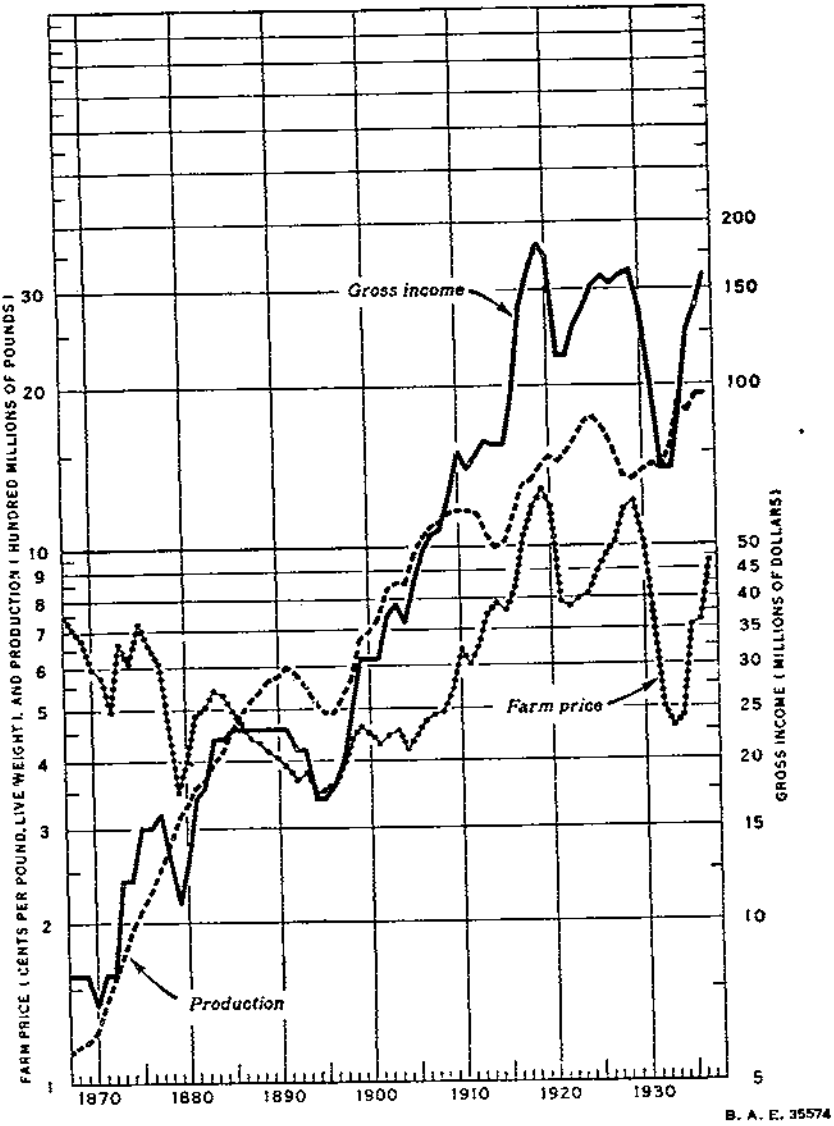

FIGURE 37.—Calves: Production, farm price, gross income, calendar years 1869–1937.

so the latter was adjusted accordingly. Since 1899 Department of Agriculture data on slaughter of calves were used; B. A. E. price data were applied from 1910 to 1935. Slaughter, farm price, and gross income for calendar years 1869–1937 are shown in figures 37 and 38 and tables 51 and 52.

TABLE 51.—*Production, price, and gross income: Calves, calendar years* [1]

Year	All calves on farms	Estimated percent slaughtered	Estimated slaughter		Farm price per pound	Gross income
			Number	Live weight		
	Thous.	*Pct.*	*Thous.*	*Mil. lb.*	*Ct.*	*Mil. dol.*
1869	7,040	10	700	119	6.77	8
1870	7,302	10	730	124	5.99	7
1871	7,547	11	830	141	5.77	8
1872	7,768	12	930	158	4.98	8
1873	7,950	13	1,030	175	6.68	12
1874	8,181	14	1,150	196	6.12	12
1875	8,311	15	1,250	212	7.27	15
1876	8,490	16	1,350	230	6.57	15
1877	8,773	17	1,500	255	6.11	16
1878	9,256	18	1,650	280	4.65	13
1879	9,730	19	1,850	314	3.48	11
1880	10,197	19	1,940	330	4.00	13
1881	10,461	20	2,090	355	4.86	17
1882	10,748	20	2,150	366	5.05	18
1883	11,137	21	2,340	398	5.44	22
1884	11,704	21	2,450	416	5.32	22
1885	12,333	22	2,700	459	4.95	23
1886	12,898	22	2,840	483	4.69	23
1887	13,302	23	3,060	520	4.41	23
1888	13,779	23	3,170	539	4.32	23
1889	13,908	24	3,340	568	4.14	23
1890	14,114	24	3,390	576	4.03	23
1891	14,088	25	3,520	598	3.89	23
1892	13,660	25	3,420	581	3.67	21
1893	12,969	25	3,240	551	3.77	21
1894	12,163	25	3,040	517	3.46	17
1895	11,630	25	2,900	493	3.52	17
1896	11,585	25	2,900	493	3.60	18
1897	11,847	26	3,100	527	3.89	20
1898	12,418	27	3,350	570	4.39	25
1899	13,147	28	4,002	673	4.62	31
1900	14,035		4,105	690	4.49	31
1901	14,705		4,318	733	4.28	31
1902	15,135		4,854	828	4.44	37
1903	15,510		5,044	856	4.55	39
1904	15,610		5,076	856	4.17	36
1905	15,530		5,731	969	4.46	43
1906	15,285		6,187	1,044	4.72	46
1907	14,980		6,395	1,090	4.87	53
1908	14,570		6,546	1,111	4.90	54
1909	14,280		6,864	1,154	5.44	63
1910	13,860		6,917	1,166	6.42	75
1911	13,445		6,855	1,161	6.02	70
1912	13,080		6,828	1,156	6.44	74
1913	13,300		6,305	1,062	7.47	79
1914	13,970		5,927	993	7.81	78
1915	15,005		6,054	1,027	7.61	78
1916	15,850		6,628	1,143	8.35	95
1917	16,680		7,372	1,306	10.54	138
1918	17,165		7,485	1,335	11.93	159
1919	16,940		8,201	1,427	12.76	182
1920	16,540		8,481	1,470	11.86	174
1921	16,140		8,394	1,437	7.85	113
1922	16,160		8,832	1,499	7.69	115
1923	15,870		9,327	1,599	7.99	128
1924	15,510		9,804	1,697	8.11	138
1925	14,890		9,936	1,722	8.85	152
1926	14,230		9,369	1,647	9.61	158
1927	13,670		8,478	1,511	10.15	153
1928	13,470		7,651	1,360	11.72	159
1929	13,835		7,406	1,330	12.17	162
1930	14,335		7,736	1,377	9.91	136
1931	14,815		8,006	1,425	7.04	100
1932	15,460		7,894	1,405	5.00	70
1933	16,500		8,463	1,532	4.57	70
1934	17,450		9,979	1,846	4.81	89
1935	16,100		9,575	1,781	7.10	126
1936	15,960		10,138	1,916	7.23	139
1937	15,620		10,150	1,918	8.32	160

[1] Slaughter.

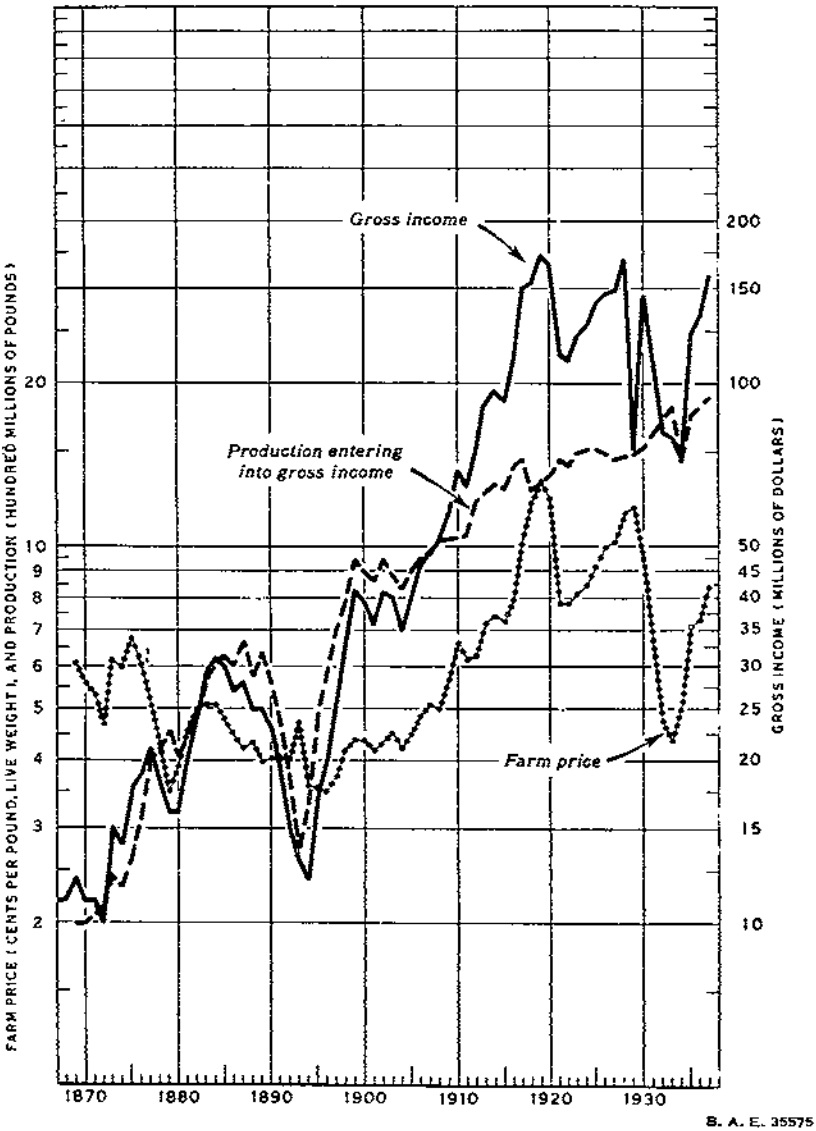

FIGURE 38.—Calves, adjusted for changes in inventories: Production, farm price, gross income, calendar years 1869–1937.

TABLE 52.—*Changes in inventory values of calves, and gross income from the slaughter of calves adjusted for changes in inventory values, calendar years*

Year	Changes in number of calves on farms	Changes in live weight	Changes in inventory value	Gross income, adjusted for changes in inventory	Year	Changes in number of calves on farms	Changes in live weight	Changes in inventory value	Gross income, adjusted for changes in inventory
	Thous.	*Mil. lb.*	*Mil. dol.*	*Mil. dol.*		*Thous.*	*Mil. lb.*	*Mil. dol.*	*Mil. dol.*
1869	262	79	4.2	12	1903	100	30	1.1	40
					1904	−80	−24	−.8	35
1870	245	74	4.0	11	1905	−245	−74	−2.6	40
1871	221	66	3.0	11	1906	−305	−92	−3.2	46
1872	182	55	2.5	10	1907	−410	−123	−4.5	49
1873	231	69	2.9	15	1908	−290	−87	−3.2	51
1874	130	39	1.7	14	1909	−420	−126	−5.2	58
1875	179	54	2.3	18					
1876	283	85	3.4	19	1910	−415	−125	−5.6	69
1877	483	145	5.8	21	1911	−365	−110	−4.8	65
1878	474	142	5.0	18	1912	220	66	3.5	77
1879	467	140	4.7	16	1913	670	201	12.0	91
					1914	1,035	311	18.7	97
1880	264	79	2.9	16	1915	845	254	14.6	93
1881	287	86	3.4	20	1916	830	249	16.3	111
1882	389	117	5.1	24	1917	485	146	12.0	150
1883	567	170	7.6	29	1918	−225	−68	−6.3	153
1884	629	189	9.2	31	1919	−400	−120	−10.4	172
1885	565	170	6.8	30					
1886	404	121	4.4	27	1920	−400	−120	−7.6	166
1887	477	143	4.9	28	1921	20	7	.3	113
1888	129	39	1.3	25	1922	−290	−87	−4.6	110
1889	206	62	1.8	25	1923	−360	−108	−5.7	122
					1924	−620	−186	−9.9	128
1890	−26	−8	−.2	23	1925	−660	−198	−12.2	140
1891	−422	−127	−4.2	19	1926	−560	−168	−10.7	147
1892	−697	−209	−6.3	15	1927	−200	−60	−5.0	149
1893	−806	−242	−8.2	13	1928	365	110	9.8	169
1894	−533	−160	−5.1	12	1929	500	150	12.6	76
1895	−45	−14	−.5	17					
1896	262	79	2.4	20	1930	480	144	9.1	145
1897	571	171	5.8	26	1931	645	194	8.4	108
1898	729	219	7.7	33	1932	1,040	312	10.6	81
1899	888	266	9.8	41	1933	950	285	8.9	79
					1934	−1,350	−405	−15.8	73
1900	670	201	7.7	39	1935	−140	−42	−2.6	123
1901	430	129	5.0	36	1936	−340	−102	−6.3	133
1902	375	113	4.5	41	1937	−130	−39	−2.4	158

NOTE.—Minus sign means decrease from preceding year.

HOGS

Revised slaughter estimates (number of head) and data on live weight per head, recently carried back to 1899 by the Department of Agriculture (*24, 1938, p. 304*) were used. According to these estimates, slaughter (number of head) averaged 102.2 percent of inventories during 1899–1910. The deviations from the average are slight, corroborating Holmes' statement (*8, p. 72*) that "with regard to hogs, there has been no perceptible increase in the fraction of slaughter (to inventories) on account of slaughtering at younger ages." For 1869–98 slaughter (number of head) was computed as 102.2 percent of inventories. The inventory data are revised Department of Agriculture estimates.[52]

Starting in 1883, the Cincinnati Price Current published data on gross live weight per head. These data were adjusted for differences (after 1899) in the more inclusive live-weight series of the Department of Agriculture. Before 1883, only net live weight per head was available. Net live weight was converted to gross live weight and adjusted to make the data consistent with the later Department of Agriculture data. The (B. A. E.) calendar-year farm price of hogs (cents per pound of live weight) was applied. Gross income from the slaughter of hogs was estimated by multiplying slaughter (total live weight) by farm

[52] See footnote 50.

prices. Exports of live hogs are insignificant and income from exports is therefore not included in the income data here given.

Changes in inventories (number of head) are based on revised Department of Agriculture figures. A constant live weight of 125

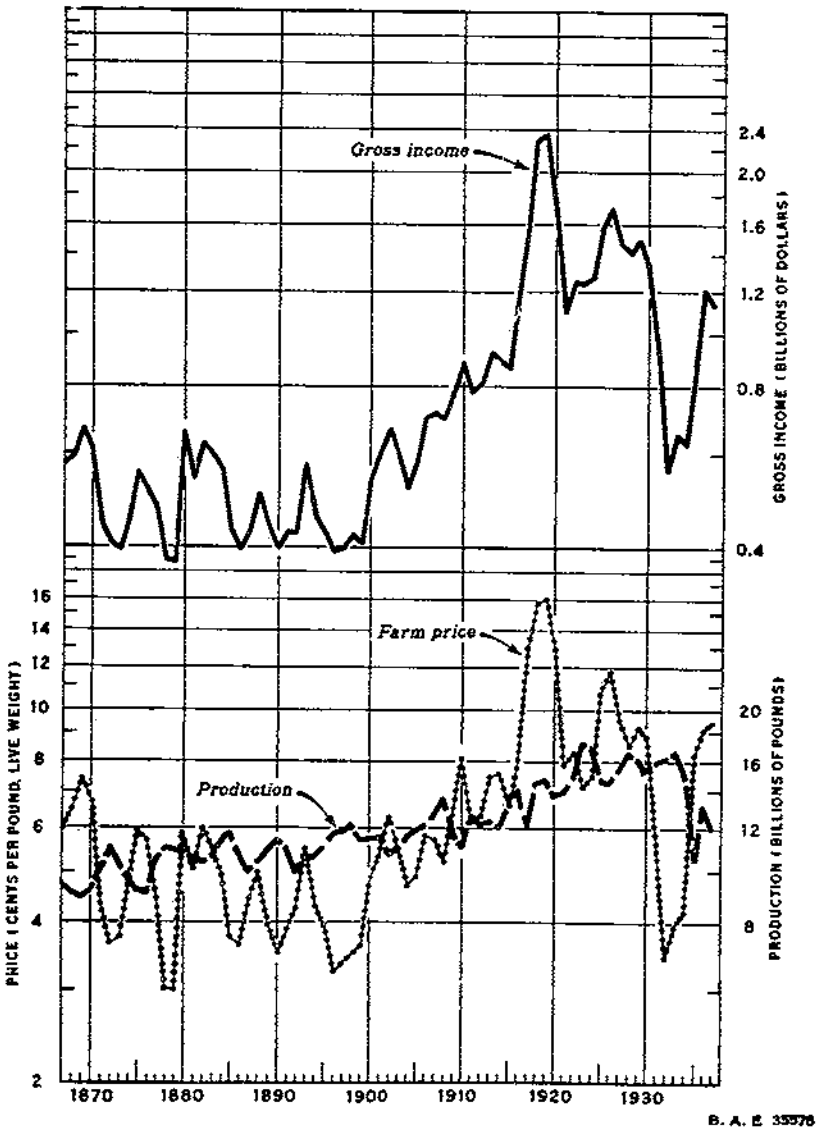

FIGURE 39.—Pork and pork products: Production, farm price, gross income, calendar years 1869–1937.

pounds for total inventories was assumed, derived from the 1920 Census of Agriculture (table 53). Since completion of this Bulletin, better data on live weight of inventories have become available for 1924–33. According to these data, the average live weight appears to have been somewhat higher than that used here.

TABLE 53.—*Live weight of hogs, based on 1920 Census figures*

Item	Percent of total inventories	Live weight
		Pounds
Pigs under 6 months	45	50
Breeding stock	20	232
All over 6 months	35	158
Weighted average live weight		123.2

Slaughter, farm price, and gross income for calendar years 1869–1937 are shown in figures 39 and 40 and tables 54 and 55.

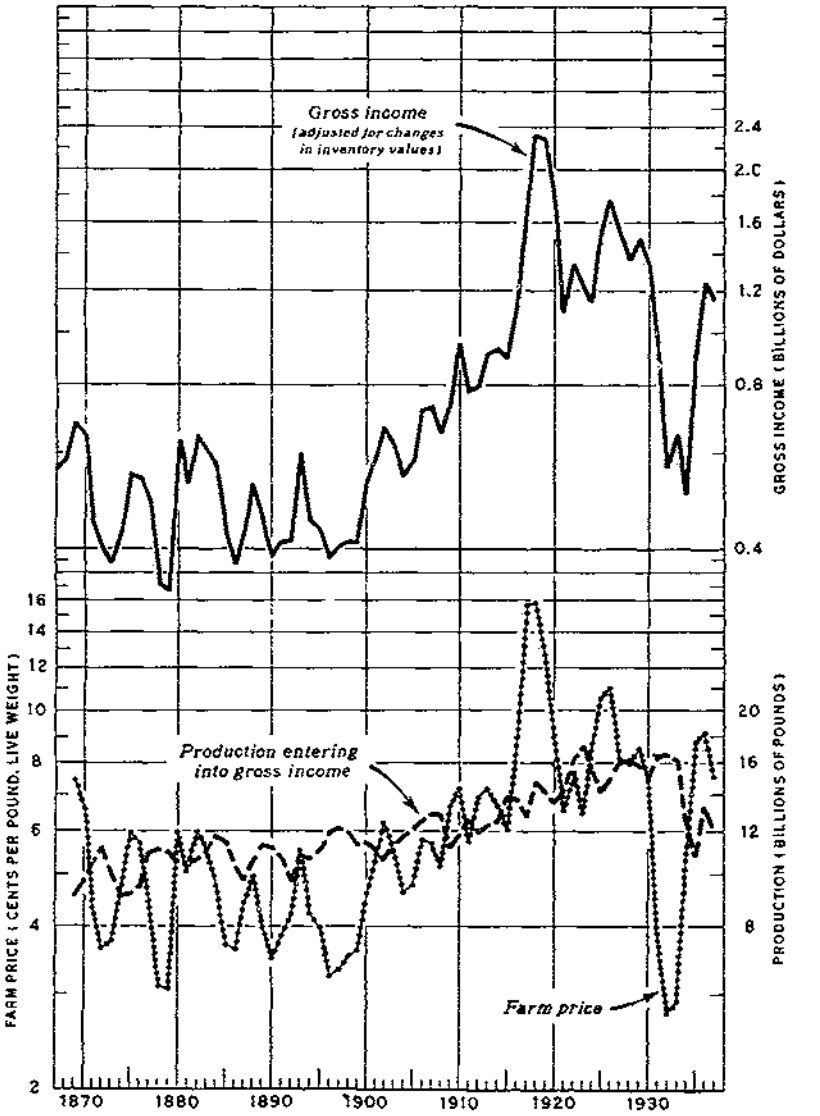

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FIGURE 40.—Pork and pork products, adjusted for changes in inventories: Production, farm price, gross income, calendar years 1869–1937.

