UNIVERSITY OF IDAHO
AGRICULTURAL EXPERIMENT STATION

Departments of Poultry Husbandry and Agricultural Economics

IDAHO AGRICULTURE

The POULTRY SITUATION IN IDAHO

Being Part IV of

A Tentative Report of the Agricultural Situation, Based on An Economic Survey of the Production and Marketing of Idaho Farm Products

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CONTENTS

SUMMARY

Because Idaho produces a surplus of poultry products, the national poultry situation has a direct bearing upon the situation in Idaho. The rapid growth of the poultry and egg industry in the United States is shown by the fact that present production is more than four times that of 1880, while the population of the country has slightly more than doubled.

The greatest actual increase in number of chickens on hand and chickens raised from 1919-'20 to 1924-'25 took place in the middlewest and north Atlantic states, while the greatest increase in eggs produced occurred in the far western, north Atlantic, and west north-central groups. The rate of increase in Idaho, while greater than for the United States, was less than the rates in either the Pacific or mountain states.

The 1925 agricultural census shows that poultry represented a little more than 2 percent of all animal units in Idaho on January 1 of that year. The value of eggs produced and chickens raised in 1924 amounted to $4,722,627.00, or a little more than half the value of dairy products produced.

Southwest Idaho is the largest poultry and egg producing section in the state, having produced one-third of all eggs produced in Idaho during 1924. The south-central district is the second largest producing area, having produced nearly one-fourth of the eggs in 1924. The other districts rank in the following order: Upper Snake district, southeast Idaho, Palouse district, and, lastly, the north Idaho-Lemhi district. The southwest and south-central districts raised more chickens and produced more eggs in 1924 in proportion to the number of chickens on farms than did the other districts.

The abundance of dairy by-products, such as sour skimmilk and buttermilk, in certain districts of Idaho has been an important factor in the growth and development of the poultry industry. Poultry also offers a means of marketing the more bulky feed crops in a concentrated form having high unit value. These facts together with the relatively favorable prices of eggs and poultry during the past five or six years have been largely responsible for the expansion of the industry. Favorable climatic and soil conditions and improved market facilities have also contributed to this growth.

The growing importance of markets outside the state is shown by the fact that in 1926 there were 276 carloads of eggs and 137 carloads of dressed poultry shipped to outside markets. The 1922 shipments in-

cluded only 51 cars of eggs and 40 cars of dressed poultry. Apparently some increase has also taken place in volume of mixed cars and truck