TABLE 54.—*Production, price, and gross income: Hogs, calendar years*[1]

Year	Number on farms	Estimated slaughter	Live weight per head	Estimated slaughter, live weight	Price per pound, live weight	Estimated gross income
	Mil.	*Mil.*	*Lb.*	*Bil. lb.*	*Ct.*	*Mil. dol.*
1869	32.57	33.30	269.0	8.96	7.40	663
1870	33.78	34.53	269.0	9.29	6.61	614
1871	36.69	37.51	270.6	10.15	4.34	440
1872	39.30	40.18	274.5	11.03	3.65	402
1873	39.70	40.69	251.7	10.24	3.76	385
1874	38.38	39.24	242.2	9.50	4.68	445
1875	35.83	36.63	251.3	9.20	5.95	547
1876	35.72	36.52	247.2	9.03	5.67	512
1877	39.33	40.22	259.2	10.42	4.46	465
1878	43.38	44.34	249.4	11.06	3.08	341
1879	43.77	44.75	242.4	10.85	3.06	332
1880	44.33	45.33	237.1	10.75	5.90	634
1881	43.08	44.05	238.6	10.51	5.04	530
1882	42.57	43.52	241.2	10.50	6.00	630
1883	43.44	44.40	238.9	10.61	5.54	588
1884	45.96	47.00	244.0	11.47	4.85	556
1885	47.33	48.39	240.2	11.62	3.75	436
1886	45.46	46.48	229.7	10.68	3.04	389
1887	42.56	43.51	225.7	9.82	4.43	435
1888	42.13	43.08	238.0	10.25	4.96	508
1889	44.51	45.51	238.6	10.86	3.97	431
1890	48.13	49.20	229.5	11.29	3.50	395
1891	47.44	48.50	226.2	10.97	3.85	422
1892	45.16	46.17	215.4	9.94	4.24	421
1893	43.65	44.60	234.0	10.44	5.51	575
1894	46.52	47.57	222.0	10.56	4.23	447
1895	47.63	48.70	223.7	10.89	3.97	429
1896	49.15	50.25	232.7	11.69	3.23	377
1897	51.23	52.36	228.0	11.94	3.32	396
1898	53.28	54.50	222.6	12.13	3.46	420
1899		51.24		11.40	3.61	412
1900		51.89		11.43	4.62	528
1901		53.90		11.46	5.31	609
1902		48.31		10.61	6.23	661
1903		48.55		10.82	5.49	594
1904		52.07		11.47	4.62	530
1905		54.43		11.98	4.80	575
1906		54.70		12.12	5.79	702
1907		56.53		12.62	5.69	718
1908		63.46		13.57	5.14	696
1909		54.99		11.74	6.62	777
1910		48.21		10.89	8.11	883
1911		57.00		12.51	6.23	779
1912		55.50		12.17	6.62	806
1913		57.00		12.39	7.45	923
1914		55.00		12.00	7.48	898
1915		62.00		13.30	6.53	868
1916		67.00		14.12	8.09	1,142
1917		56.50		12.10	13.19	1,596
1918		65.10		14.52	15.82	2,297
1919		65.80		14.72	16.01	2,357
1920		61.50		13.69	12.88	1,763
1921		61.82		13.96	7.82	1,092
1922		66.20		14.91	8.34	1,243
1923		77.51		17.39	7.10	1,235
1924		76.81		17.05	7.41	1,263
1925		65.51		14.73	10.79	1,589
1926		62.58		14.51	11.74	1,703
1927		66.20		15.25	9.63	1,469
1928		72.89		16.53	8.50	1,405
1929		71.01		16.27	9.33	1,518
1930		67.25		15.33	8.78	1,346
1931		69.19		15.85	5.83	923
1932		71.36		16.21	3.44	558
1933		73.19		16.64	3.94	656
1934		68.94		15.15	4.17	632
1935		46.23		10.35	8.36	865
1936		59.19		13.19	9.30	1,227
1937		53.75		11.99	9.48	1,137

[1] Slaughter.

TABLE 55.—*Changes in inventory values of hogs, and gross income adjusted for changes in inventory values, calendar years*

Year	Changes in the number of hogs on farms	Changes in live weight	Changes in inventory value	Gross income from slaughter, adjusted for changes in inventory values
	Thous.	*Mil. lb.*	*Mil. dol.*	*Mil. dol.*
1869	1,210	151	11	674
1870	2,910	364	24	638
1871	2,610	326	14	454
1872	490	61	2	404
1873	−1,410	−176	−7	378
1874	−2,540	−318	−15	430
1875	−110	−14	−1	546
1876	3,620	453	26	538
1877	4,040	505	23	488
1878	400	50	2	343
1879	560	70	2	334
1880	−1,250	−156	−9	625
1881	−510	−64	−3	527
1882	870	109	7	637
1883	2,520	315	17	605
1884	1,370	171	8	564
1885	−1,870	−234	−9	427
1886	−2,900	−362	−13	376
1887	−430	−54	−2	433
1888	2,380	297	15	523
1889	3,620	453	18	449
1890	−700	−87	−3	392
1891	−2,270	−284	−11	411
1892	−1,510	−189	−8	413
1893	2,870	359	20	595
1894	1,110	139	6	453
1895	1,520	190	8	437
1896	2,080	260	8	385
1897	2,050	256	8	404
1898	−1,700	−212	−7	413
1899	−520	−65	−2	410
1900	−370	−46	−2	526
1901	−2,820	−353	−19	590
1902	240	30	2	663
1903	3,520	440	24	618
1904	1,560	195	9	539
1905	450	56	3	578
1906	2,910	364	21	723
1907	1,850	231	13	731
1908	−5,880	−735	−38	658
1909	−4,440	−555	−37	740
1910	7,300	913	65	948
1911	20	2	(0.1)	779
1912	−1,640	−205	−14	792
1913	−900	−113	−8	915
1914	3,750	469	31	929
1915	4,000	500	30	898
1916	−3,020	−378	−33	1,109
1917	5,350	669	105	1,701
1918	1,400	175	28	2,325
1919	−4,170	−521	−66	2,291
1920	−1,220	−153	−14	1,749
1921	910	114	7	1,099
1922	9,450	1,181	90	1,333
1923	−2,720	−340	−22	1,213
1924	−10,810	−1,351	−113	1,150
1925	−3,670	−459	−48	1,541
1926	3,400	425	47	1,750
1927	6,370	796	65	1,534
1928	−2,830	−354	−28	1,377
1929	−3,340	−418	−36	1,482
1930	−870	−109	−8	1,338
1931	4,470	559	21	944
1932	2,830	354	10	568
1933	−3,510	−439	−13	643
1934	−19,617	−2,452	−126	506
1935	3,840	480	42	907
1936	110	14	1	1,228
1937	1,470	184	14	1,151

NOTE.—Minus sign means decrease from preceding year.

SHEEP AND LAMBS

Slaughter data for sheep and lambs combined are available since 1899 in the form of revised Department of Agriculture estimates (*24, 1938, p. 320*). Owing to rapid changes in taste, particularly

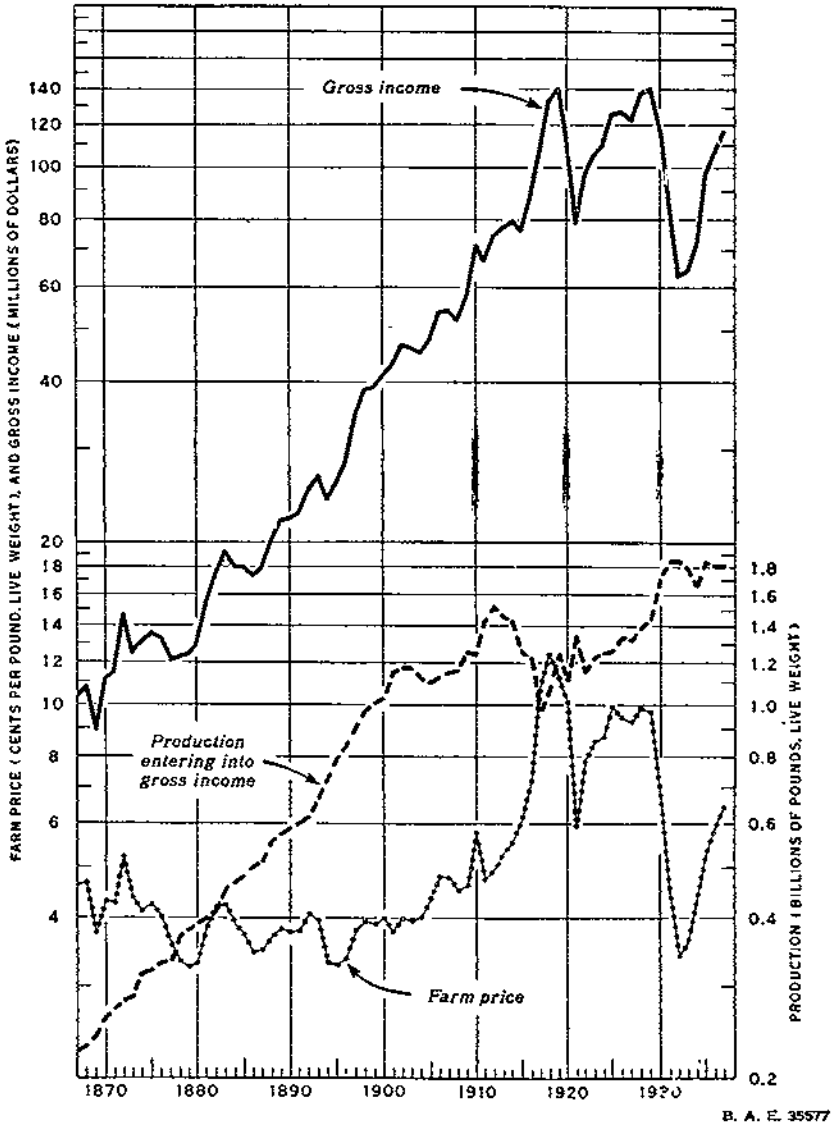

FIGURE 41.—Sheep and lambs: Production, farm price, gross income, calendar years 1869–1937.

after about 1890, no constant ratio of slaughter to inventories can be detected. According to B. A. E. slaughter data for 1900, nonfarm consumption per capita amounted to 21.16 pounds (live weight), farm consumption to 1.5 pounds. Many observers believe that consumption of mutton and lamb increased rather constantly before 1900.

Holmes' investigations (*8*) proved to him that "the fraction of lamb slaughter has undoubtedly increased, beginning a few years preceding 1900, on account of the growing taste for lamb meat." He does not indicate the development of total consumption in the early period. The authors let per capita nonfarm consumption gradually increase from 10 pounds in 1869 to 21.16 pounds in 1900 and kept farm consumption constant at 1.5 pounds per capita. Data on farm and nonfarm population are those described in the explanation of cattle slaughter. Since before 1890 consumption was predominantly of sheep, and as sheep and lamb prices differed little during this period, sheep prices were applied for 1869–89. From 1890 on, an arithmetic average of sheep and lamb prices was computed. This price may contain a downward bias, inasmuch as it does not consider the influence of the growing taste for lamb meat. The (B. A. E.) sheep price had to be raised 8.1 percent and the lamb price had to be lowered 2.2 percent, to make this series comparable with the B. A. E. series since 1909. Income from the slaughter of sheep and lambs is calculated by multiplying estimated slaughter by farm price. Exports of live sheep and lambs were insignificant. Changes in inventory value were computed with revised Department of Agriculture figures. The average live weight of inventories was assumed to be 85 pounds per head, based on the 1920 census and observations made by the Department of Agriculture.

Slaughter, farm price, and gross income for calendar years 1869–1937 are shown in figure 41 and tables 56–57.

TABLE 56.—*Production, price, and gross income: Sheep and lambs, calendar years*

Year	Per capita consumption of the nonfarm population, in live-weight equivalent	Estimated total consumption of the nonfarm population, in live-weight equivalent	Per capita consumption of the farm population, in live-weight equivalent	Estimated total consumption of the farm population, in live-weight equivalent	Estimated total consumption, in live-weight equivalent	Farm price per pound of sheep, live weight	Gross income from the slaughter of sheep
	Lb.	*Mil. lb.*	*Lb.*	*Mil. lb.*	*Mil. lb.*	*Ct.*	*Mil. lb.*
1869	10	210	1.5	27	240	3.75	9.0
1870	11	235	1.5	27	260	4.30	11.2
1871	11	240	1.5	28	270	4.26	11.5
1872	11	250	1.5	29	280	5.24	14.7
1873	11	255	1.5	30	285	4.37	12.5
1874	12	285	1.5	30	315	4.13	13.0
1875	12	290	1.5	31	320	4.25	13.6
1876	12	300	1.5	32	330	4.04	13.3
1877	12	305	1.5	32	335	3.62	12.1
1878	13	340	1.5	33	370	3.33	12.3
1879	13	345	1.5	34	380	3.26	12.4
1880	13	355	1.5	35	390	3.30	12.9
1881	13	365	1.5	35	400	3.86	15.4
1882	13	380	1.5	36	415	4.19	17.4
1883	14	420	1.5	36	455	4.22	19.2
1884	14	430	1.5	37	465	3.88	18.0
1885	14	445	1.5	37	480	3.74	18.0
1886	14	460	1.5	38	500	3.45	17.3
1887	14	470	1.5	38	510	3.49	17.8
1888	15	520	1.5	39	560	3.68	20.6
1889	15	535	1.5	39	575	3.83	22.0
1890	15	550	1.5	40	590	3.77	22.2
1891	15	560	1.5	40	600	3.78	22.7
1892	15	580	1.5	40	620	4.09	25.3
1893	16	630	1.5	41	670	3.97	26.6
1894	17	690	1.5	42	730	3.32	24.2
1895	18	750	1.5	42	790	3.28	25.9
1896	19	800	1.5	42	840	3.38	28.4
1897	20	870	1.5	43	910	3.80	34.6
1898	21	935	1.5	43	975	3.96	38.6

TABLE 56.—*Production, price, and gross income: Sheep and lambs, calendar years*—Continued

Year	Slaughter of sheep and lambs in live-weight equivalent	Farm price of sheep and lambs per pound of live weight	Gross income from the slaughter of sheep and lambs	Year	Slaughter of sheep and lambs in live-weight equivalent	Farm price of sheep and lambs per pound of live weight	Gross income from the slaughter of sheep and lambs
	Million pounds	*Cents*	*Million dollars*		*Million pounds*	*Cents*	*Million dollars*
1899	1,005	3.89	39.1	1919	1,244	11.28	140.3
1900	1,030	4.00	41.2	1920	1,116	10.18	113.6
1901	1,146	3.77	43.2	1921	1,346	5.90	79.4
1902	1,178	4.00	47.1	1922	1,158	7.85	96.9
1903	1,174	3.95	46.4	1923	1,227	8.56	105.0
1904	1,126	4.02	45.3	1924	1,257	8.75	110.0
1905	1,104	4.37	48.2	1925	1,262	9.97	125.8
1906	1,127	4.79	54.0	1926	1,341	9.48	127.1
1907	1,151	4.76	54.8	1927	1,318	9.32	122.8
1908	1,161	4.50	52.2	1928	1,399	9.88	138.2
1909	1,261	4.62	58.3	1929	1,441	9.73	140.2
1910	1,239	5.80	71.9	1930	1,719	6.72	115.5
1911	1,433	4.72	67.6	1931	1,848	4.58	84.6
1912	1,523	4.92	74.9	1932	1,856	3.40	63.1
1913	1,462	5.30	77.5	1933	1,796	3.58	64.3
1914	1,434	5.55	79.6	1934	1,676	4.36	73.0
1915	1,254	6.11	76.6	1935	1,847	5.29	97.7
1916	1,221	7.25	88.5	1936	1,812	5.95	107.8
1917	981	10.86	106.5	1937	1,820	6.46	117.6
1918	1,067	12.46	132.9				

TABLE 57.—*Changes in inventory values, and gross income from the slaughter of sheep and lambs adjusted for changes in inventory values, calendar years*

Year	Changes in the number of sheep and lambs	Changes in live weight	Changes in value	Gross income adjusted for changes in value of inventories	Year	Changes in the number of sheep and lambs	Changes in live weight	Changes in value	Gross income adjusted for changes in value of inventories
	Thous.	*Mil. lb.*	*Mil. dol.*	*Mil. dol.*		*Thous.*	*Mil. lb.*	*Mil. dol.*	*Mil. dol.*
1869	−3,443	−293	−11.0	−2.0	1903	−2,528	−215	−8.4	38.0
					1904	−1,498	−127	−5.1	40.2
1870	−2,386	−203	−8.7	2.5	1905	1,555	132	5.8	54.0
1871	249	21	.9	12.4	1906	1,495	127	6.0	60.0
1872	1,470	125	6.6	21.2	1907	1,635	139	6.6	61.4
1873	452	38	17.0	14.2	1908	2,003	170	7.7	59.9
1874	1,003	85	35.0	16.5	1909	−159	−14	−.6	57.8
1875	240	20	.8	14.4					
1876	670	57	2.3	15.7	1910	−884	−75	−3.8	68.1
1877	795	68	2.5	14.6	1911	−3,083	−262	−11.3	56.3
1878	2,736	233	7.8	20.1	1912	−2,428	−206	−10.2	64.7
1879	3,189	271	8.8	21.4	1913	−2,435	−211	−10.9	66.6
					1914	−1,706	−153	−8.6	71.0
1880	2,504	213	7.0	19.9	1915	−3	0	0	76.6
1881	1,512	128	4.9	20.3	1916	−1,014	−86	−6.7	81.8
1882	2,052	174	7.3	24.7	1917	1,458	124	15.0	121.5
1883	166	14	.6	19.8	1918	1,656	141	15.4	148.3
1884	−1,481	−125	−4.9	13.1	1919	−1,032	−88	−9.0	131.3
1885	−2,966	−252	−9.4	8.6					
1886	−2,437	−207	−7.1	10.2	1920	−1,902	−162	−11.3	102.3
1887	−1,206	−103	−3.6	14.2	1921	−2,061	−175	−9.4	70.0
1888	−646	−55	−2.0	18.6	1922	−768	−65	−5.4	85.5
1889	328	28	1.1	23.1	1923	262	22	1.8	106.8
					1924	1,610	137	12.2	122.2
1890	1,189	101	3.8	26.0	1925	1,250	106	10.8	136.6
1891	746	63	2.4	25.1	1926	2,348	200	17.9	145.0
1892	−61	−5	−.2	25.2	1927	2,622	223	20.9	143.7
1893	−1,153	−98	−3.9	22.7	1928	2,792	237	22.2	160.4
1894	−1,587	−135	−4.5	19.8	1929	2,096	178	15.5	155.7
1895	−2,218	−189	−6.2	19.7					
1896	−718	−61	−2.0	26.4	1930	2,143	182	9.2	124.7
1897	1,206	102	3.9	38.5	1931	34	3	.1	84.7
1898	2,591	220	8.7	47.3	1932	−430	−37	−1.1	62.0
1899	2,377	200	7.9	47.0	1933	1,130	96	3.6	67.9
					1934	−1,820	−155	−6.0	67.0
1900	1,061	90	3.6	44.8	1935	−243	−21	−1.3	96.4
1901	70	6	.2	43.4	1936	660	56	3.1	110.9
1902	−1,760	−150	−6.0	41.1	1937	−254	−22	−1.2	116.4

NOTE.—Minus sign means decrease from preceding year.

INDICES OF FARM PRODUCTION AND PRICES

The method of computation of indices of farm production and of farm prices is briefly explained in the introduction to this bulletin.

Figures 42–57 and tables 58–92 show production and price indices for crop years and, whenever the original data are not presented in tables in the section beginning on page 36, they are presented in tables containing data on "Production entering into gross income." Figures 50 through 57 show the various farm-price indices together with the Bureau of Labor Statistics wholesale price index of all commodities..

The original data are described on pages 33 to 122 in connection with the data on gross income.

TABLE 58.—*Indices of farm production: Total farm production, crop years*

[1909–13=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	35.2	33.4	34.3	1903	91.2	89.3	90.3
				1904	97.0	94.6	95.8
1870	37.6	36.7	37.2	1905	97.3	95.0	96.2
1871	39.5	36.4	37.9	1906	102.9	100.8	101.8
1872	42.5	37.8	40.1	1907	95.9	94.1	95.0
1873	42.0	38.8	40.3	1908	101.1	98.5	99.8
1874	42.2	39.2	40.7	1909	99.2	97.3	98.3
1875	44.6	42.9	43.7				
1876	45.5	44.6	45.1	1910	98.4	96.6	97.5
1877	50.7	49.8	50.2	1911	102.7	100.4	101.6
1878	53.5	51.1	52.3	1912	106.8	105.2	106.0
1879	55.2	53.6	54.4	1913	101.7	100.1	100.9
				1914	108.9	106.2	107.5
1880	58.5	59.0	58.7	1915	108.3	106.9	107.6
1881	52.9	51.5	52.2	1916	101.9	98.7	100.3
1882	60.2	60.1	60.2	1917	105.0	103.0	104.0
1883	58.5	57.3	57.9	1918	111.8	110.2	111.0
1884	63.8	61.8	62.8	1919	110.7	108.5	109.6
1885	63.9	61.6	62.7				
1886	64.2	62.9	63.6	1920	115.4	114.0	114.7
1887	62.3	61.0	61.6	1921	103.4	101.1	102.2
1888	67.6	65.7	66.6	1922	111.7	108.7	110.2
1889	70.0	68.3	69.6	1923	115.5	110.3	112.9
				1924	120.2	117.4	118.8
1890	69.1	66.0	67.5	1925	119.4	117.9	118.7
1891	77.1	76.2	76.6	1926	124.8	123.6	124.2
1892	69.0	67.6	68.3	1927	119.6	118.8	119.2
1893	69.0	68.3	68.7	1928	125.2	123.3	124.3
1894	71.2	69.6	70.4	1929	121.0	120.7	120.8
1895	76.6	73.7	75.1				
1896	80.4	77.0	78.7	1930	119.7	120.5	120.1
1897	84.7	82.5	83.6	1931	125.8	126.5	126.1
1898	89.2	86.9	88.1	1932	118.8	119.4	119.1
1899	87.4	85.1	86.2	1933	115.8	112.3	114.1
				1934	106.6	100.0	103.3
1900	89.3	86.8	88.1	1935	108.6	107.8	108.2
1901	87.5	85.3	86.4	1936	111.5	108.1	109.8
1902	91.5	89.5	90.5	1937	127.1	124.4	125.7

These indices are shown in figure 2.

TABLE 59.—*Indices of farm production: Total farm production, calendar years*

[1910-14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	34.4	33.1	33.8	1903	89.8	89.1	89.4
				1904	93.0	92.2	92.6
1870	36.3	36.2	36.2	1905	94.4	94.0	94.2
1871	38.2	35.7	36.9	1906	99.5	98.9	99.2
1872	41.2	37.2	39.2	1907	95.1	94.9	95.0
1873	41.2	38.6	39.9	1908	97.9	97.2	97.5
1874	41.2	39.8	40.5	1909	95.9	95.6	95.8
1875	42.3	41.8	42.0				
1876	44.7	44.3	44.5	1910	95.4	95.6	95.5
1877	48.6	48.0	48.3	1911	100.2	101.1	100.7
1878	52.2	50.6	51.4	1912	101.8	102.7	102.3
1879	53.2	51.7	52.4	1913	101.0	101.8	101.4
				1914	100.7	101.2	101.0
1880	56.8	57.8	57.3	1915	107.8	109.2	108.5
1881	53.3	52.9	53.1	1916	101.9	102.1	102.0
1882	56.6	57.3	57.0	1917	99.6	99.0	99.3
1883	57.6	57.4	57.5	1918	108.2	108.3	108.2
1884	61.4	60.6	61.0	1919	108.6	109.5	109.1
1885	62.4	61.2	61.8				
1886	62.8	62.2	62.5	1920	107.2	108.0	107.6
1887	61.3	61.0	61.1	1921	106.3	107.1	106.7
1888	64.2	63.5	63.8	1922	109.2	108.8	109.0
1889	68.7	67.1	67.9	1923	112.2	109.3	110.7
				1924	117.0	116.6	116.8
1890	68.8	67.1	66.4	1925	114.6	116.3	115.5
1891	72.4	72.2	72.3	1926	119.8	121.3	120.5
1892	69.2	69.2	69.2	1927	117.8	120.1	119.0
1893	67.2	67.4	67.3	1928	121.0	121.5	121.3
1894	69.2	69.2	69.2	1929	119.2	121.8	120.4
1895	72.9	72.1	72.5				
1896	77.8	75.4	76.6	1930	116.9	119.3	118.1
1897	82.3	81.1	81.7	1931	118.4	121.9	120.1
1898	85.9	85.4	85.6	1932	115.9	119.3	117.6
1899	85.2	84.4	84.8	1933	113.5	115.8	114.6
				1934	108.2	106.8	107.5
1900	87.3	86.0	86.6	1935	103.2	104.0	103.6
1901	87.4	87.2	87.3	1936	110.2	111.6	110.9
1902	86.6	86.1	86.4	1937	117.9	117.0	117.4

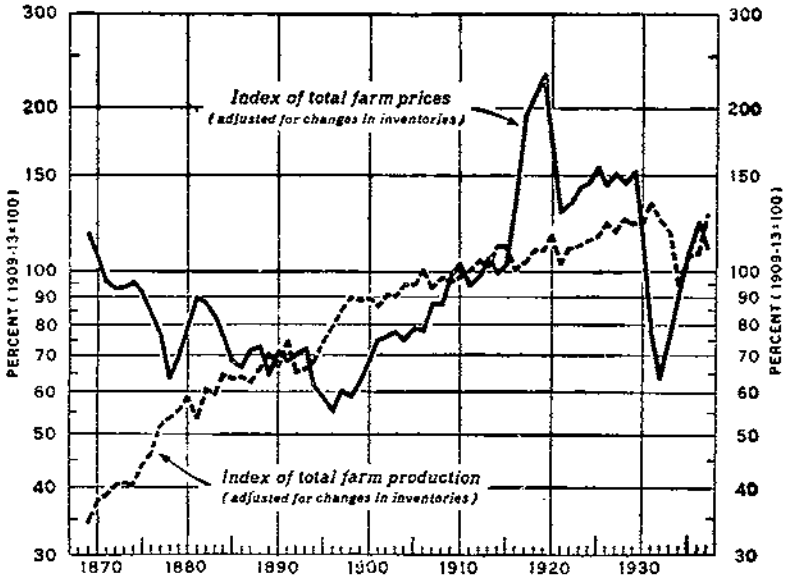

FIGURE 42.—Indices of farm production and of farm prices, crop years 1869–1937: Total, adjusted for changes in inventories.

TABLE 60.—*Indices of farm production: Total farm production, adjusted for changes in inventories of livestock, crop years*

[1909–13=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	35.1	33.8	34.4	1903	90.0	89.3	90.1
				1904	95.8	93.8	94.8
1870	37.9	37.4	37.6	1905	95.6	93.9	94.8
1871	39.7	37.1	38.4	1906	101.4	99.9	100.7
1872	42.3	38.1	40.2	1907	93.8	92.8	93.3
1873	41.7	39.1	40.4	1908	98.3	96.6	97.4
1874	41.5	39.1	40.3	1909	96.2	95.0	95.6
1875	44.4	43.1	43.7	1910	97.1	98.5	97.8
1876	46.2	45.7	46.0	1911	100.2	99.9	100.0
1877	52.0	51.6	51.8	1912	106.0	103.5	104.7
1878	54.3	52.6	53.4	1913	102.4	101.7	102.1
1879	56.0	54.8	55.4	1914	111.5	111.6	111.6
1880	58.4	59.3	58.8	1915	110.4	111.0	110.7
1881	53.0	52.0	52.5	1916	102.8	98.7	100.7
1882	60.8	61.1	61.0	1917	106.3	101.5	103.9
1883	59.8	59.0	59.4	1918	110.1	109.6	109.8
1884	64.8	63.7	64.3	1919	107.4	110.8	109.1
1885	64.2	62.6	63.4	1920	112.6	121.3	116.9
1886	64.0	63.2	63.6	1921	102.2	104.2	103.2
1887	62.7	61.8	62.3	1922	110.8	109.8	110.3
1888	67.4	65.9	66.7	1923	112.5	110.4	111.5
1889	71.1	69.0	70.0	1924	115.3	112.9	114.1
1890	68.0	65.6	66.8	1925	115.6	115.7	115.7
1891	74.5	74.2	74.3	1926	122.4	123.8	123.1
1892	65.6	65.1	65.4	1927	118.8	119.0	118.9
1893	65.9	65.8	65.8	1928	124.8	125.1	124.9
1894	68.8	67.5	68.1	1929	120.8	124.0	122.4
1895	75.3	72.9	74.1	1930	119.9	127.1	123.5
1896	80.6	77.6	79.1	1931	127.1	139.7	133.3
1897	85.9	84.1	85.0	1932	121.1	128.0	124.5
1898	90.4	88.8	89.6	1933	117.0	118.5	117.7
1899	89.3	87.7	88.5	1934	98.0	91.7	94.8
1900	90.5	88.4	89.4	1935	107.8	106.2	107.0
1901	87.5	85.5	86.5	1936	109.2	106.1	107.7
1902	91.7	89.8	90.7	1937	125.8	130.1	128.0

TABLE 61.—*Indices of farm production: Total farm production, adjusted for changes in inventories of livestock, calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	33.9	33.5	33.7	1903	88.4	89.1	88.8
				1904	90.9	91.5	91.2
1870	36.1	36.9	36.5	1905	91.8	92.9	92.3
1871	38.0	36.4	37.2	1906	97.0	98.0	97.5
1872	40.6	37.6	39.1	1907	92.0	93.6	92.8
1873	40.4	38.9	39.7	1908	94.1	95.3	94.7
1874	40.1	39.6	39.8	1909	91.9	93.3	92.6
1875	41.6	42.0	41.8	1910	93.1	97.4	95.2
1876	44.9	45.4	45.1	1911	96.7	100.6	96.6
1877	49.3	49.6	49.5	1912	99.9	101.2	100.5
1878	52.4	52.0	52.2	1913	100.6	103.4	102.0
1879	53.4	52.9	53.2	1914	102.1	106.6	104.3
1880	56.1	58.1	57.1	1915	108.6	113.4	111.0
1881	52.8	53.4	53.0	1916	101.6	102.0	101.8
1882	56.6	58.2	57.4	1917	99.8	97.7	98.8
1883	58.2	59.1	58.6	1918	105.4	107.6	106.5
1884	61.8	62.4	62.1	1919	104.3	111.9	108.0
1885	62.0	62.2	62.0	1920	103.4	113.7	108.4
1886	61.9	62.6	62.2	1921	104.0	110.5	107.2
1887	61.0	61.7	61.4	1922	107.1	109.9	108.5
1888	63.3	63.7	63.5	1923	108.1	109.4	108.7
1889	68.1	67.7	67.9	1924	111.0	112.1	111.5
1890	67.0	66.6	66.8	1925	109.7	114.2	111.9
1891	69.1	70.3	69.7	1926	116.2	121.5	118.8
1892	65.2	66.7	66.0	1927	115.8	120.2	118.0
1893	63.4	64.9	64.2	1928	119.2	123.2	121.2
1894	66.0	67.2	66.6	1929	117.7	125.0	121.3
1895	70.8	71.3	71.1	1930	115.8	125.4	120.5
1896	77.2	76.0	76.6	1931	118.4	133.8	125.8
1897	82.5	82.8	82.7	1932	116.8	127.9	122.2
1898	86.0	87.2	86.6	1933	113.3	122.6	117.9
1899	86.1	87.1	86.6	1934	98.7	98.1	98.4
1900	87.4	87.5	87.5	1935	101.2	102.5	101.9
1901	86.4	87.4	86.9	1936	106.8	109.5	108.2
1902	85.8	86.4	86.1	1937	115.3	122.0	118.6

TABLE 62.—*Production entering into gross income: Twelve important crops, crop years*

Year	Wheat	Corn	Oats	Barley	Rye	Buckwheat	Flaxseed	Hay	Potatoes	Sweetpotatoes	Cotton [1]	Tobacco	Cottonseed
	Mil. bu.	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. tons*	*Mil. bu.*	*Mil. bu.*	*Mil. bales*	*Mil. lb.*	*Mil. tons*
1869	241	146	85.2	14.6	13.2	6.22	1.56	4.9	120.1	20.6	2.46	264	
1870	217	217	80.4	14.5	11.5	5.51	2.00	4.7	89.4	28.1	3.72	345	
1871	233	241	91.8	13.8	12.5	5.52	2.50	4.5	111.8	25.5	3.01	327	
1872	233	269	98.1	16.0	12.4	6.16	2.99	4.8	111.0	24.6	3.47	385	
1873	275	216	92.1	15.2	11.9	6.18	3.48	4.9	106.8	30.2	3.83	332	
1874	295	220	81.9	18.0	12.8	5.98	3.98	5.0	108.5	27.4	3.60	217	0.084
1875	268	310	109.5	16.4	12.5	6.55	4.47	5.1	149.0	29.5	4.15	609	.123
1876	264	333	98.1	20.4	14.2	5.73	4.97	5.6	101.8	34.7	4.12	466	.098
1877	339	351	130.5	19.6	16.1	7.06	5.47	6.1	144.1	32.0	4.49	621	.150
1878	384	361	132.9	18.7	16.1	7.15	5.95	6.6	118.4	35.1	4.74	455	.181
1879	392	406	124.5	21.2	14.6	7.00	6.45	6.3	139.9	30.8	5.47	472	.235
1880	429	392	125.4	22.6	14.2	6.56	6.78	6.7	136.6	36.4	6.36	469	.182
1881	337	266	133.8	24.5	14.2	5.17	7.05	7.0	106.0	22.5	5.14	426	.205
1882	472	350	162.0	30.0	19.7	6.37	7.33	7.7	163.1	37.9	6.83	579	.302
1883	375	340	181.8	28.6	18.7	4.26	7.61	8.6	188.0	28.2	5.52	509	.396
1884	488	404	192.3	34.0	19.6	6.04	7.89	8.9	172.2	29.4	5.47	580	.499
1885	342	434	202.2	32.0	16.0	6.90	8.18	8.8	183.1	36.4	6.37	610	.578
1886	439	363	204.6	36.8	17.6	6.42	8.45	9.0	161.5	35.5	6.31	609	.694
1887	408	317	208.8	36.2	16.6	5.76	8.74	8.8	132.5	35.0	6.88	460	.823
1888	383	474	231.9	38.0	20.9	5.80	9.01	9.7	198.7	40.7	6.92	661	.794
1889	431	508	249.3	40.4	21.7	6.94	9.57	10.3	180.5	40.7	7.47	525	.874
1890	373	331	182.7	35.0	19.5	7.14	10.30	10.4	140.8	40.9	8.56	648	1.023
1891	530	495	251.1	47.1	21.8	7.66	15.58	10.5	218.6	41.6	8.94	747	1.07
1892	508	389	216.6	47.6	21.2	7.22	11.43	10.7	157.3	42.1	6.66	757	1.05
1893	420	405	212.1	43.6	19.7	6.16	9.68	11.0	168.9	41.4	7.43	767	1.43
1894	450	322	225.0	37.1	19.8	6.57	9.55	10.3	163.9	45.4	10.02	767	1.68
1895	463	551	277.5	52.2	21.8	7.41	18.01	9.0	250.1	40.8	7.15	745	1.44
1896	447	640	232.5	48.8	23.5	8.22	16.66	9.5	217.8	38.1	8.52	760	1.63
1897	518	596	249.0	51.3	22.9	8.53	12.67	11.4	163.9	37.8	10.09	703	2.10
1898	657	579	252.6	49.1	21.4	7.27	16.15	12.4	198.7	46.0	11.54	909	2.35
1899	560	663	281.1	59.1	19.2	6.68	18.00	11.1	226.0	38.3	9.35	870	2.48
1900	512	640	283.5	48.3	20.2	6.98	15.13	10.6	215.3	41.5	10.12	852	2.42
1901	633	340	240.0	61.9	22.7	9.02	25.14	10.5	171.4	43.8	9.51	886	3.15
1902	587	576	323.1	73.1	25.0	8.08	32.87	11.4	245.9	44.5	10.63	960	3.27
1903	567	513	265.5	74.6	21.3	8.50	23.10	12.2	228.5	48.0	9.85	976	3.24
1904	475	570	303.6	83.0	21.0	9.23	20.61	12.6	289.0	50.4	13.44	857	3.34
1905	604	644	331.2	85.8	23.0	9.54	26.14	12.8	240.2	53.2	10.58	939	3.13
1906	634	631	306.9	89.6	21.8	8.83	25.18	11.7	282.3	52.5	13.27	973	3.84
1907	538	528	240.3	75.3	20.8	8.48	21.67	12.6	275.7	52.0	11.11	886	2.56
1908	550	506	248.7	85.4	21.1	8.75	18.79	13.4	252.5	56.6	13.24	836	3.67
1909	597.8	575	331.6	90.2	22.1	9.39	17.77	13.0	322.9	53.6	10.00	1,054	3.27
1910	533.8	600	335.1	73.9	20.9	8.96	10.37	12.0	283.2	54.8	11.61	1,142	4.11
1911	512.3	488	245.4	81.0	22.1	8.33	16.89	9.8	250.9	50.2	15.60	941	4.92
1912	638.0	589	400.5	103.8	28.4	8.86	25.64	12.3	336.2	51.4	13.70	1,117	4.58
1913	642.9	393	280.5	77.3	29.3	5.94	13.76	10.6	274.9	50.8	14.15	992	4.85
1914	792.1	488	314.5	85.5	31.7	7.18	11.79	10.7	304.7	49.1	16.11	1,037	5.78
1915	903.1	548	411.8	94.0	36.0	6.86	10.27	10.8	270.0	57.4	11.17	1,157	4.20
1916	522.0	452	317.8	69.3	31.1	5.72	10.78	11.0	223.6	55.8	11.45	1,207	4.48
1917	515.8	654	447.3	75.1	45.6	7.34	7.65	9.1	330.4	66.1	11.28	1,326	4.25
1918	778.3	419	378.3	89.1	65.6	7.70	11.64	8.4	286.5	62.3	12.02	1,445	4.48
1919	829.2	510	293.4	49.7	62.0	6.41	6.17	8.7	245.9	71.1	11.41	1,444	4.01
1920	737.6	742	431.8	68.6	49.0	5.94	9.93	8.0	305.5	69.9	13.43	1,509	4.07
1921	701.1	639	265.4	53.1	46.1	5.46	7.39	6.8	269.1	66.9	7.94	1,005	3.01
1922	715.7	534	299.6	61.6	82.5	5.25	9.58	7.0	346.9	71.2	9.76	1,254	3.24
1923	617.1	621	325.2	62.8	39.5	4.88	15.09	6.7	303.0	58.0	10.14	1,518	3.31
1924	709.8	450	412.1	68.9	47.1	4.72	28.44	6.1	317.6	43.6	13.63	1,245	4.01
1925	567.3	620	373.7	74.3	33.7	4.79	20.34	5.2	239.8	48.8	16.10	1,376	5.56
1926	718.8	498	273.3	50.8	25.1	5.13	16.88	4.4	262.8	61.8	17.08	1,289	6.31
1927	746.4	538	229.5	79.4	41.6	5.33	22.93	4.4	309.7	69.6	12.96	1,211	4.65
1928	777.8	567	290.2	108.7	28.7	4.88	17.42	3.5	334.8	58.0	14.48	1,373	5.06
1929	683.9	490	228.2	76.7	24.4	4.34	14.50	3.0	283.9	57.1	14.82	1,533	5.02
1930	651.2	358	215.5	79.6	22.8	3.71	19.74	2.2	289.2	47.0	13.93	1,648	4.72
1931	694.3	471	190.0	36.7	15.3	3.45	10.71	2.3	322.9	58.6	17.10	1,564	5.33
1932	552.6	587	210.2	74.9	17.8	3.19	10.49	2.4	310.2	71.9	13.00	1,017	4.62
1933	411.8	437	96.8	45.5	11.1	3.24	6.29	2.3	288.3	66.4	13.05	1,371	4.16
1934	376.1	170	59.1	39.8	8.5	3.21	5.16	1.9	332.9	64.5	9.04	1,082	3.55
1935	407.0	409	203.2	98.6	33.3	3.32	13.23	2.7	319.2	69.2	10.64	1,297	3.82
1936	466.5	245	121.0	52.4	12.2	2.76	4.80	1.9	275.6	53.4	12.40	1,167	4.50
1937	650.3	489	194.8	65.9	24.7	2.71	6.35	2.2	326.2	62.8	18.95	1,553	6.33

[1] Bales of 478 pounds net, which are equivalent to bales of 500 pounds gross weight.

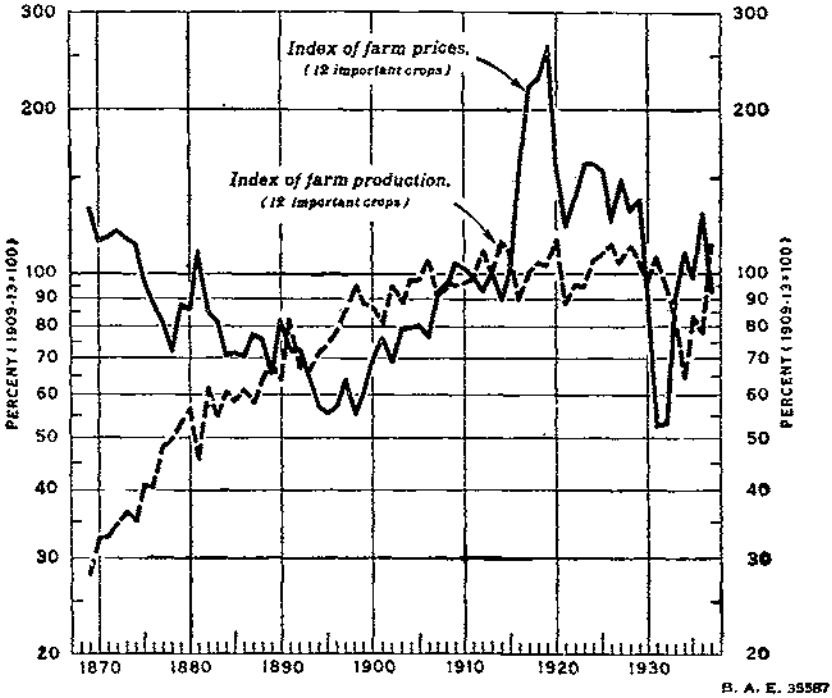

FIGURE 43.—Indices of farm production and of farm prices, crop years 1869–1937: 12 important crops.

TABLE 63.—*Indices of farm production: 12 important crops, crop years*
[1909–13=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	28.8	27.0	27.9	1903	88.2	88.7	88.5
				1904	97.2	97.7	97.4
1870	32.4	33.0	32.7	1905	97.2	97.4	97.3
1871	32.5	32.9	32.7	1906	105.2	106.4	105.8
1872	34.9	34.5	34.7	1907	90.8	91.9	91.3
1873	36.0	37.2	36.6	1908	96.6	97.0	96.8
1874	35.5	34.9	35.2	1909	95.1	95.7	95.4
1875	41.7	40.1	40.9				
1876	40.5	40.6	40.6	1910	95.9	96.7	96.3
1877	47.4	48.8	48.1	1911	99.0	98.4	98.7
1878	49.0	50.0	49.5	1912	109.4	111.1	110.2
1879	52.6	54.5	53.5	1913	99.3	100.5	99.9
				1914	114.4	114.9	114.6
1880	56.1	57.6	56.8	1915	108.6	111.3	109.9
1881	45.0	46.5	45.8	1916	89.6	90.4	90.0
1882	60.9	62.7	61.8	1917	99.4	101.0	100.2
1883	54.2	55.4	54.8	1918	103.9	106.0	104.9
1884	60.6	60.9	60.7	1919	102.6	103.9	103.2
1885	58.2	58.6	58.4				
1886	60.2	61.9	61.1	1920	114.3	116.5	115.4
1887	57.6	58.2	57.9	1921	88.6	88.3	88.6
1888	64.1	63.9	64.0	1922	96.8	95.3	96.0
1889	68.6	68.9	68.7	1923	95.3	94.0	94.6
				1924	105.0	106.7	105.8
1890	63.1	63.8	63.4	1925	107.6	109.2	108.4
1891	80.5	83.9	82.2	1926	112.8	113.5	113.2
1892	66.8	67.9	67.3	1927	103.4	106.4	104.9
1893	66.2	67.2	66.7	1928	110.9	114.2	112.5
1894	71.4	71.0	71.2	1929	103.1	107.0	105.0
1895	74.3	73.5	73.9				
1896	77.9	77.4	77.6	1930	96.2	97.9	97.1
1897	85.1	85.7	85.4	1931	107.6	107.0	107.3
1898	94.3	96.4	95.3	1932	93.9	95.5	94.7
1899	88.0	88.8	88.4	1933	82.3	84.7	83.5
				1934	84.2	85.6	84.9
1900	86.5	87.2	86.8	1935	82.5	85.1	83.8
1901	81.6	81.2	81.4	1936	76.7	78.8	77.7
1902	94.1	95.8	95.0	1937	112.7	114.2	113.4

TABLE 64.—*Production entering into gross income: 12 important crops, calendar years*

Year	Wheat	Corn	Oats	Barley	Rye	Buckwheat	Flaxseed	Hay	Potatoes	Sweetpotatoes	Cotton [1]	Tobacco	Cottonseed
	Mil. bu	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. bu.*	*Mil. tons*	*Mil. bu.*	*Mil. bu.*	*Mil. bales*	*Mil. lb.*	*Mil. tons*
1869	233	168	79.8	14.0	13.0	6.24	1.56	4.9	109.3	22.2	2.46	274	.....
1870	223	167	81.9	14.5	11.9	5.83	2.00	4.7	104.3	25.8	3.72	309	.....
1871	230	224	87.9	14.0	12.3	5.52	2.50	4.5	101.0	26.3	3.01	335	.....
1872	232	249	96.0	15.6	12.4	5.88	2.99	4.8	111.8	24.9	3.47	359	.....
1873	267	253	94.2	15.4	12.0	6.17	3.48	4.9	108.5	28.5	3.83	383	.....
1874	290	217	85.2	17.5	12.5	8.07	3.98	5.0	107.6	28.2	3.60	291	.....
1875	275	247	100.2	16.7	12.5	6.20	4.47	5.1	120.2	29.0	4.15	433	0.115
1876	265	317	102.0	19.6	13.9	6.10	4.97	5.6	125.9	33.1	4.15	530	.103
1877	324	338	119.7	19.8	15.8	6.47	5.47	6.1	123.4	32.8	4.42	552	.140
1878	374	354	132.0	18.8	16.1	7.11	5.95	6.6	131.7	34.2	4.70	529	.175
1879	391	374	127.5	20.7	14.9	7.07	6.45	6.5	129.2	32.1	5.32	465	.224
1880	422	402	125.1	22.4	14.3	6.76	6.78	6.5	137.4	34.8	6.18	470	.193
1881	353	354	130.8	24.2	14.2	5.79	7.05	7.0	120.9	26.7	5.38	445	.272
1882	447	294	152.7	29.0	18.6	5.83	7.33	7.7	134.1	33.2	6.49	510	.373
1883	394	353	175.2	28.8	18.9	5.21	7.61	8.0	175.5	31.1	5.78	541	.395
1884	466	359	188.7	32.8	19.5	5.24	7.80	8.0	180.5	29.1	5.48	547	.478
1885	371	413	198.9	32.4	16.7	6.51	8.18	8.8	167.3	34.3	6.39	597	.562
1886	420	413	204.0	35.8	17.2	6.63	8.45	9.0	162.3	35.8	6.32	609	.671
1887	412	349	207.3	36.3	16.8	6.06	8.74	8.8	147.4	35.1	6.77	532	.797
1888	374	364	224.1	37.6	20.0	5.78	9.01	9.2	165.6	39.0	6.92	575	.800
1889	417	484	243.6	39.9	21.6	6.43	9.57	10.0	189.6	40.7	7.36	586	.858
1890	382	455	204.9	36.9	19.9	7.05	16.30	10.4	160.6	40.8	8.34	592	.993
1891	540	380	228.3	44.7	21.4	7.43	15.58	10.5	179.7	41.4	8.86	703	1.06
1892	520	403	228.0	47.5	21.3	7.43	11.43	10.7	188.0	41.9	7.11	752	1.05
1893	437	394	213.6	44.4	20.0	6.63	9.68	11.0	163.1	41.6	7.28	763	1.35
1894	444	380	220.8	38.4	19.7	6.38	9.55	10.3	166.4	44.0	9.51	767	1.63
1895	463	391	260.1	49.2	21.4	7.03	18.01	9.0	207.0	42.0	7.72	755	1.49
1896	450	578	247.5	49.4	23.1	7.85	16.66	9.5	234.3	39.0	8.24	753	1.59
1897	504	627	243.3	50.8	23.1	8.40	12.67	11.0	191.3	37.9	10.50	720	2.01
1898	628	591	251.4	49.6	21.7	7.83	16.15	12.0	181.3	43.6	11.43	816	2.30
1899	580	604	271.8	57.1	19.6	6.94	18.90	11.7	212.0	40.6	9.78	887	2.45
1900	522	656	282.6	50.4	20.0	6.84	15.13	10.6	220.2	40.6	9.97	861	2.43
1901	606	550	254.4	59.2	22.2	8.11	23.56	10.5	193.8	43.0	9.63	870	3.90
1902	601	411	295.5	70.9	24.5	8.50	31.71	11.4	208.7	44.3	10.41	927	3.25
1903	570	557	284.7	74.3	22.0	8.31	24.57	12.2	235.8	46.9	10.01	960	3.25
1904	494	530	291.0	81.4	21.1	8.90	20.98	12.6	258.3	49.7	12.72	911	3.32
1905	578	592	321.9	85.2	22.6	9.40	25.31	12.8	268.3	52.3	11.15	902	3.17
1906	628	640	315.0	88.8	22.0	9.15	25.32	12.2	265.0	52.8	12.73	957	3.70
1907	557	600	262.5	78.2	21.0	8.63	22.20	12.2	278.2	52.1	11.54	925	2.82
1908	547	521	246.0	83.4	21.0	8.62	19.23	13.0	263.3	55.2	12.81	859	3.45
1909	590.8	527	311.3	90.0	21.9	9.37	17.92	13.2	287.3	54.5	10.65	878	3.35
1910	530.1	581.7	329.4	78.6	20.6	9.02	11.48	12.4	303.0	54.4	11.20	1,027	2.80
1911	542.3	547.6	276.8	82.1	22.4	8.51	15.92	10.8	257.4	51.6	14.83	1,102	4.30
1912	601.1	534.1	341.8	90.0	24.8	8.54	24.32	11.2	293.9	51.0	14.13	1,029	4.38
1913	644.2	528.9	326.4	88.1	30.1	7.23	15.54	11.4	305.5	51.0	13.98	1,158	4.48
1914	784.1	429.0	321.0	84.8	32.4	6.51	12.08	10.7	289.8	49.7	12.56	957	5.05
1915	760.1	495.8	355.5	91.0	32.0	6.96	10.49	10.8	291.5	54.8	14.83	1,090	4.26
1916	698.9	523.1	367.1	80.6	35.7	6.27	10.70	10.9	250.9	56.3	12.22	1,205	4.29
1917	544.2	465.4	377.6	69.4	41.4	6.54	8.12	10.0	277.4	63.0	11.11	1,265	3.91
1918	707.7	616.7	412.8	73.7	54.1	7.51	11.04	8.7	308.8	63.4	10.21	1,366	4.11
1919	758.2	447.1	333.9	74.4	60.3	6.79	6.99	8.6	265.8	68.5	12.70	1,560	3.69
1920	651.1	529.	363.3	59.4	56.0	6.05	9.37	8.3	274.9	70.3	10.75	1,208	3.54
1921	801.0	744.0	336.6	60.5	49.3	5.54	7.77	7.3	286.5	67.8	11.43	1,475	3.01
1922	689.5	638.9	286.4	61.3	71.9	5.26	9.26	7.0	308.0	69.9	10.21	1,171	2.90
1923	654.8	531.5	319.9	62.5	50.3	4.92	14.27	6.7	325.4	61.9	10.34	1,345	2.95
1924	720.3	599.9	412.6	67.5	51.6	4.56	26.44	6.1	316.3	47.9	12.76	1,316	4.22
1925	590.4	489.7	370.8	73.0	33.8	4.78	21.55	6.2	278.7	47.2	15.30	1,390	5.03
1926	679.5	591.6	302.2	53.8	27.1	5.45	17.40	4.4	251.3	57.9	16.40	1,305	5.71
1927	764.3	503.0	248.0	75.0	39.8	4.99	22.02	4.3	286.2	67.3	15.06	1,441	4.66
1928	748.3	563.7	270.7	105.7	30.8	5.47	18.25	3.9	322.7	61.5	14.52	1,283	4.66
1929	713.4	521.1	258.9	82.6	25.1	4.66	14.94	3.2	309.4	57.4	15.65	1,409	4.73
1930	629.1	456.4	215.3	77.6	23.1	4.13	18.96	2.6	286.6	50.7	14.02	1,602	4.34
1931	650.9	383.6	191.7	44.0	13.8	3.11	12.07	2.3	306.0	55.4	14.88	1,482	4.56
1932	559.3	483.3	197.8	62.4	13.5	3.65	10.51	2.4	316.6	67.9	13.80	1,238	4.11
1933	484.4	561.7	143.5	55.5	18.5	3.03	6.91	2.3	299.2	68.0	12.28	1,229	3.85
1934	403.5	367.8	64.8	40.4	11.2	3.02	5.33	2.1	310.6	65.0	12.30	1,312	3.21
1935	467.3	216.7	162.2	77.3	15.7	3.45	12.02	2.3	326.0	67.8	10.85	1,337	3.36
1936	479.1	398.7	141.5	76.0	23.9	3.17	6.07	1.9	297.4	58.1	12.56	1,189	4.26
1937	597.2	328.6	195.1	73.6	26.8	2.62	6.12	2.2	300.9	60.0	16.82	1,385	6.39

[1] Bales of 478 pounds net, which are equivalent to bales of 500 pounds gross weight.

TABLE 85.—*Indices of farm production: 12 important crops, calendar years*

[1910–1914=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	28.6	27.0	27.8	1903	89.1	88.3	88.7
				1904	92.2	92.4	92.3
1870	31.1	31.9	31.5	1905	94.8	95.0	94.9
1871	31.3	31.7	31.5	1906	101.7	101.5	101.6
1872	33.8	33.7	33.7	1907	93.4	93.6	93.5
1873	36.2	36.9	36.6	1908	93.8	94.1	93.9
1874	35.1	36.2	35.7	1909	91.7	92.0	91.9
1875	38.8	38.1	38.2				
1876	40.7	40.2	40.5	1910	93.2	94.3	93.7
1877	44.8	45.5	45.1	1911	97.9	99.9	98.9
1878	48.4	49.2	48.8	1912	102.3	104.7	103.5
1879	50.5	50.7	50.6	1913	102.3	104.8	103.5
				1914	99.6	101.6	100.6
1880	54.7	55.2	55.0	1915	112.5	116.9	114.7
1881	48.5	49.1	48.8	1916	94.6	96.4	95.5
1882	54.9	55.1	55.5	1917	91.4	92.7	92.1
1883	55.0	55.9	55.5	1918	100.5	101.8	101.1
1884	57.9	58.3	58.1	1919	103.0	105.9	104.4
1885	57.5	58.0	57.7				
1886	60.0	60.4	60.2	1920	100.0	102.5	101.2
1887	58.1	58.2	58.2	1921	101.2	103.6	102.4
1888	59.0	59.3	59.2	1922	96.1	95.4	95.8
1889	66.6	66.1	66.3	1923	92.9	92.0	92.4
				1924	103.0	104.9	103.9
1890	65.7	65.9	65.8	1925	101.8	106.1	103.9
1891	72.7	74.4	73.6	1926	106.8	108.5	107.7
1892	70.5	71.7	71.1	1927	104.9	109.3	107.1
1893	65.0	64.9	65.0	1928	106.7	110.3	108.5
1894	69.8	70.0	69.9	1929	104.7	109.9	107.3
1895	69.0	69.6	69.3				
1896	75.4	73.6	74.5	1930	95.4	98.4	96.9
1897	83.2	82.7	83.0	1931	95.8	97.0	96.4
1898	90.3	91.8	91.1	1932	92.8	95.2	94.0
1899	86.8	87.2	87.0	1933	82.4	87.2	84.8
				1934	73.8	78.5	76.1
1900	85.8	85.2	85.4	1935	74.8	76.9	75.9
1901	85.4	85.8	85.6	1936	79.4	84.4	81.8
1902	86.4	86.8	86.6	1937	96.4	97.0	96.7

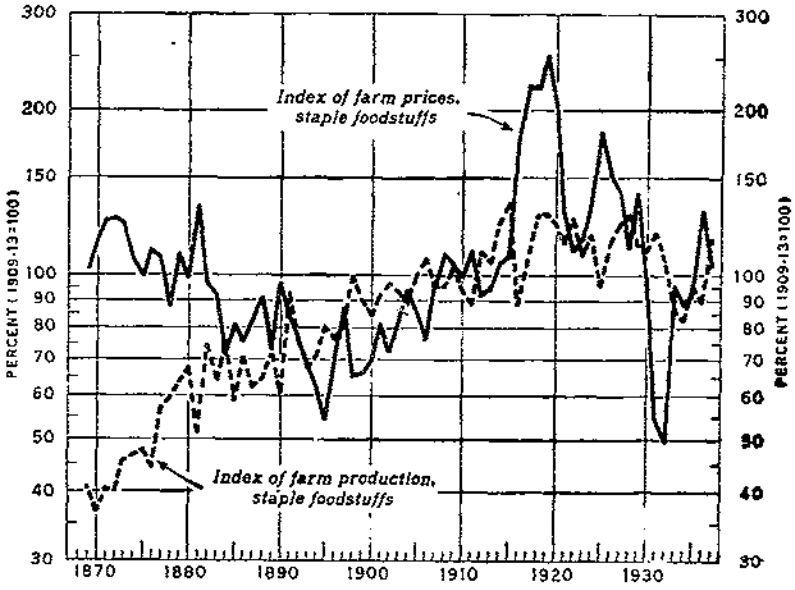

FIGURE 44.—Indices of farm production and of farm prices, crop years 1869–1937: Staple foodstuffs.

TABLE 66.—*Indices of farm production: Staple foodstuffs, crop years*

[1909–13 = 100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	41.1	40.6	40.9	1903	94.2	92.8	93.5
				1904	89.2	87.7	88.4
1870	36.9	36.8	36.8	1905	100.7	99.8	100.2
1871	40.3	40.4	40.4	1906	106.8	106.1	106.4
1872	40.2	40.0	40.1	1907	95.8	94.0	95.4
1873	45.3	45.4	45.4	1908	95.9	94.8	95.3
1874	47.0	46.8	46.9	1909	104.4	103.1	103.7
1875	48.1	47.2	47.7				
1876	44.4	44.3	44.4	1910	94.3	93.5	93.0
1877	56.3	57.0	56.7	1911	88.9	87.8	88.3
1878	59.7	59.2	59.5	1912	110.4	109.1	109.7
1879	62.0	64.3	63.1	1913	105.9	104.6	105.2
				1914	124.6	125.1	124.9
1880	66.5	68.0	67.3	1915	135.7	135.4	135.6
1881	51.4	51.3	51.3	1916	89.8	87.4	88.6
1882	74.2	73.8	74.0	1917	101.6	99.7	100.7
1883	64.2	63.6	63.9	1918	128.6	129.2	128.9
1884	76.0	75.3	75.6	1919	131.1	128.0	129.5
1885	59.0	58.5	58.7				
1886	70.1	70.3	70.2	1920	124.5	124.0	124.2
1887	63.1	61.4	62.2	1921	116.4	113.4	114.9
1888	65.1	64.4	64.8	1922	128.4	126.7	127.5
1889	71.5	71.5	71.5	1923	109.1	108.2	108.6
				1924	119.2	117.9	118.6
1890	60.8	60.8	60.8	1925	97.4	94.6	95.7
1891	91.9	93.4	92.6	1926	116.8	113.4	115.1
1892	77.9	75.0	76.5	1927	126.0	124.0	125.0
1893	68.7	66.6	67.6	1928	129.4	129.4	129.4
1894	72.0	69.9	70.5	1929	114.8	112.4	113.6
1895	81.4	79.1	80.2				
1896	76.7	76.9	76.8	1930	111.5	110.1	110.8
1897	80.2	81.1	80.6	1931	119.5	119.4	119.4
1898	99.7	99.0	99.3	1932	103.6	104.9	104.2
1899	90.3	89.6	89.0	1933	85.4	87.7	86.5
				1934	84.3	81.1	82.6
1900	84.9	84.2	84.5	1935	96.6	94.8	95.7
1901	94.5	89.1	91.8	1936	89.3	89.0	89.2
1902	97.4	96.3	96.9	1937	117.4	116.1	116.7

TABLE 67.—*Indices of farm production: Staple foodstuffs, calendar years*

[1910–14 = 100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	38.3	38.3	38.3	1903	91.7	90.8	91.2
				1904	85.5	85.3	85.4
1870	37.3	37.3	37.3	1905	95.6	95.7	95.7
1871	37.8	37.8	37.8	1906	100.8	100.2	100.5
1872	38.8	38.4	38.6	1907	94.7	94.3	94.5
1873	42.7	42.8	42.8	1908	92.9	92.2	92.5
1874	45.0	44.8	44.9	1909	97.1	96.6	96.8
1875	45.5	45.4	45.4				
1876	44.7	44.6	44.6	1910	93.6	92.2	92.9
1877	51.1	51.8	51.4	1911	87.2	86.9	87.1
1878	57.4	58.6	58.0	1912	100.8	100.4	100.6
1879	58.8	59.4	59.1	1913	104.1	103.6	103.9
				1914	116.1	115.7	115.9
1880	63.2	64.7	63.9	1915	129.1	132.1	130.6
1881	53.2	53.5	53.4	1916	95.3	94.1	94.7
1882	65.8	65.0	65.4	1917	93.5	92.6	93.0
1883	63.2	63.2	63.2	1918	120.3	121.0	120.6
1884	71.3	71.8	71.6	1919	126.6	127.2	127.0
1885	60.3	60.0	60.1				
1886	65.4	65.5	65.5	1920	119.7	116.4	118.0
1887	62.8	61.7	62.3	1921	114.1	113.3	113.7
1888	61.1	60.8	61.0	1922	119.5	118.0	118.7
1889	68.2	67.9	68.1	1923	109.4	109.2	109.3
				1924	113.2	112.4	112.8
1890	61.6	61.2	61.4	1925	100.0	99.2	99.6
1891	81.0	80.6	80.8	1926	108.3	104.4	106.4
1892	79.2	79.2	70.2	1927	118.2	115.9	117.0
1893	67.7	65.4	66.5	1928	123.4	123.4	123.4
1894	68.7	65.9	67.3	1929	114.3	114.4	114.3
1895	75.1	73.6	74.3				
1896	75.8	74.8	75.2	1930	106.5	105.4	105.9
1897	77.9	79.1	78.5	1931	112.7	111.9	112.3
1898	91.2	91.6	91.4	1932	102.8	103.2	103.0
1899	88.2	87.9	88.0	1933	86.8	89.0	87.9
				1934	80.1	80.6	80.4
1900	83.1	82.5	82.8	1935	91.8	89.1	90.4
1901	90.2	87.5	88.8	1936	88.6	89.6	89.1
1902	92.2	90.4	91.3	1937	106.8	105.1	105.9

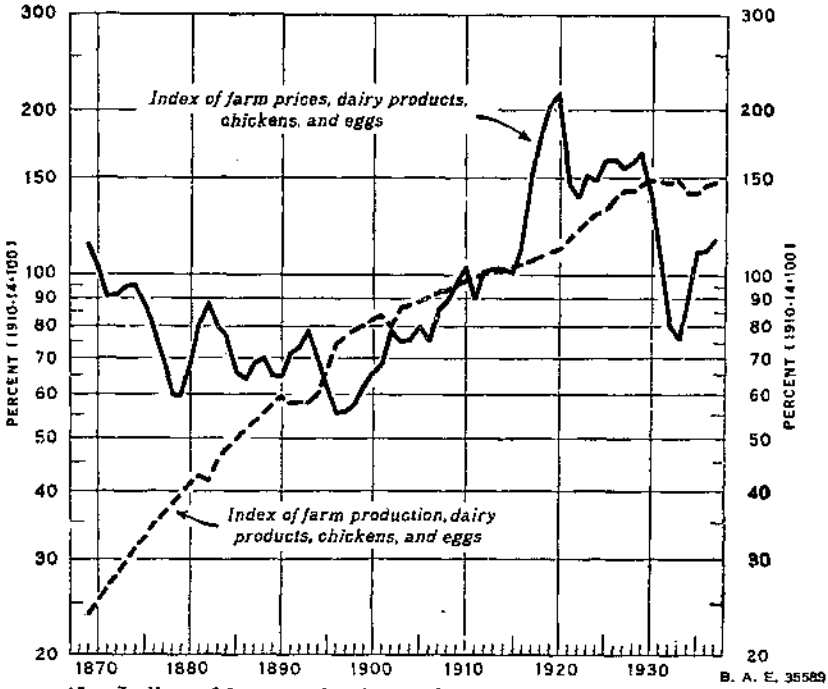

FIGURE 45.—Indices of farm production and of farm prices, calendar years 1869–1937: Dairy products, chickens, and eggs.

TABLE 68.—*Indices of farm production: Dairy products, chickens, and eggs, calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	23.5	23.5	23.5	1903	86.9	86.8	86.8
1870	24.9	24.6	24.8	1904	88.2	87.5	87.8
1871	26.4	26.5	26.5	1905	89.5	88.9	89.2
1872	28.0	27.9	27.9	1906	90.9	90.4	90.7
1873	29.5	29.5	29.5	1907	92.1	92.7	92.4
1874	31.2	31.5	31.3	1908	94.1	93.7	93.9
1875	32.8	32.4	32.6	1909	96.0	96.0	96.0
1876	34.5	34.7	34.6	1910	97.5	97.4	97.5
1877	36.3	35.9	36.1	1911	98.8	98.9	98.9
1878	37.9	37.8	37.8	1912	100.1	100.1	100.1
1879	39.6	38.8	39.2	1913	101.2	101.0	101.1
1880	41.3	41.7	41.5	1914	102.4	102.4	102.4
1881	43.0	42.6	42.8	1915	103.6	103.4	103.5
1882	41.7	41.6	41.6	1916	104.8	104.6	104.7
1883	46.4	45.4	45.9	1917	105.9	106.2	106.0
1884	48.1	47.5	47.8	1918	107.8	107.9	107.8
1885	49.9	49.4	49.6	1919	110.1	110.2	110.1
1886	51.7	51.3	51.5	1920	112.9	112.8	112.9
1887	53.6	53.0	53.3	1921	116.8	116.8	116.8
1888	55.8	55.4	55.6	1922	121.0	120.5	120.8
1889	58.0	57.6	57.8	1923	125.0	124.9	124.9
1890	60.1	59.4	59.8	1924	128.8	128.8	128.8
1891	57.6	58.2	57.9	1925	131.6	131.6	131.6
1892	58.7	58.2	58.5	1926	138.2	138.0	138.1
1893	58.5	58.2	58.3	1927	142.7	142.0	142.3
1894	60.1	59.9	60.0	1928	142.5	141.8	142.1
1895	67.5	67.0	67.3	1929	145.8	146.1	146.0
1896	74.9	74.5	74.7	1930	148.9	148.5	148.7
1897	77.2	77.1	77.1	1931	148.8	148.2	148.5
1898	79.3	78.7	79.0	1932	147.8	147.9	147.8
1899	81.0	80.6	80.8	1933	148.1	148.1	148.1
1900	82.3	82.6	82.5	1934	141.8	141.3	141.6
1901	84.0	83.8	83.9	1935	141.3	140.4	140.8
1902	80.3	79.8	80.1	1936	145.6	145.2	145.4
				1937	146.4	145.8	146.1

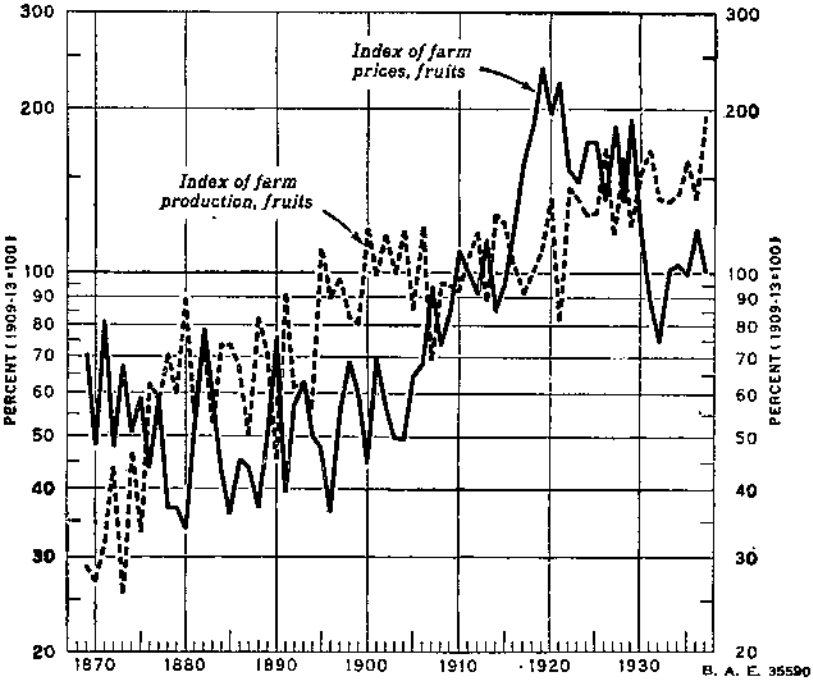

FIGURE 46.—Indices of farm production and of farm prices, crop years 1869–1937: Orchard fruits, citrus fruits, grapes.

TABLE 69.—*Indices of farm production: Orchard fruits, citrus fruits, and grapes, crop years*

[1909–13=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	25.8	32.4	29.0	1903	101.8	97.6	99.7
1870	24.1	30.3	27.0	1904	121.9	114.3	118.0
1871	28.2	35.6	31.7	1905	87.6	83.3	85.4
1872	38.6	49.7	43.8	1906	125.1	115.8	120.3
1873	23.1	29.0	25.9	1907	69.2	69.8	69.5
1874	41.0	52.2	46.2	1908	96.7	94.9	95.8
1875	29.6	37.6	33.4	1909	95.8	94.2	95.0
1876	55.8	70.2	62.6	1910	93.9	91.3	92.6
1877	52.0	65.6	58.4	1911	107.4	106.1	106.7
1878	63.0	79.0	70.6	1912	120.5	115.6	118.0
1879	53.7	67.2	60.1	1913	90.9	87.5	89.2
1880	79.6	101.4	89.8	1914	129.4	126.0	127.6
1881	49.2	62.4	55.4	1915	125.0	122.7	123.8
1882	66.8	83.8	74.8	1916	106.3	103.9	105.1
1883	47.5	59.4	53.1	1917	93.5	90.7	92.1
1884	65.4	82.5	73.5	1918	101.2	100.3	100.7
1885	65.4	82.9	73.6	1919	111.5	108.3	109.9
1886	59.6	76.1	67.3	1920	139.2	135.1	137.2
1887	45.1	56.9	50.6	1921	82.9	81.2	82.0
1888	73.7	92.2	82.4	1922	143.7	143.6	143.7
1889	68.1	74.7	71.3	1923	142.6	133.4	137.0
1890	43.1	48.7	45.8	1924	128.0	127.9	128.0
1891	87.9	92.8	90.3	1925	130.0	127.3	128.6
1892	58.0	65.8	61.8	1926	168.6	170.8	169.7
1893	58.8	65.8	62.2	1927	117.6	118.8	118.2
1894	53.7	59.6	56.6	1928	167.8	157.9	162.8
1895	113.3	106.6	109.9	1929	123.4	121.0	122.2
1896	98.9	81.4	89.8	1930	160.3	147.1	153.6
1897	100.3	94.7	97.5	1931	170.6	166.1	168.3
1898	84.7	80.6	82.6	1932	140.4	134.0	137.2
1899	83.6	77.1	80.3	1933	137.3	133.8	135.5
1900	128.7	110.6	119.3	1934	149.3	131.4	140.0
1901	103.6	94.9	99.2	1935	162.0	160.0	161.0
1902	121.9	111.2	116.4	1936	143.2	132.7	137.9
				1937	203.7	186.0	194.6

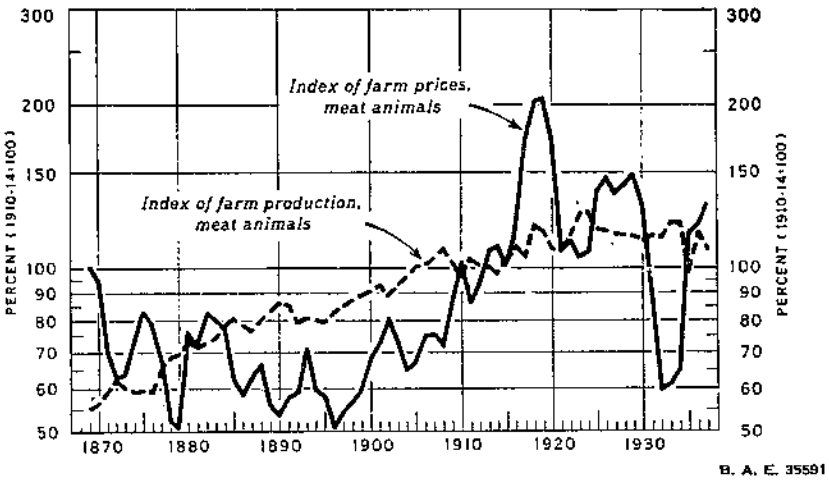

FIGURE 47.—Index of farm production and of farm prices, calendar years 1869–1937: Meat animals.

TABLE 70.—*Production entering into gross income: Slaughter of cattle, calves, hogs, and sheep and lambs (and exports of live cattle), calendar years*

Year	Cattle	Calves	Hogs	Sheep and Lamb	Year	Cattle	Calves	Hogs	Sheep and Lamb
	Mil. lb.	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*		*Mil. lb.*	*Mil. lb.*	*Mil. lb.*	*Mil. lb.*
1869	4,586	119	8,960	240	1903	12,350	856	10,820	1,174
					1904	12,359	856	11,470	1,126
1870	4,773	124	9,290	260	1905	12,984	969	11,980	1,104
1871	4,951	141	10,150	270	1906	13,028	1,044	12,120	1,127
1872	5,128	158	11,030	280	1907	13,042	1,090	12,620	1,151
1873	5,275	175	10,240	285	1908	12,966	1,111	13,570	1,161
1874	5,470	196	9,500	315	1909	13,301	1,154	11,740	1,261
1875	5,590	212	9,200	320					
1876	5,737	230	9,030	330	1910	12,888	1,166	10,890	1,239
1877	5,967	255	10,420	335	1911	12,735	1,161	12,510	1,433
1878	6,389	280	11,060	370	1912	12,047	1,156	12,170	1,523
1879	6,766	314	10,850	380	1913	11,853	1,062	12,390	1,462
					1914	11,529	995	12,000	1,434
1880	7,198	330	10,750	390	1915	11,690	1,027	13,300	1,254
1881	7,323	355	10,510	400	1916	12,445	1,143	14,120	1,221
1882	7,474	366	10,500	415	1917	14,025	1,306	12,100	981
1883	7,899	398	10,610	455	1918	15,031	1,335	14,520	1,067
1884	8,292	416	11,470	465	1919	13,218	1,427	14,720	1,244
1885	8,749	459	11,620	480					
1886	9,157	483	10,680	500	1920	12,226	1,470	13,690	1,116
1887	9,470	520	9,820	510	1921	11,616	1,437	13,960	1,346
1888	9,902	539	10,250	560	1922	12,579	1,409	14,910	1,158
1889	10,250	568	10,860	575	1923	12,736	1,599	17,390	1,227
					1924	13,176	1,697	17,050	1,257
1890	10,550	576	11,290	590	1925	13,291	1,722	14,730	1,262
1891	10,481	598	10,970	600	1926	13,459	1,647	14,510	1,341
1892	10,163	581	9,940	620	1927	12,154	1,511	15,250	1,318
1893	9,640	517	10,440	670	1928	10,964	1,360	16,530	1,399
1894	9,318	493	10,560	730	1929	11,040	1,330	16,270	1,441
1895	8,819	493	10,890	790					
1896	8,928	493	11,690	840	1930	11,009	1,377	15,330	1,719
1897	9,181	527	11,940	910	1931	11,035	1,425	15,850	1,848
1898	9,643	570	12,130	975	1932	10,704	1,405	16,210	1,856
1899	10,852	673	11,400	1,005	1933	11,834	1,532	16,640	1,796
					1934	13,233	1,846	15,150	1,676
1900	10,999	690	11,430	1,030	1935	12,804	1,781	10,350	1,847
1901	11,499	733	11,460	1,146	1936	14,081	1,916	13,190	1,812
1902	11,169	828	10,610	1,178	1937	13,309	1,918	11,990	1,820

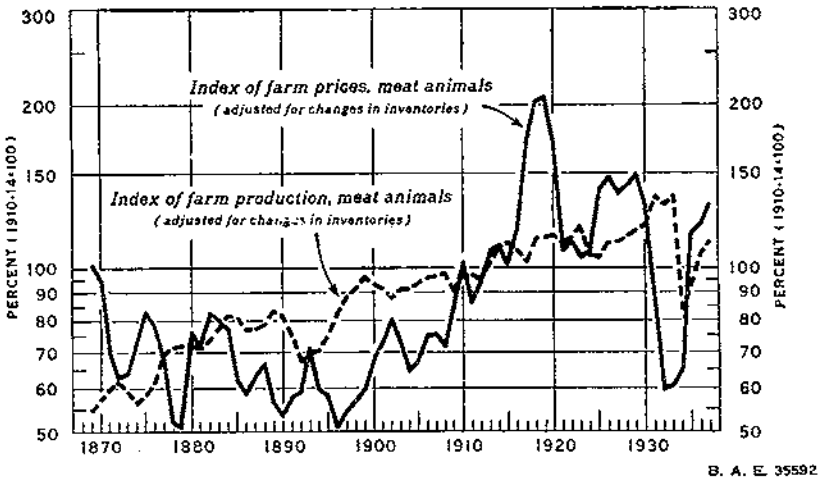

FIGURE 48.—Index of farm production and of farm prices, calendar years 1869–1937: Meat animals adjusted for changes in inventories.

TABLE 71.—*Indices of farm production: Slaughter of cattle, calves, hogs, and sheep and lambs (and exports of live cattle), calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	54.9	55.5	55.2	1903	93.9	93.4	93.6
				1904	96.6	96.2	96.4
1870	57.0	56.4	56.7	1905	101.2	100.6	100.9
1871	61.4	57.1	59.2	1906	102.4	101.6	102.0
1872	65.9	59.0	62.4	1907	104.9	104.1	104.5
1873	63.1	57.3	60.1	1908	108.9	108.0	108.4
1874	60.7	58.0	59.3	1909	102.7	101.8	102.2
1875	59.8	59.2	59.5				
1876	59.7	59.3	59.5	1910	97.4	96.3	96.9
1877	66.6	64.0	65.3	1911	104.6	104.2	104.4
1878	70.9	66.0	68.4	1912	101.2	100.8	101.0
1879	71.4	67.5	69.4	1913	100.9	100.4	100.7
				1914	97.8	97.4	97.6
1880	72.4	74.1	73.3	1915	103.6	102.2	102.9
1881	71.9	71.2	71.6	1916	109.9	108.9	109.4
1882	72.4	72.5	72.5	1917	106.1	104.3	105.4
1883	74.6	73.8	74.2	1918	120.3	119.3	120.0
1884	79.7	77.5	78.6	1919	116.2	116.3	116.3
1885	82.0	79.1	80.5				
1886	79.4	77.6	78.5	1920	108.4	108.2	108.3
1887	76.8	76.3	76.6	1921	108.2	108.0	108.1
1888	80.3	80.0	80.2	1922	115.0	114.6	114.8
1889	84.3	83.1	83.7	1923	127.0	125.0	126.0
				1924	127.4	125.9	126.7
1890	87.2	85.6	86.4	1925	117.8	117.5	117.6
1891	85.7	84.7	85.2	1926	117.3	117.3	117.3
1892	80.2	79.3	79.8	1927	115.7	115.9	115.4
1893	80.6	80.9	80.8	1928	117.1	112.4	114.8
1894	80.2	79.9	80.0	1929	116.2	112.8	114.5
1895	80.2	79.1	79.6				
1896	84.2	81.9	83.0	1930	113.1	111.5	112.3
1897	86.4	83.8	85.1	1931	116.1	113.7	114.9
1898	89.1	86.7	87.9	1932	116.5	111.1	113.8
1899	90.4	89.1	89.7	1933	122.4	119.8	121.1
				1934	121.3	120.0	120.6
1900	91.1	90.5	90.8	1935	99.3	98.4	98.9
1901	93.4	93.2	93.3	1936	116.2	115.2	115.7
1902	89.1	88.8	89.0	1937	108.5	107.9	108.2

TABLE 72.—*Production entering into gross income: Slaughter of cattle (and exports of live cattle), calves, hogs, and sheep and lambs, adjusted for changes in inventories, calendar years*

Year	Cattle	Calves	Hogs	Sheep and lambs
	Million pounds	*Million pounds*	*Million pounds*	*Million pounds*
1869	5,308	198	9,111	−53
1870	5,514	198	9,654	57
1871	5,663	207	10,476	291
1872	5,669	213	11,091	405
1873	5,997	244	10,064	323
1874	5,860	234	9,182	400
1875	6,160	286	9,186	340
1876	6,602	314	9,483	387
1877	7,467	400	10,925	403
1878	7,859	422	11,110	603
1879	8,153	454	10,920	651
1880	8,043	409	10,594	603
1881	8,225	441	10,446	528
1882	8,571	482	10,669	589
1883	9,656	568	10,925	469
1884	10,220	606	11,641	340
1885	10,497	629	11,386	228
1886	10,420	604	10,318	293
1887	10,914	663	9,766	497
1888	10,329	578	10,547	505
1889	10,857	630	11,313	603
1890	10,531	568	11,203	691
1891	9,132	471	10,686	663
1892	7,969	372	9,751	615
1893	7,170	275	10,799	572
1894	7,732	333	10,699	595
1895	8,572	479	11,080	601
1896	9,850	572	11,950	779
1897	10,938	698	12,196	1,012
1898	11,856	738	11,918	1,195
1899	13,626	930	11,335	1,207
1900	13,070	891	11,384	1,120
1901	12,829	862	11,107	1,152
1902	12,328	941	10,640	1,028
1903	12,664	886	11,260	959
1904	12,121	832	11,665	999
1905	12,177	895	12,036	1,236
1906	12,116	952	12,484	1,254
1907	11,760	987	12,851	1,299
1908	12,082	1,024	12,835	1,331
1909	12,069	1,028	11,185	1,247
1910	11,596	1,041	11,803	1,164
1911	11,614	1,051	12,512	1,171
1912	12,712	1,222	11,905	1,317
1913	13,943	1,263	12,277	1,251
1914	14,712	1,306	12,469	1,281
1915	14,293	1,281	13,800	1,254
1916	15,029	1,392	13,742	1,135
1917	15,507	1,452	12,769	1,105
1918	14,347	1,257	14,695	1,208
1919	11,992	1,307	14,190	1,156
1920	11,009	1,350	13,537	954
1921	11,673	1,444	14,074	1,171
1922	11,676	1,412	16,091	1,093
1923	11,524	1,491	17,050	1,249
1924	11,257	1,511	15,699	1,394
1925	11,258	1,524	14,271	1,368
1926	11,711	1,479	11,935	1,541
1927	11,536	1,451	16,046	1,541
1928	12,104	1,470	16,176	1,636
1929	12,570	1,480	15,852	1,619
1930	12,491	1,521	15,221	1,901
1931	13,030	1,619	16,409	1,851
1932	13,915	1,717	16,564	1,819
1933	14,798	1,817	16,201	1,892
1934	9,043	1,441	12,698	1,521
1935	12,386	1,739	10,830	1,826
1936	12,998	1,814	13,204	1,868
1937	12,939	1,879	12,174	1,798

TABLE 73.—*Indices of farm production: Slaughter of cattle (and exports of live cattle), calves, hogs, and sheep and lambs, adjusted for changes in inventories, calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	52.6	56.6	54.6	1903	89.2	93.2	91.2
				1904	89.1	93.1	91.1
1870	55.7	58.5	57.1	1905	91.6	96.0	93.8
1871	60.1	59.6	59.8	1906	93.5	98.3	95.9
1872	62.9	60.5	61.7	1907	94.0	98.8	96.4
1873	59.8	58.4	59.1	1908	95.3	99.6	97.4
1874	56.1	56.9	56.5	1909	88.5	92.5	90.5
1875	57.0	59.7	58.3				
1876	59.8	63.0	61.4	1910	89.3	103.4	96.1
1877	68.5	70.4	69.4	1911	92.2	102.2	97.1
1878	71.1	71.4	71.3	1912	91.5	95.3	94.9
1879	71.5	72.6	72.0	1913	99.5	105.8	102.6
				1914	102.8	114.8	108.7
1880	69.6	74.6	72.1	1915	106.6	117.0	111.7
1881	69.1	72.7	71.1	1916	108.7	108.1	108.4
1882	71.8	75.7	73.7	1917	106.5	99.8	103.0
1883	76.0	79.4	77.7	1918	110.1	116.9	113.4
1884	80.3	83.2	81.8	1919	101.0	127.7	113.5
1885	79.9	82.3	81.1				
1886	75.6	78.4	77.0	1920	94.9	138.8	114.8
1887	75.5	78.8	77.1	1921	100.1	124.1	111.4
1888	76.7	80.4	78.5	1922	107.7	119.7	113.5
1889	81.9	85.1	83.5	1923	112.0	126.4	119.0
				1924	106.1	105.6	105.9
1890	80.4	83.2	81.8	1925	100.5	108.9	104.6
1891	73.7	76.4	75.0	1926	104.8	118.1	111.2
1892	65.9	68.9	67.4	1927	108.5	115.4	111.9
1893	67.1	71.8	69.4	1928	111.1	118.4	114.7
1894	68.7	72.3	70.5	1929	111.3	124.2	117.6
1895	72.8	76.2	74.5				
1896	81.6	83.9	82.7	1930	109.5	132.8	120.6
1897	87.0	89.8	88.4	1931	116.1	159.1	135.9
1898	89.6	93.3	91.5	1932	119.7	144.9	131.7
1899	93.4	98.4	95.9	1933	121.6	153.0	136.4
				1934	87.7	80.4	84.0
1900	91.4	95.8	93.6	1935	92.6	94.0	93.3
1901	89.6	93.6	91.6	1936	104.2	108.1	106.2
1902	86.2	89.8	88.0	1937	100.0	124.2	111.5

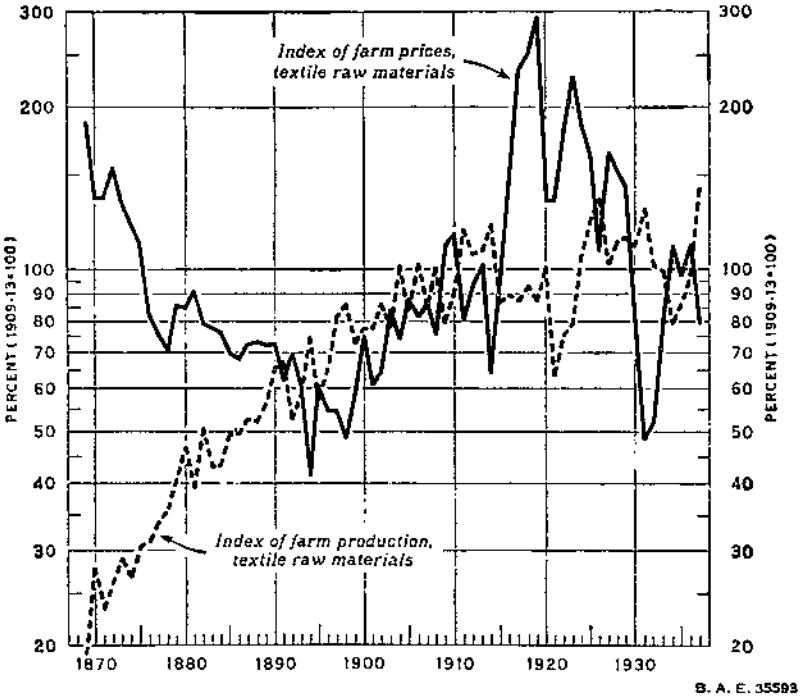

FIGURE 49.—Index of farm production and of farm prices, crop years 1869–1937: Textile raw materials.

TABLE 74.—*Indices of farm production: Textile raw materials, crop years*

[1909–13=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	18.4	20.2	19.3	1903	76.6	80.6	78.6
1870	26.2	29.7	27.9	1904	98.5	104.4	101.4
1871	21.9	25.1	23.4	1905	81.5	86.2	83.8
1872	24.6	28.2	26.4	1906	99.4	105.0	102.2
1873	27.1	31.0	28.9	1907	82.8	87.9	85.3
1874	26.1	27.5	26.8	1908	98.0	104.0	100.9
1875	29.9	31.2	30.5	1909	77.4	82.1	79.7
1876	29.9	32.5	31.2	1910	87.6	92.9	90.2
1877	32.6	35.3	33.9	1911	115.4	122.3	118.8
1878	34.4	37.5	35.9	1912	103.7	110.0	106.8
1879	39.1	42.3	40.7	1913	104.9	111.8	108.3
1880	44.9	48.7	46.8	1914	118.4	124.2	121.2
1881	37.9	40.9	39.4	1915	84.4	89.9	87.1
1882	49.1	52.6	50.8	1916	86.8	92.8	89.8
1883	41.4	44.6	43.0	1917	84.7	90.5	87.5
1884	41.6	44.8	43.2	1918	90.7	96.7	93.6
1885	47.5	51.1	49.3	1919	85.0	90.5	87.7
1886	47.3	51.5	49.3	1920	98.1	104.0	101.0
1887	50.8	54.9	52.8	1921	61.7	65.1	63.4
1888	50.7	54.0	52.3	1922	73.4	78.1	75.7
1889	54.3	58.9	56.5	1923	76.8	81.5	79.2
1890	62.6	67.6	65.1	1924	103.4	109.2	106.3
1891	65.1	69.7	67.4	1925	119.5	126.5	123.0
1892	50.5	54.8	52.6	1926	132.4	138.9	135.6
1893	56.8	61.1	58.9	1927	99.5	105.4	102.4
1894	72.7	76.9	74.8	1928	109.3	116.2	112.7
1895	55.5	59.1	57.3	1929	111.1	118.0	114.4
1896	63.6	67.5	65.5	193	106.5	113.6	110.0
1897	78.9	84.8	81.8	1931	126.2	133.6	129.8
1898	83.5	89.4	86.4	1932	99.0	104.9	101.9
1899	70.7	75.4	73.0	1933	98.0	100.4	99.2
1900	75.2	80.1	77.6	1934	75.5	84.3	79.8
1901	74.9	80.0	77.4	1935	83.6	89.3	86.4
1902	83.6	89.1	86.3	1936	94.3	101.2	97.7
				1937	138.7	145.0	141.8

TABLE 75.—*Indices of farm production: Textile raw materials, calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	17.9	19.8	18.8	1903	76.1	77.5	76.8
				1904	91.7	94.6	93.1
1870	25.4	29.6	27.4	1905	83.0	85.6	84.3
1871	21.3	24.6	22.9	1906	93.5	96.0	94.7
1872	23.9	27.6	25.7	1907	84.0	86.6	85.3
1873	26.3	30.3	28.2	1908	92.5	95.3	93.9
1874	25.2	29.3	27.2	1909	79.7	82.0	80.8
1875	29.0	30.5	29.8				
1876	29.3	30.6	30.0	1910	82.6	88.4	85.4
1877	31.2	33.0	32.1	1911	105.8	113.3	109.5
1878	33.2	35.2	34.2	1912	103.1	110.5	106.8
1879	37.1	38.8	38.0	1913	100.7	107.6	104.1
				1914	92.8	98.6	95.7
1880	42.6	45.2	43.9	1915	104.1	110.0	107.0
1881	38.2	40.1	39.2	1916	88.8	95.4	92.1
1882	45.7	47.8	46.7	1917	80.9	86.9	83.8
1883	41.9	43.8	42.9	1918	76.9	82.7	79.7
1884	40.6	42.2	41.4	1919	89.9	96.2	93.0
1885	45.2	47.2	46.2				
1886	46.1	48.6	47.3	1920	78.4	84.1	81.2
1887	48.8	51.2	50.0	1921	80.9	86.4	83.6
1888	49.4	51.2	50.2	1922	73.4	78.8	76.0
1889	52.1	54.9	53.5	1923	75.2	80.5	77.8
				1924	94.7	100.3	97.5
1890	59.6	62.7	61.1	1925	110.8	118.4	114.5
1891	62.9	65.6	64.2	1926	118.4	126.2	122.2
1892	52.0	54.7	53.3	1927	109.5	116.7	113.0
1893	54.4	56.7	55.5	1928	106.1	112.1	109.1
1894	67.6	70.1	68.8	1929	112.6	120.5	116.5
1895	57.7	59.6	58.6				
1896	60.3	62.1	61.2	1930	103.5	110.5	107.0
1897	73.6	76.6	75.0	1931	108.3	116.8	112.5
1898	80.5	84.0	82.2	1932	100.2	106.4	103.3
1899	71.5	74.2	72.9	1933	90.4	98.4	94.4
				1934	88.8	94.7	91.7
1900	72.4	74.8	73.6	1935	81.8	87.1	84.4
1901	73.5	76.0	74.7	1936	92.6	99.7	96.1
1902	80.4	83.4	81.9	1937	122.5	131.3	126.8

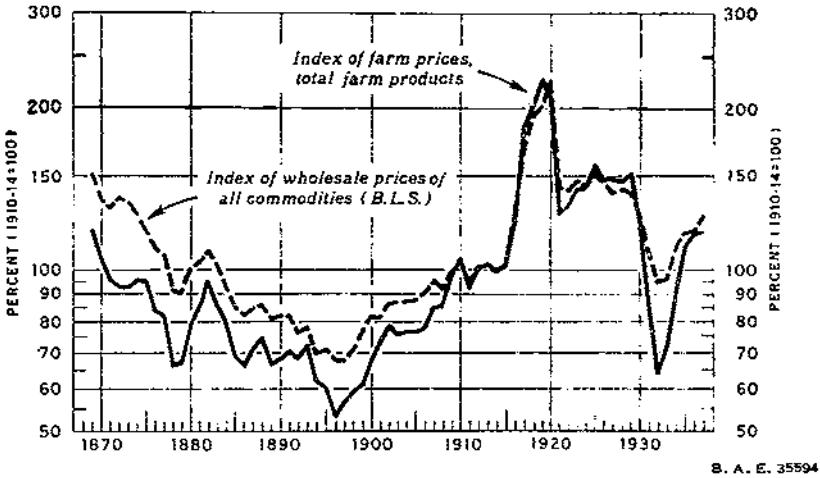

FIGURE 50.—Index of farm prices, total farm products, calendar years 1869–1937 compared with index of wholesale prices of all commodities (B. L. S.).

TABLE 76.—*Indices of farm prices: Total farm production, crop years*

[1909–13=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	118.6	112.4	115.5	1903	77.1	75.5	76.3
				1904	75.1	73.2	74.1
1870	106.0	103.5	104.8	1905	78.1	76.3	77.2
1871	98.2	90.7	94.4	1906	77.7	76.1	76.9
1872	97.4	86.5	91.8	1907	87.0	85.4	86.2
1873	96.2	88.9	92.5	1908	87.3	85.1	86.2
1874	97.6	90.7	94.1	1909	98.2	96.3	97.2
1875	92.1	88.7	90.4				
1876	83.0	81.4	82.2	1910	105.0	103.0	104.0
1877	75.9	74.0	75.2	1911	94.9	92.7	93.8
1878	63.9	61.1	62.5	1912	97.2	95.7	96.4
1879	69.5	67.0	68.5	1913	105.5	103.8	104.7
				1914	100.4	97.9	99.2
1880	77.7	78.4	78.0	1915	103.2	101.8	102.5
1881	90.0	87.6	88.8	1916	136.3	132.0	134.1
1882	86.5	86.4	86.4	1917	189.5	186.0	187.7
1883	82.3	80.6	81.5	1918	210.3	207.5	208.9
1884	75.4	73.2	74.3	1919	233.8	229.2	231.5
1885	68.4	65.9	67.1				
1886	66.0	64.6	65.3	1920	178.9	176.8	177.9
1887	71.5	70.1	70.8	1921	131.3	128.4	129.8
1888	72.4	70.4	71.4	1922	134.8	131.2	133.0
1889	64.9	62.5	63.7	1923	145.3	138.7	141.9
				1924	144.6	141.2	142.9
1890	71.6	68.5	70.0	1925	155.2	153.2	154.2
1891	67.9	67.1	67.5	1926	144.2	142.8	143.5
1892	69.8	68.3	69.1	1927	151.2	150.2	150.6
1893	71.2	70.4	70.8	1928	145.0	142.8	143.9
1894	61.6	60.2	60.9	1929	152.0	152.3	152.5
1895	59.0	56.9	57.9				
1896	55.9	53.5	54.7	1930	117.1	117.9	117.5
1897	60.4	58.8	59.6	1931	79.8	80.3	80.1
1898	58.5	57.0	57.8	1932	64.3	64.6	64.4
1899	62.5	60.9	61.7	1933	79.4	77.0	78.2
				1934	93.4	87.7	90.5
1900	69.0	67.1	68.0	1935	107.5	106.7	107.1
1901	75.0	73.0	74.0	1936	123.3	119.6	121.4
1902	75.7	74.0	74.8	1937	112.4	110.0	111.2

TABLE 77.—*Indices of farm prices: Total farm production, calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	120.0	115.7	117.8	1903	75.8	75.2	75.5
				1904	77.0	76.4	76.7
1870	105.0	104.6	104.8	1905	76.0	76.2	76.4
1871	98.2	92.0	95.0	1906	78.1	77.6	77.8
1872	97.5	88.1	92.7	1907	85.2	85.0	85.1
1873	95.7	89.6	92.6	1908	85.9	85.2	85.6
1874	97.1	93.7	95.4	1909	97.0	96.7	96.9
1875	95.5	94.4	95.0				
1876	84.1	83.4	83.7	1910	104.8	105.0	104.9
1877	82.5	81.6	82.0	1911	91.8	92.6	92.2
1878	67.1	65.1	66.1	1912	99.8	100.7	100.3
1879	68.0	66.0	67.0	1913	102.2	103.0	102.6
				1914	99.2	99.8	99.5
1880	78.6	80.2	79.4	1915	101.3	102.6	102.0
1881	85.8	85.2	85.5	1916	122.5	122.7	122.6
1882	93.9	95.1	94.5	1917	184.2	183.2	183.7
1883	84.9	84.6	84.8	1918	207.7	207.9	207.8
1884	79.4	78.4	78.9	1919	224.0	225.8	224.9
1885	69.7	68.4	69.0				
1886	66.6	66.0	66.3	1920	207.2	208.7	208.0
1887	71.0	70.7	70.8	1921	126.9	127.8	127.4
1888	74.9	74.1	74.5	1922	131.1	130.6	130.8
1889	67.6	66.1	66.8	1923	142.7	139.0	140.8
				1924	141.1	140.6	140.8
1890	69.3	67.5	68.4	1925	155.9	158.2	157.1
1891	71.0	70.8	70.8	1926	146.1	147.9	147.0
1892	68.4	68.5	68.4	1927	146.2	149.0	147.6
1893	72.1	72.3	72.2	1928	146.2	146.8	146.5
1894	61.9	61.9	61.9	1929	149.7	153.0	151.3
1895	60.7	60.0	60.4				
1896	53.8	52.2	53.0	1930	121.9	124.4	123.1
1897	56.4	55.6	56.0	1931	83.7	86.2	84.9
1898	59.2	58.8	59.0	1932	62.7	64.5	63.6
1899	61.3	60.8	61.0	1933	71.2	72.7	72.0
				1934	89.6	88.4	89.0
1900	68.1	67.1	67.6	1935	107.6	108.5	108.1
1901	72.4	72.3	72.4	1936	115.6	117.0	116.3
1902	78.2	77.8	78.0	1937	118.1	117.2	117.6

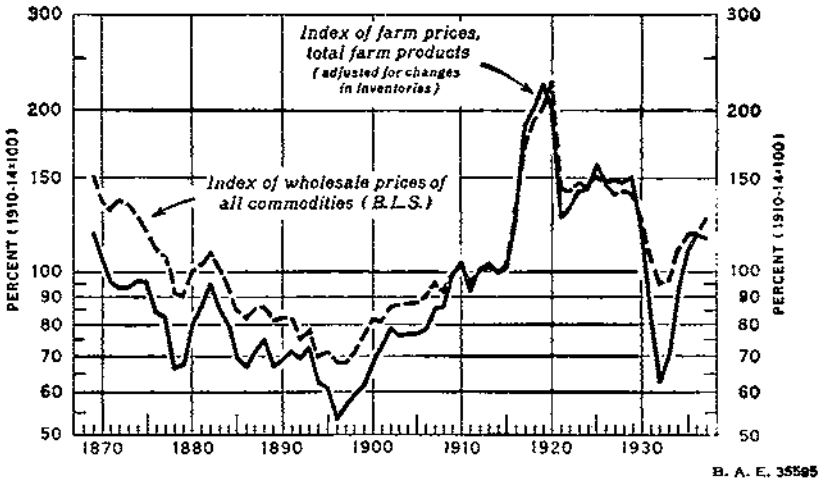

FIGURE 51.—Index of farm prices, total farm products, adjusted for changes in inventories, calendar years 1869–1937, compared with index of wholesale prices of all commodities (B. L. S.).

TABLE 78.—*Indices of farm prices: Total farm production, adjusted for changes in inventories of livestock, crop years*

[1909–13=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	110.5	114.8	117.1	1903	77.8	76.4	77.1
				1904	75.7	74.1	74.9
1870	106.9	105.7	106.3	1905	78.8	77.4	78.0
1871	96.8	92.3	95.5	1906	78.4	77.2	77.8
1872	98.0	88.3	93.0	1907	87.7	86.8	87.2
1873	96.8	90.8	93.8	1908	88.0	86.4	87.2
1874	98.4	92.6	95.4	1909	99.0	97.7	98.4
1875	92.8	90.2	91.5				
1876	83.6	82.8	83.2	1910	103.0	104.5	103.7
1877	76.4	75.8	76.1	1911	94.3	94.0	94.2
1878	64.4	62.3	63.4	1912	99.1	96.8	97.9
1879	70.1	68.6	69.3	1913	106.0	105.2	105.6
				1914	99.2	99.3	99.3
1880	78.3	79.5	78.9	1915	102.4	103.0	102.7
1881	90.7	89.0	89.8	1916	139.0	133.5	136.2
1882	87.3	87.7	87.5	1917	196.8	188.0	192.3
1883	83.0	82.0	82.5	1918	211.4	210.4	210.9
1884	76.2	74.8	75.5	1919	226.2	233.3	229.7
1885	69.0	67.2	68.1				
1886	66.5	65.8	66.1	1920	166.8	179.6	173.1
1887	72.0	71.0	71.5	1921	127.5	130.1	128.8
1888	73.0	71.4	72.2	1922	134.1	132.9	133.5
1889	65.4	63.3	64.3	1923	143.9	141.3	142.6
				1924	147.2	144.2	145.7
1890	72.2	69.6	70.9	1925	155.8	155.9	155.8
1891	68.5	68.2	68.3	1926	143.3	145.0	144.1
1892	70.4	69.8	70.1	1927	151.6	151.8	151.7
1893	72.0	71.8	71.9	1928	144.6	144.9	144.7
1894	62.2	61.1	61.6	1929	150.5	154.4	152.4
1895	59.6	57.8	58.7				
1896	56.4	54.3	55.3	1930	112.6	119.4	115.9
1897	60.9	59.7	60.3	1931	73.8	81.1	77.4
1898	59.0	58.0	58.5	1932	61.8	65.3	63.5
1899	63.0	61.9	62.5	1933	76.8	77.7	77.2
				1934	96.1	90.0	93.0
1900	69.6	68.0	68.8	1935	109.4	107.9	108.6
1901	75.6	73.9	74.8	1936	124.6	121.0	122.8
1902	76.4	74.8	75.6	1937	107.4	111.1	109.2

TABLE 79.—*Indices of farm prices: Total farm production, adjusted for changes in inventories of livestock, calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	119.6	118.1	118.8	1903	75.6	76.2	75.9
				1904	76.8	77.3	77.0
1870	104.7	106.8	105.8	1905	76.3	77.3	76.8
1871	97.8	93.6	95.7	1906	77.8	78.7	78.3
1872	97.0	90.0	93.4	1907	84.9	86.3	85.6
1873	95.2	91.6	93.4	1908	85.6	86.6	86.1
1874	96.7	95.6	96.2	1909	96.8	98.21	97.5
1875	95.2	96.0	95.6				
1876	83.8	84.7	84.3	1910	101.7	106.5	104.1
1877	82.1	82.7	82.4	1911	90.3	93.8	92.0
1878	66.8	66.3	66.5	1912	100.6	101.9	101.2
1879	67.8	67.1	67.4	1913	101.5	104.4	103.0
				1914	97.0	101.2	99.0
1880	78.4	81.3	79.8	1915	99.5	103.8	101.6
1881	85.5	86.5	86.0	1916	123.8	124.2	124.0
1882	93.6	96.4	95.0	1917	189.2	185.3	187.3
1883	84.7	85.9	85.3	1918	206.5	210.9	208.7
1884	79.2	80.0	79.6	1919	214.2	229.8	221.8
1885	69.5	69.7	69.6				
1886	66.4	67.1	66.8	1920	193.2	212.6	202.6
1887	70.7	71.5	71.1	1921	121.8	129.4	125.5
1888	74.7	75.1	74.9	1922	128.9	132.3	130.6
1889	67.3	66.9	67.1	1923	139.9	141.6	140.7
				1924	142.0	143.5	142.8
1890	69.0	68.6	68.8	1925	154.7	161.1	157.9
1891	70.7	72.0	71.4	1926	143.6	150.2	146.8
1892	68.2	69.8	69.0	1927	145.0	150.6	147.8
1893	72.1	73.8	72.9	1928	144.2	148.9	146.5
1894	61.8	62.9	62.3	1929	146.0	155.1	150.5
1895	60.6	61.0	60.8				
1896	53.7	52.9	53.3	1930	116.2	125.8	120.9
1897	56.3	56.5	56.4	1931	77.0	87.0	81.8
1898	59.0	59.8	59.4	1932	59.6	65.2	62.4
1899	61.1	61.9	61.5	1933	67.9	73.4	70.6
				1934	91.2	90.6	90.9
1900	68.0	68.0	68.0	1935	108.3	109.7	109.0
1901	72.3	73.2	72.7	1936	115.6	118.4	117.0
1902	78.0	78.7	78.3	1937	117.0	118.4	115.1

TABLE 80.—*Indices of farm prices: 12 important crops, crop years*

[1909–13=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	138.1	127.8	131.9	1903	79.4	79.9	79.6
				1904	79.6	80.0	79.8
1870	114.8	116.7	115.8	1905	80.5	80.6	80.5
1871	116.0	117.4	116.7	1906	76.2	77.1	76.7
1872	120.4	119.2	119.8	1907	90.6	91.7	91.1
1873	114.6	118.2	116.4	1908	93.9	94.2	94.0
1874	114.1	112.3	113.2	1909	104.3	105.0	104.7
1875	97.9	94.1	96.0				
1876	87.7	88.0	87.9	1910	102.2	103.0	102.6
1877	80.9	83.3	82.1	1911	99.2	98.5	98.8
1878	71.0	72.5	71.8	1912	92.2	93.6	92.9
1879	86.1	89.2	87.6	1913	100.8	102.1	101.4
				1914	89.2	89.5	89.3
1880	84.6	86.9	85.8	1915	100.7	103.3	102.0
1881	107.3	110.8	109.0	1916	158.6	159.9	159.2
1882	84.3	86.9	85.6	1917	218.2	221.6	219.9
1883	80.6	82.3	81.4	1918	226.0	230.6	228.3
1884	70.3	70.6	70.5	1919	259.3	262.6	261.0
1885	71.6	72.0	71.8				
1886	69.2	71.0	70.1	1920	152.3	155.3	153.8
1887	77.0	77.9	77.5	1921	124.2	123.4	123.8
1888	76.0	75.8	75.9	1922	139.4	137.3	138.4
1889	65.4	65.7	65.6	1923	159.8	157.6	158.7
				1924	157.3	159.9	158.6
1890	82.1	83.0	82.5	1925	153.8	156.0	154.9
1891	70.9	73.9	72.4	1926	125.4	126.2	125.8
1892	72.4	73.6	73.0	1927	147.2	151.4	149.3
1893	64.0	65.0	64.5	1928	128.7	132.6	130.6
1894	57.1	56.8	57.0	1929	134.4	139.4	136.9
1895	55.6	55.1	55.4				
1896	57.1	56.7	56.9	1930	89.4	90.9	90.1
1897	63.8	64.3	64.0	1931	53.0	52.7	52.9
1898	54.7	55.9	55.3	1932	52.9	53.8	53.4
1899	60.3	60.9	60.6	1933	87.5	90.0	88.8
				1934	108.6	110.9	109.8
1900	69.4	70.0	69.7	1935	96.8	99.8	98.3
1901	76.8	76.5	76.7	1936	127.3	130.7	129.0
1902	68.3	69.5	68.9	1937	92.3	93.6	93.0

TABLE 81.—*Farm prices: Twelve important crops, calendar years*

Year	Wheat [1]	Corn [1]	Oats [1]	Barley [1]	Rye [1]	Buckwheat [1]	Flaxseed [1]	Hay [2]	Potatoes [1]	Sweet potatoes [1]	Cotton [3]	Tobacco [3]	Cottonseed [1]
	Ct.	*Ct.*	*Ct.*	*Ct.*	*Ct.*	*Ct.*	*Dol.*	*Dol.*	*Ct.*	*Ct.*	*Ct.*	*Ct.*	*Dol.*
1869	114	68	58	124	111	95.5	1.68	11.64	52	114.3	25.8	11.7	.....
1870	97	72	46	76	89	81.8	1.67	11.38	59	95.1	18.0	10.4	.....
1871	120	55	47	67	85	86.3	1.59	13.20	76	86.2	17.6	9.9	.....
1872	133	44	36	64	76	81.1	1.43	13.84	59	83.0	20.2	10.6	.....
1873	129	44	37	91	75	87.0	1.43	12.87	67	79.6	17.3	9.7	.....
1874	112	57	52	121	86	78.5	1.55	11.58	82	77.2	15.1	10.7	.....
1875	103	71	52	100	90	75.8	1.51	10.80	54	75.2	13.6	9.0	21.7
1876	103	50	35	74	77	68.4	1.23	9.82	45	63.0	11.6	7.5	18.4
1877	127	50	34	67	73	73.7	1.34	8.98	68	60.9	11.2	6.2	17.1
1878	93	44	27	64	56	58.7	1.16	8.04	46	58.4	9.8	5.5	14.3
1879	91	43	31	62	57	59.0	1.15	7.83	59	56.7	10.7	6.0	15.6
1880	94	47	35	66	80	61.7	1.17	10.11	44	52.2	11.7	7.2	16.6
1881	104	60	41	83	92	72.0	1.10	10.68	71	68.0	11.2	9.0	18.8
1882	108	77	47	78	79	81.8	1.11	9.64	86	65.6	10.8	8.8	18.2
1883	97	57	40	64	84	80.1	1.18	8.77	54	58.3	10.0	8.7	16.7
1884	79	57	35	59	61	68.3	1.22	8.67	36	56.3	10.3	8.4	14.4
1885	72	50	31	53	60	54.9	1.18	9.45	44	52.9	9.5	7.7	12.8
1886	69	43	31	53	57	53.9	.99	9.24	48	53.3	8.8	7.4	12.4
1887	66	46	31	55	53	59.0	.97	9.80	68	54.3	9.5	8.8	13.6
1888	80	53	33	62	58	61.9	1.20	9.97	66	49.0	9.6	8.9	16.5
1889	77	40	27	50	48	55.6	1.22	7.98	34	51.3	9.8	7.3	13.3
1890	78	45	34	45	53	50.7	1.34	7.23	54	53.5	9.9	7.4	12.8
1891	86	49	42	54	83	56.2	.94	8.55	66	50.4	8.1	8.1	12.8
1892	70	40	34	50	70	56.2	.84	9.72	48	47.6	8.0	8.6	12.1
1893	55	38	32	43	52	53.9	.89	8.84	70	45.9	8.0	8.4	13.1
1894	49	40	31	41	48	56.0	1.14	8.18	61	43.3	6.0	7.2	10.5
1895	52	41	27	36	51	50.8	.88	8.56	45	45.4	7.4	6.8	9.5
1896	56	22	17	20	37	38.0	.66	8.85	24	44.3	7.4	6.1	10.5
1897	73	21	17	21	38	42.6	.78	7.42	41	48.0	6.1	6.6	8.8
1898	74	29	25	32	48	45.7	.90	6.16	57	43.8	5.1	6.6	8.0
1899	61	31	26	34	56	51.5	.97	7.51	46	40.2	6.6	6.7	10.8
1900	63	36	26	33	56	52.3	1.46	9.60	43	51.5	9.3	7.0	12.9
1901	61	47	33	45	54	58.8	1.33	10.86	68	54.9	8.1	7.0	13.3
1902	64	57	40	51	55	56.1	1.37	9.55	67	57.4	8.2	7.0	14.3
1903	68	43	34	41	51	57.4	.92	8.92	60	58.0	10.6	6.8	15.0
1904	90	46	35	37	64	60.2	1.00	8.63	70	60.3	10.8	7.2	14.1
1905	85	46	29	34	67	57.1	1.07	8.12	44	59.0	9.9	8.0	13.8
1906	69	44	31	34	58	58.6	1.01	8.32	59	60.2	10.7	9.0	15.9
1907	80	50	42	59	69	62.2	1.06	11.89	55	67.9	11.1	9.7	17.0
1908	91	67	49	57	72	76.0	1.09	9.11	71	67.4	9.7	10.0	15.9
1909	102	67	48	55	73	74.7	1.45	8.88	72	68.3	12.7	10.0	20.3
1910	95.4	55.3	36	57	72.5	68.3	2.08	11.22	54	76.8	13.9	9.9	26.1
1911	84.3	52.2	37	77	78.2	70.5	2.16	12.80	79	88.0	10.5	8.7	17.5
1912	83.7	61.1	37	60	69.7	68.7	1.69	13.43	86	89.0	10.9	10.5	18.1
1913	78.2	57.2	35	52	59.5	72.5	1.17	10.97	60	85.4	12.5	11.7	21.8
1914	57.3	66.1	39	49	72.7	76.9	1.33	11.27	68	84.1	8.4	10.4	15.3
1915	100.8	66.3	39	52	86.0	78.7	1.60	10.48	53	79.5	9.5	8.5	28.9
1916	120.8	73.4	42	69	101.3	106.2	2.01	10.53	107	90.3	15.6	11.5	45.0
1917	200.6	129.1	60	111	160.7	148.6	2.84	13.68	189	119.6	24.4	19.1	63.6
1918	233.3	141.7	73	112	161.8	163.8	3.59	18.11	115	144.7	29.7	25.1	65.4
1919	210.7	145.3	67	110	138.1	163.3	4.06	20.58	142	164.5	32.1	32.0	66.0
1920	214.1	126.0	68	110	157.2	136.9	3.50	21.00	246	149.9	25.4	23.3	30.8
1921	109.9	48.7	32	51	93.1	108.4	1.50	12.69	104	121.8	13.5	17.1	27.4
1922	97.7	53.5	33	49	64.7	84.7	2.08	11.64	95	103.9	20.8	21.2	30.1
1923	94.2	73.5	38	54	60.7	94.2	2.36	12.35	85	114.4	28.0	20.5	41.1
1924	112.7	85.2	45	71	83.5	99.2	2.18	13.27	87	138.3	23.9	19.3	33.3
1925	145.8	90.6	41	65	85.3	95.7	2.14	12.54	114	160.5	20.9	18.7	32.1
1926	126.3	65.6	37	54	80.8	85.6	2.07	13.07	186	129.8	13.3	18.4	22.4
1927	118.7	74.9	43	66	81.0	83.3	1.96	12.00	132	110.8	17.9	17.0	32.9
1928	104.3	81.0	42	60	84.1	88.2	1.96	10.63	83	114.8	18.1	19.3	34.0
1929	103.0	82.7	41	55	85.8	96.5	2.46	11.56	94	116.9	17.4	19.8	31.5
1930	73.2	73.5	34	43	48.0	90.4	2.12	11.31	124	111.1	10.4	15.2	22.4
1931	42.1	44.3	22	33	32.7	62.3	1.23	9.76	73	82.4	6.1	10.6	9.1
1932	37.0	25.4	16	23	28.7	39.0	.97	7.52	43	58.4	6.1	9.3	10.3
1933	65.3	34.3	25	34	52.7	54.5	1.32	6.81	66	65.0	8.6	12.7	12.6
1934	81.9	58.7	41	58	67.4	58.8	1.66	10.67	68	76.8	12.3	18.0	32.5
1935	82.6	69.8	28	41	42.0	57.9	1.52	10.57	49	73.7	11.2	18.1	30.8
1936	96.9	73.3	33	60	65.0	69.7	1.71	8.93	100	86.0	12.2	20.5	33.2
1937	103.4	75.7	34	58	75.3	76.3	1.90	10.36	88	88.3	8.7	23.0	29.3

[1] Per bushel. [2] Per ton. [3] Per pound.

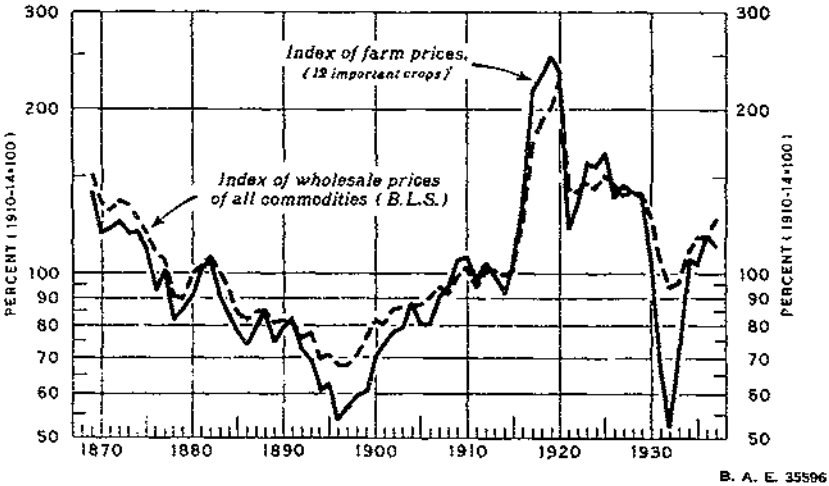

FIGURE 52.—Index of farm prices, 12 important crops, calendar years 1869–1937 compared with index of wholesale prices of all commodities (B. L. S.).

TABLE 82.—*Indices of farm prices: 12 important crops, calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	145.9	137.4	141.1	1903	79.8	79.2	79.5
				1904	87.0	88.1	88.0
1870	117.3	120.4	118.9	1905	80.4	80.5	80.4
1871	120.6	121.9	121.3	1906	80.8	80.7	80.8
1872	125.2	124.6	124.9	1907	90.3	90.4	90.3
1873	117.6	119.8	118.7	1908	94.5	94.9	94.7
1874	117.2	120.8	119.0	1909	106.1	106.4	106.2
1875	110.6	109.8	110.2				
1876	94.3	93.3	93.8	1910	106.8	108.0	107.4
1877	100.5	102.2	101.3	1911	96.2	98.1	97.1
1878	81.6	82.9	82.3	1912	103.3	105.7	104.5
1879	85.6	86.0	85.8	1913	97.8	100.2	99.0
				1914	91.1	93.0	92.0
1880	90.6	91.5	91.1	1915	101.2	105.1	103.1
1881	101.2	102.4	101.8	1916	131.4	133.9	132.6
1882	106.4	108.7	107.5	1917	214.1	217.0	215.5
1883	90.9	92.4	91.7	1918	229.5	232.3	230.9
1884	84.5	84.1	83.8	1919	246.3	253.4	249.8
1885	78.0	78.6	78.3				
1886	73.9	74.5	74.2	1920	229.9	235.7	232.8
1887	79.1	79.2	79.2	1921	119.7	122.5	121.1
1888	85.5	86.0	85.7	1922	136.6	135.7	136.2
1889	75.1	74.7	74.9	1923	160.4	158.7	159.6
				1924	155.4	158.2	156.8
1890	79.6	79.8	79.7	1925	162.9	169.7	166.3
1891	81.5	83.4	82.4	1926	137.0	139.2	138.1
1892	72.3	73.0	72.9	1927	142.3	148.3	145.3
1893	60.7	69.6	69.6	1928	138.7	143.3	141.9
1894	60.8	61.0	60.9	1929	134.8	141.5	138.1
1895	62.6	63.1	62.8				
1896	54.8	53.4	54.1	1930	106.8	110.1	108.4
1897	57.0	56.6	56.8	1931	66.5	67.3	66.9
1898	59.0	60.0	59.5	1932	52.2	53.5	52.8
1899	60.4	60.7	60.6	1933	71.2	75.4	73.3
				1934	103.6	110.1	106.8
1900	70.6	70.0	70.3	1935	102.4	105.2	103.8
1901	74.2	74.5	74.4	1936	114.4	121.6	118.0
1902	78.1	78.4	78.2	1937	111.7	112.4	112.0

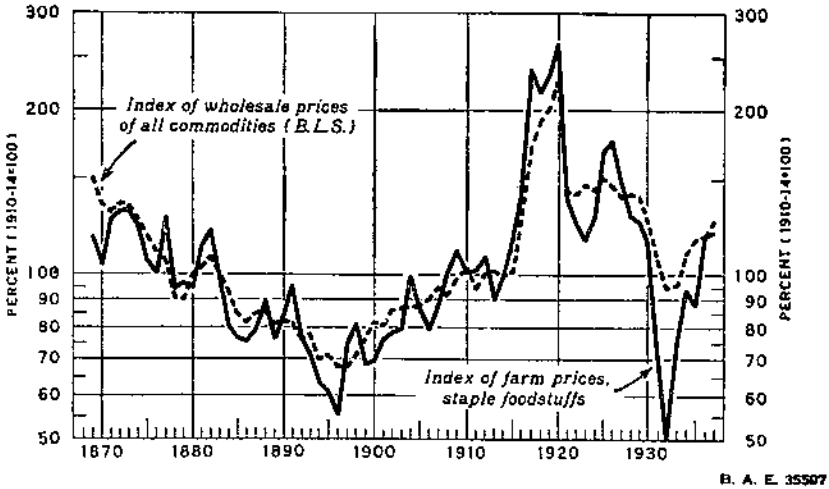

FIGURE 53.— Index of farm prices, staple foodstuffs, calendar years 1869–1937 compared with index of wholesale prices of all commodities (B. L. S.).

TABLE 83.—*Indices of farm prices: Staple foodstuffs, crop years*

[1909–13=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	102.6	101.3	102.0	1903	82.9	81.6	82.2
				1904	94.2	92.6	93.4
1870	115.1	114.5	114.8	1905	86.0	85.3	85.7
1871	125.2	125.6	125.4	1906	76.4	75.8	76.1
1872	126.4	125.8	126.1	1907	96.2	95.3	95.8
1873	124.1	124.5	124.3	1908	109.6	108.2	108.9
1874	107.5	106.9	107.2	1909	105.3	104.0	104.7
1875	100.2	98.3	99.2				
1876	110.4	110.1	110.2	1910	99.7	98.8	99.3
1877	106.3	107.6	107.0	1911	111.2	110.0	110.6
1878	87.8	87.2	87.5	1912	92.5	91.5	92.0
1879	106.6	110.5	108.6	1913	95.2	94.1	94.6
				1914	104.9	105.3	105.1
1880	97.4	99.7	98.5	1915	108.2	108.0	108.1
1881	134.0	133.9	133.9	1916	176.9	172.2	174.5
1882	97.0	96.5	96.8	1917	222.8	218.7	220.8
1883	92.4	91.6	92.0	1918	220.0	221.1	220.6
1884	71.3	70.6	71.0	1919	254.8	248.9	251.8
1885	81.5	80.8	81.2				
1886	75.5	75.6	75.6	1920	203.8	202.9	203.4
1887	83.9	81.7	82.8	1921	132.9	129.5	131.2
1888	91.1	90.0	90.6	1922	110.9	109.4	110.2
1889	72.9	72.9	72.9	1923	117.7	116.7	117.2
				1924	137.4	135.9	136.6
1890	96.4	96.5	96.5	1925	186.5	181.2	183.9
1891	84.2	85.5	84.9	1926	155.9	151.4	153.6
1892	78.3	75.4	76.9	1927	143.0	140.7	141.9
1893	69.0	66.8	67.9	1928	111.9	112.0	111.9
1894	63.6	61.0	62.3	1929	142.1	139.1	140.6
1895	54.9	53.4	54.1				
1896	70.2	70.5	70.4	1930	97.0	95.8	96.4
1897	86.7	87.8	87.2	1931	54.9	54.8	54.8
1898	65.4	65.0	65.2	1932	49.5	50.1	49.8
1899	66.2	65.6	65.9	1933	94.8	97.2	95.9
				1934	90.5	87.1	88.8
1900	70.1	69.5	69.8	1935	92.8	91.0	91.9
1901	83.9	79.1	81.4	1936	130.6	130.2	130.4
1902	72.8	72.0	72.4	1937	104.4	103.2	103.8

TABLE 84.—*Indices of farm prices: Staple foodstuffs, calendar years*

[1910–14 = 100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	117.7	117.4	117.5	1903	79.8	78.9	79.3
				1904	99.3	99.0	99.2
1870	104.4	104.5	104.5	1905	86.3	86.4	86.3
1871	126.8	126.6	126.7	1906	79.8	79.3	79.6
1872	131.0	129.9	130.5	1907	87.4	87.1	87.3
1873	130.2	130.7	130.5	1908	101.9	101.1	101.5
1874	123.1	122.8	123.0	1909	110.7	110.1	110.4
1875	106.3	105.9	106.1				
1876	101.2	101.0	101.1	1910	101.6	100.1	100.9
1877	127.0	128.8	127.9	1911	102.4	102.0	102.2
1878	93.4	95.3	94.4	1912	108.3	107.9	108.1
1879	96.2	97.2	96.7	1913	90.5	90.0	90.2
				1914	99.2	98.8	99.0
1880	94.0	96.2	95.1	1915	114.1	116.7	115.4
1881	112.4	113.2	112.8	1916	139.0	137.9	138.8
1882	121.1	119.8	120.4	1917	238.1	235.8	236.9
1883	99.9	99.9	99.9	1918	214.9	216.0	215.5
1884	80.0	80.0	80.3	1919	232.2	233.0	232.6
1885	76.6	76.3	76.5				
1886	75.4	75.5	75.4	1920	267.6	260.2	263.9
1887	80.0	78.7	79.4	1921	138.1	137.2	137.7
1888	90.0	89.6	89.8	1922	124.0	122.5	123.2
1889	76.6	76.3	76.4	1923	116.5	116.3	116.4
				1924	128.5	127.5	128.0
1890	84.8	84.3	84.6	1925	169.9	168.5	169.2
1891	95.8	95.4	95.6	1926	180.0	173.5	176.7
1892	76.7	76.7	76.7	1927	149.2	146.3	147.7
1893	72.5	70.0	71.2	1928	128.6	128.6	128.6
1894	64.9	62.2	63.5	1929	125.1	125.3	125.2
1895	61.6	60.5	61.0				
1896	55.9	55.3	55.6	1930	116.3	115.2	115.8
1897	74.4	75.6	75.0	1931	70.6	70.1	70.4
1898	81.3	81.6	81.4	1932	50.5	50.7	50.6
1899	68.6	68.4	68.5	1933	74.1	76.0	75.1
				1934	93.2	93.8	93.5
1900	69.8	69.3	69.5	1935	90.0	87.4	88.7
1901	77.2	74.9	76.0	1936	117.3	118.6	117.9
1902	79.1	77.5	78.3	1937	121.0	119.1	120.0

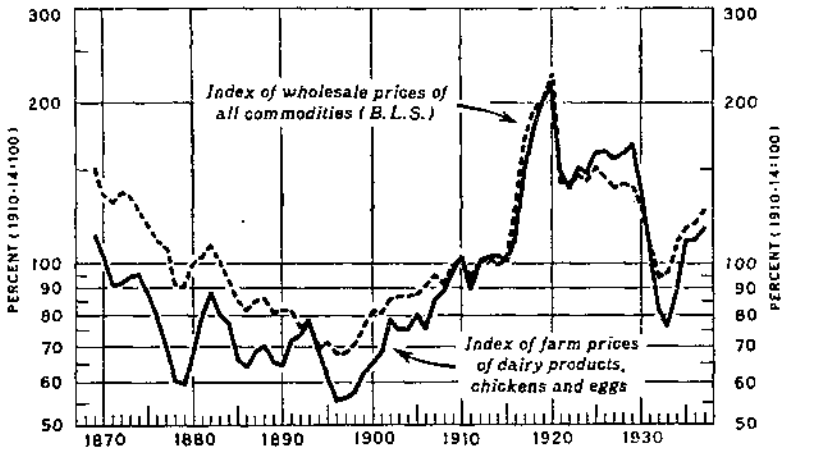

FIGURE 54.—Index of farm prices, dairy products, chickens, and eggs, calendar years 1869–1937, compared with index of wholesale prices of all commodities (B. L. S.)

TABLE 85.—*Indices of farm prices: Dairy products, chickens, and eggs, calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	112.9	112.8	112.9	1903	75.4	75.4	75.4
1870	103.8	102.7	103.2	1904	76.0	75.4	75.7
1871	90.7	90.8	90.8	1905	80.5	80.0	80.3
1872	91.4	91.0	91.2	1906	76.1	75.7	75.9
1873	94.8	94.6	94.7	1907	85.6	86.1	85.8
1874	95.1	96.0	95.6	1908	89.1	88.8	88.9
1875	88.6	87.6	88.1	1909	96.4	96.4	96.4
1876	79.2	79.7	79.5	1910	103.0	102.9	102.9
1877	70.2	69.5	69.8	1911	89.6	89.7	89.7
1878	60.2	60.1	60.1	1912	101.4	101.4	101.4
1879	60.4	59.2	59.8	1913	102.8	102.7	102.8
				1914	103.0	103.1	103.1
1880	68.1	68.7	68.4	1915	101.0	100.8	100.9
1881	80.9	80.0	80.4	1916	112.0	111.8	111.9
1882	88.3	88.1	88.2	1917	149.4	149.7	149.6
1883	80.9	79.2	80.0	1918	177.7	177.9	177.8
1884	77.7	76.6	77.2	1919	202.6	202.7	202.6
1885	66.6	65.9	66.2				
1886	64.4	63.9	64.1	1920	214.2	214.0	214.1
1887	68.9	68.1	68.5	1921	148.8	148.7	148.8
1888	70.5	70.0	70.2	1922	138.6	138.0	138.3
1889	65.5	65.1	65.3	1923	151.7	151.6	151.6
				1924	148.4	148.5	148.5
1890	65.1	64.4	64.8	1925	161.0	161.1	161.0
1891	71.5	72.1	71.8	1926	162.1	161.9	162.0
1892	73.7	73.1	73.4	1927	157.4	156.7	157.1
1893	79.0	78.5	78.7	1928	160.9	160.0	160.4
1894	68.4	68.2	68.3	1929	167.8	168.0	167.9
1895	61.5	61.0	61.2				
1896	55.9	55.6	55.7	1930	138.5	138.2	138.4
1897	56.1	56.0	56.1	1931	106.0	105.6	105.8
1898	57.9	57.5	57.7	1932	81.0	81.1	81.0
1899	62.3	62.0	62.2	1933	76.1	76.1	76.1
				1934	89.8	89.5	89.7
1900	65.5	65.7	65.6	1935	110.8	110.0	110.4
1901	68.3	68.1	68.2	1936	110.7	110.4	110.6
1902	78.9	78.4	78.7	1937	116.4	116.0	116.2

TABLE 86.—*Indices of farm prices: Orchard fruits, citrus fruits, and grapes, crop years*

[1909–13=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	63.2	79.3	70.8	1903	50.9	48.8	49.8
				1904	51.1	47.9	49.5
1870	43.1	54.2	48.4	1905	66.5	63.2	64.8
1871	72.2	91.1	81.1	1906	70.8	65.5	68.1
1872	42.1	54.2	47.8	1907	93.6	94.6	94.1
1873	60.2	75.6	67.4	1908	74.4	73.0	73.7
1874	45.1	57.4	50.9	1909	85.6	84.2	84.9
1875	52.1	66.2	58.8				
1876	39.1	49.2	43.9	1910	111.2	108.2	109.7
1877	53.1	67.1	59.7	1911	100.6	99.5	100.1
1878	33.1	41.5	37.1	1912	93.8	90.1	92.0
1879	33.1	41.4	37.0	1913	117.0	112.7	114.9
				1914	86.5	84.2	85.4
1880	30.1	38.4	34.0	1915	95.9	94.2	95.0
1881	46.1	58.4	51.9	1916	121.3	118.5	119.9
1882	70.2	88.1	78.6	1917	162.5	157.6	160.0
1883	52.1	65.1	58.3	1918	188.6	187.0	187.8
1884	39.1	49.3	43.9	1919	240.6	233.7	237.2
1885	32.1	40.6	36.1				
1886	40.1	51.2	45.3	1920	199.4	193.5	196.4
1887	39.1	49.3	43.9	1921	226.0	221.4	223.7
1888	33.1	41.4	37.0	1922	154.8	154.7	154.8
1889	49.6	54.4	51.9	1923	152.3	142.5	147.3
				1924	174.1	174.1	174.1
1890	71.7	81.0	76.2	1925	175.6	172.1	173.8
1891	38.5	40.7	39.6	1926	135.5	137.3	136.4
1892	53.6	60.8	57.1	1927	185.2	187.2	186.2
1893	59.6	66.7	63.1	1928	140.0	131.7	135.8
1894	47.6	52.7	50.1	1929	193.1	189.3	191.2
1895	49.1	46.2	47.6				
1896	40.1	33.1	36.4	1930	125.4	115.0	120.1
1897	57.1	53.9	55.5	1931	90.3	87.9	89.1
1898	70.4	66.9	68.6	1932	76.8	73.2	75.0
1899	61.6	56.8	59.2	1933	102.6	100.0	101.3
				1934	110.8	97.5	104.0
1900	48.5	41.7	45.0	1935	100.6	99.3	99.9
1901	72.6	66.5	69.5	1936	125.5	116.3	120.8
1902	59.6	54.4	56.9	1937	105.2	96.1	100.6

TABLE 87.—*Farm prices: Meat animals, per pound of live weight, calendar years*

Year	Cattle	Calves	Hogs	Sheep and Lamb	Year	Cattle	Calves	Hogs	Sheep and Lamb
	Cents	*Cents*	*Cents*	*Cents*		*Cents*	*Cents*	*Cents*	*Cents*
1869	5.30	6.77	7.40	3.75	1903	3.63	4.55	5.49	3.95
1870	5.40	5.99	6.61	4.36	1904	3.39	4.17	4.02	4.02
1871	4.55	5.77	4.34	4.26	1905	3.49	4.46	4.80	4.37
1872	4.33	4.98	3.65	5.24	1906	3.52	4.72	5.79	4.79
1873	4.24	6.08	3.76	4.37	1907	3.64	4.87	5.09	4.76
1874	4.36	6.12	4.68	4.13	1908	3.73	4.90	5.14	4.50
1875	4.32	7.27	5.95	4.25	1909	4.13	5.44	6.62	4.62
1876	4.00	6.57	5.67	4.04	1910	4.78	6.42	8.11	5.80
1877	4.01	6.11	4.46	3.62	1911	4.46	6.02	6.23	4.72
1878	3.49	4.65	3.68	3.33	1912	5.12	6.44	6.62	4.92
1879	3.37	3.48	3.06	3.26	1913	5.90	7.47	7.45	5.30
					1914	6.23	7.81	7.48	5.55
1880	3.66	4.00	5.96	3.30	1915	6.00	7.61	6.53	6.11
1881	3.92	4.86	5.04	3.86	1916	6.47	8.35	8.09	7.25
1882	4.33	5.05	6.00	4.19	1917	8.17	10.54	13.19	10.86
1883	4.45	5.44	5.54	4.22	1918	9.44	11.93	15.82	12.46
1884	4.86	5.32	4.85	3.88	1919	9.59	12.76	16.01	11.28
1885	4.02	4.95	3.75	3.74					
1886	3.62	4.69	3.64	3.45	1920	8.42	11.86	12.88	10.18
1887	3.40	4.41	4.43	3.49	1921	5.50	7.85	7.82	5.90
1888	3.34	4.32	4.96	3.68	1922	5.43	7.69	8.34	7.85
1889	2.97	4.14	3.97	3.83	1923	5.58	7.99	7.10	8.56
					1924	5.55	8.11	7.41	8.75
1890	3.08	4.03	3.59	3.77	1925	6.23	8.85	10.70	9.97
1891	3.29	3.89	3.85	3.78	1926	6.43	9.61	11.74	9.48
1892	3.04	3.67	4.24	4.09	1927	7.23	10.15	9.63	9.32
1893	3.40	3.77	5.51	3.97	1928	9.12	11.72	8.50	9.88
1894	3.21	3.46	4.23	3.32	1929	9.15	12.17	9.33	9.73
1895	3.33	3.52	3.97	3.28					
1896	3.10	3.60	3.23	3.38	1930	7.46	9.91	8.78	6.72
1897	3.42	3.89	3.32	3.80	1931	5.31	7.04	5.83	4.58
1898	3.52	4.30	3.46	3.96	1932	4.07	5.00	3.44	3.40
1899	3.70	4.62	3.61	3.89	1933	3.63	4.57	3.94	3.58
					1934	3.88	4.81	4.17	4.36
1900	3.85	4.49	4.62	4.00	1935	6.21	7.16	8.36	5.29
1901	3.84	4.28	5.31	3.77	1936	5.85	7.23	9.30	5.95
1902	3.94	4.44	6.23	4.00	1937	6.96	8.32	9.48	6.46

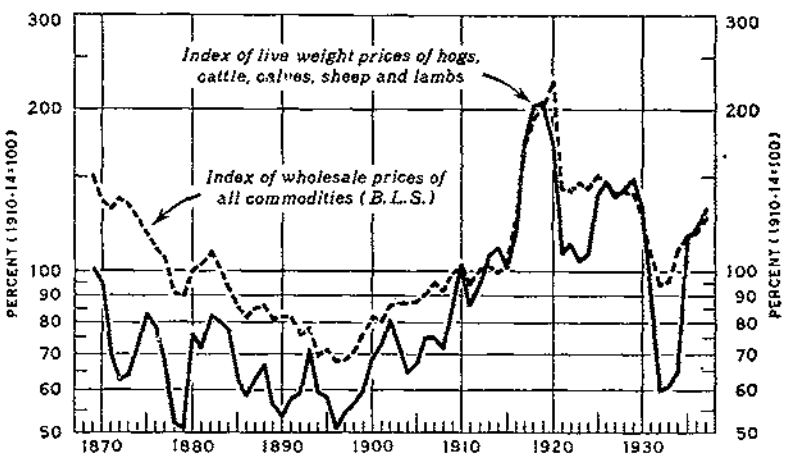

FIGURE 55.—Index of farm prices, live-weight price of meat animals, calendar years 1869–1937, compared with index of wholesale prices of all commodities (B. L. S.).

TABLE 88.—*Indices of farm prices: Meat animals, calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	100.7	101.8	101.2	1903	73.2	72.7	72.9
1870	95.6	94.5	95.1	1904	64.9	64.5	64.7
1871	72.7	67.5	70.0	1905	67.4	67.0	67.2
1872	66.4	59.4	62.8	1906	75.4	74.8	75.0
1873	66.9	60.8	63.8	1907	75.6	75.1	75.3
1874	73.9	70.7	72.3	1908	72.1	71.5	71.8
1875	83.7	82.8	83.2	1909	86.2	85.5	85.9
1876	78.6	78.2	78.4	1910	103.5	102.3	102.9
1877	69.2	66.6	67.9	1911	86.3	86.0	86.1
1878	54.2	50.4	52.2	1912	94.5	94.1	94.3
1879	52.3	49.5	50.8	1913	107.3	106.7	107.0
1880	75.4	77.2	76.3	1914	110.4	109.9	110.1
1881	72.2	71.5	71.8	1915	102.1	100.8	101.5
1882	82.6	82.6	82.6	1916	118.4	117.3	117.9
1883	80.4	79.6	80.0	1917	172.6	170.4	171.5
1884	78.1	75.9	77.0	1918	203.4	201.8	202.6
1885	63.5	61.2	62.3	1919	205.4	205.5	205.5
1886	59.3	58.0	58.6	1920	172.5	172.2	172.3
1887	63.3	62.8	63.0	1921	107.8	107.6	107.7
1888	66.8	66.5	66.6	1922	112.6	112.2	112.4
1889	56.9	56.0	56.4	1923	105.5	103.9	104.7
1890	54.1	53.1	53.6	1924	107.8	106.6	107.2
1891	58.1	57.4	57.8	1925	138.9	138.5	138.7
1892	59.2	58.6	58.9	1926	147.4	147.3	147.3
1893	71.1	71.4	71.2	1927	138.2	137.3	137.8
1894	59.6	59.4	59.5	1928	145.5	139.7	142.6
1895	58.6	57.8	58.2	1929	151.9	147.4	149.7
1896	51.7	50.3	51.0	1930	131.3	129.5	130.4
1897	55.3	53.6	54.4	1931	90.2	88.4	89.3
1898	57.5	55.9	56.7	1932	61.4	58.5	59.9
1899	60.0	59.2	59.6	1933	61.6	60.3	61.0
1900	68.5	68.0	68.2	1934	65.9	65.3	65.6
1901	73.1	72.9	73.0	1935	115.9	114.9	115.4
1902	80.8	80.5	80.6	1936	120.8	119.8	120.2
				1937	131.4	130.6	131.0

TABLE 89.—*Farm prices: Meat animals, per pound of live weight, adjusted for changes in inventory values, calendar years*

Year	Cattle	Calves	Hogs	Sheep and lamb	Year	Cattle	Calves	Hogs	Sheep and lamb
	Cents	*Cents*	*Cents*	*Cents*		*Cents*	*Cents*	*Cents*	*Cents*
1869	5.30	6.06	7.40	3.75	1903	3.63	4.51	5.49	3.95
					1904	3.39	4.21	4.62	4.02
1870	5.40	5.56	6.61	4.30	1905	3.49	4.47	4.80	4.37
1871	4.55	5.31	4.34	4.26	1906	3.52	4.83	5.79	4.79
1872	4.33	4.69	3.65	5.24	1907	3.64	5.07	5.69	4.76
1873	4.24	6.15	3.76	4.37	1908	3.73	4.98	5.14	4.50
1874	4.36	5.98	4.68	4.13	1909	4.13	5.64	6.62	4.62
1875	4.32	6.77	5.95	4.25	1910	4.45	6.63	7.16	5.07
1876	4.00	6.05	5.67	4.04	1911	4.37	6.18	5.72	4.32
1877	4.01	5.25	4.46	3.62	1912	5.33	6.30	6.89	4.96
1878	3.49	4.27	3.08	3.33	1913	5.96	7.21	7.16	5.16
1879	3.37	3.52	3.06	3.26	1914	6.01	7.43	6.67	5.64
1880	3.66	3.91	5.90	3.30	1915	5.75	7.26	6.02	6.20
1881	3.92	4.54	5.04	3.86	1916	6.56	7.97	8.76	7.74
1882	4.33	4.98	6.00	4.19	1917	8.24	10.33	15.73	12.12
1883	4.45	5.11	5.54	4.22	1918	9.28	12.08	15.82	10.95
1884	4.86	5.12	4.85	3.83	1919	8.63	13.16	12.66	10.19
1885	4.02	4.77	3.75	3.74	1920	6.36	12.30	8.90	7.00
1886	3.62	4.47	3.64	3.45	1921	4.62	7.83	6.52	5.35
1887	3.40	4.22	4.43	3.49	1922	5.28	7.79	7.63	8.38
1888	3.34	4.33	4.96	3.68	1923	5.26	8.18	6.39	8.24
1889	2.97	3.97	3.97	3.83	1924	5.32	8.47	8.39	8.90
1890	3.08	4.05	3.50	3.77	1925	6.17	9.19	10.51	10.23
1891	3.29	4.03	3.85	3.78	1926	6.37	9.94	10.97	8.94
1892	3.04	4.03	4.24	4.09	1927	8.29	10.27	8.14	9.38
1893	3.40	4.73	5.51	3.97	1928	8.90	11.50	7.95	9.35
1894	3.21	3.60	4.23	3.32	1929	8.43	11.89	8.53	8.68
1895	3.33	3.55	3.97	3.28	1930	6.33	9.53	7.44	5.07
1896	3.10	3.50	3.23	3.38	1931	4.32	6.67	3.76	3.36
1897	3.42	3.72	3.32	3.80	1932	3.41	4.72	2.73	3.00
1898	3.52	4.19	3.46	3.96	1933	3.13	4.35	2.92	3.70
1899	3.70	4.37	3.61	3.89	1934	3.89	5.07	5.15	3.84
1900	3.85	4.38	4.62	4.00	1935	6.14	7.07	8.72	6.18
1901	3.84	4.18	5.31	3.77	1936	6.17	7.33	9.09	5.56
1902	3.94	4.36	6.23	4.00	1937	6.08	8.41	7.54	5.67

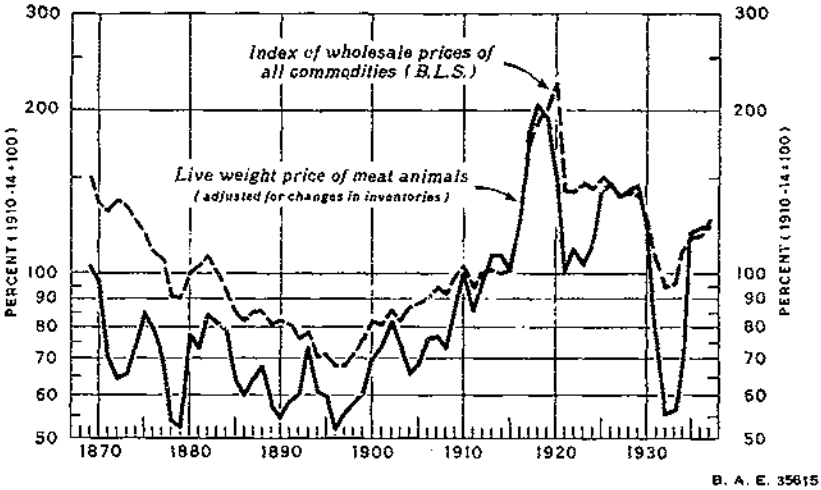

FIGURE 56.—Index of farm prices, live weight price of meat animals, adjusted for changes in inventories, calendar years 1869–1937, compared with index of wholesale prices of all commodities (B. L. S.).

TABLE 90.—*Indices of farm prices: Meat animals, adjusted for changes in inventory values, calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	99.7	107.2	103.4	1903	72.5	75.8	74.2
				1904	64.4	67.3	65.8
1870	94.9	99.6	97.2	1905	66.8	70.0	68.4
1871	72.0	71.4	71.7	1906	74.7	78.5	76.6
1872	65.8	63.2	64.4	1907	75.0	78.8	76.9
1873	66.2	64.8	65.5	1908	71.5	74.8	73.1
1874	73.4	74.6	74.0	1909	85.6	89.5	87.5
1875	82.8	86.7	84.8				
1876	77.7	81.9	79.8	1910	92.9	107.6	100.0
1877	68.3	70.2	69.3	1911	81.2	90.0	85.5
1878	53.7	54.0	53.8	1912	97.3	98.1	97.7
1879	52.1	52.8	52.4	1913	104.8	111.5	108.1
				1914	102.2	114.1	108.0
1880	74.8	80.2	77.5	1915	95.8	105.2	100.4
1881	71.5	74.8	73.1	1916	123.1	122.4	122.8
1882	82.0	86.4	84.2	1917	190.3	177.9	184.0
1883	79.7	83.3	81.5	1918	199.2	211.4	205.2
1884	77.6	80.4	79.0	1919	171.9	217.4	193.3
1885	63.1	64.9	64.0				
1886	58.9	61.1	60.0	1920	125.0	182.9	151.2
1887	62.7	65.4	64.0	1921	98.7	112.4	100.9
1888	66.2	69.4	67.8	1922	105.7	117.5	111.5
1889	56.2	58.5	57.4	1923	96.9	109.3	102.9
				1924	112.3	111.8	112.0
1890	53.7	55.6	54.7	1925	135.3	146.7	140.9
1891	57.8	60.0	58.9	1926	138.5	156.0	147.0
1892	58.9	61.6	60.3	1927	134.5	143.0	138.7
1893	71.1	76.2	73.6	1928	138.6	147.7	143.1
1894	59.3	62.4	60.8	1929	139.0	155.2	146.8
1895	58.3	61.0	59.6				
1896	51.3	52.7	52.0	1930	111.1	134.7	122.3
1897	54.8	56.6	55.7	1931	66.5	91.1	77.8
1898	57.0	59.3	58.2	1932	50.6	61.3	55.7
1899	59.5	62.7	61.1	1933	50.1	63.1	56.2
				1934	72.4	66.4	69.3
1900	67.9	71.2	69.5	1935	117.9	119.6	118.8
1901	72.5	75.8	74.1	1936	120.5	125.0	122.7
1902	80.1	83.5	81.8	1937	109.6	136.1	122.1

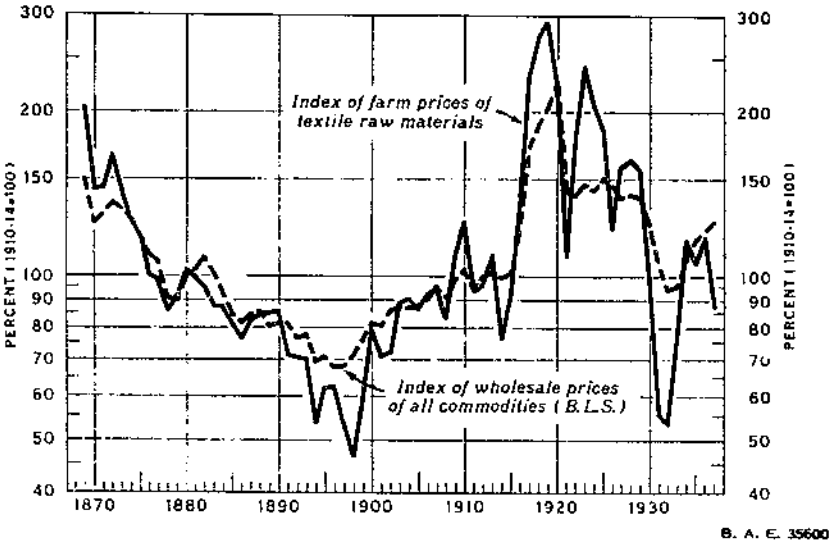

FIGURE 57.—Index of farm prices, textile raw materials, calendar years 1869–1937, compared with index of wholesale prices of all commodities (B. L. S.).

TABLE 91.—*Indices of farm prices: Textile raw materials, crop years*

[1909–13=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	179.0	196.6	187.6	1903	82.0	86.4	84.1
				1904	72.1	76.4	74.2
1870	127.9	144.8	136.1	1905	85.5	90.4	87.9
1871	120.8	145.4	135.8	1906	79.4	84.0	81.7
1872	144.9	166.1	155.2	1907	84.0	89.1	86.5
1873	124.3	142.1	132.9	1908	73.4	77.9	75.6
1874	119.1	125.5	122.2	1909	107.7	114.4	111.0
1875	110.0	114.7	112.3				
1876	80.0	86.7	83.3	1910	113.1	120.0	116.5
1877	73.0	79.1	76.0	1911	78.5	83.2	80.8
1878	67.8	74.0	70.8	1912	91.0	96.4	93.7
1879	82.3	88.9	85.5	1913	98.6	105.2	101.9
				1914	62.7	65.8	64.2
1880	81.6	88.4	85.0	1915	96.6	102.9	99.7
1881	87.5	94.7	91.0	1916	146.2	156.2	151.1
1882	76.5	82.0	79.2	1917	226.6	242.1	234.2
1883	74.8	80.7	77.7	1918	242.3	258.2	250.2
1884	73.4	79.1	76.2	1919	283.6	301.8	292.6
1885	67.4	72.6	70.0				
1886	65.3	71.2	68.2	1920	131.1	139.0	135.0
1887	69.8	75.6	72.6	1921	130.8	138.0	134.4
1888	71.1	75.6	73.3	1922	175.4	186.8	181.0
1889	69.6	75.5	72.5	1923	221.2	234.7	227.8
				1924	179.8	189.9	184.8
1890	70.0	75.5	72.7	1925	158.3	167.5	162.8
1891	60.1	64.4	62.2	1926	105.6	110.7	108.1
1892	66.7	72.4	69.5	1927	160.0	169.3	164.4
1893	58.1	62.6	60.3	1928	147.5	156.8	152.1
1894	40.2	42.5	41.3	1929	137.8	146.4	142.0
1895	59.0	62.9	60.9				
1896	53.0	56.1	54.5	1930	80.0	85.4	82.7
1897	52.6	56.5	54.5	1931	47.1	49.9	48.5
1898	47.2	50.5	48.8	1932	51.0	54.0	52.5
1899	57.3	61.1	59.1	1933	81.4	83.4	82.4
				1934	104.5	116.7	110.4
1900	73.0	77.8	75.3	1935	93.9	100.3	97.1
1901	58.8	62.8	60.8	1936	106.9	114.7	110.7
1902	62.6	66.7	64.6	1937	77.5	81.0	79.2

TABLE 92.—*Indices of farm prices: Textile raw materials, calendar years*

[1910–14=100]

Year	Arithmetic index	Harmonic index	Ideal index	Year	Arithmetic index	Harmonic index	Ideal index
1869	190.8	210.5	200.4	1903	88.1	89.8	88.9
				1904	89.5	92.4	90.9
1870	133.6	155.7	144.2	1905	85.2	87.9	86.5
1871	135.0	156.0	145.1	1906	92.0	94.4	93.2
1872	154.4	178.5	166.0	1907	94.4	97.4	95.9
1873	132.3	152.8	142.2	1908	82.9	85.3	84.1
1874	116.9	135.6	125.9	1909	107.7	110.9	109.3
1875	116.8	122.8	119.8				
1876	98.7	103.2	101.0	1910	120.3	128.8	124.5
1877	96.1	101.5	98.7	1911	90.8	97.3	94.0
1878	83.8	88.8	86.3	1912	94.0	100.7	97.3
1879	90.4	94.6	92.4	1913	105.5	112.7	109.0
				1914	74.4	79.1	76.7
1880	99.6	105.9	102.7	1915	90.8	96.0	93.4
1881	96.7	101.5	99.1	1916	143.6	154.3	148.9
1882	93.1	97.5	95.3	1917	222.3	238.8	230.4
1883	85.8	89.7	87.7	1918	264.9	284.9	274.7
1884	86.0	89.4	87.7	1919	280.2	300.1	290.0
1885	79.5	83.0	81.3				
1886	74.7	78.7	76.7	1920	211.7	227.0	219.2
1887	80.7	84.8	82.7	1921	115.7	123.6	119.6
1888	82.9	85.9	84.4	1922	173.6	186.4	179.8
1889	83.1	87.5	85.3	1923	232.8	249.1	240.8
				1924	199.4	211.3	205.2
1890	83.5	87.7	85.6	1925	179.2	191.3	185.1
1891	69.9	72.9	71.4	1926	118.8	126.6	122.6
1892	68.7	72.4	70.5	1927	154.7	165.0	159.8
1893	68.7	71.6	70.1	1928	158.6	167.5	163.0
1894	52.7	54.6	53.7	1929	151.3	161.9	156.5
1895	61.3	63.2	62.3				
1896	61.4	63.2	62.3	1930	93.8	100.1	96.9
1897	52.0	54.1	53.0	1931	53.7	57.9	55.8
1898	45.7	47.7	46.7	1932	52.2	55.5	53.8
1899	57.9	60.1	59.0	1933	75.4	82.1	78.7
				1934	111.8	119.4	115.5
1900	78.4	81.0	79.7	1935	102.3	109.0	105.6
1901	70.0	72.4	71.2	1936	113.3	121.9	117.6
1902	71.2	74.0	72.6	1937	84.7	90.8	87.7

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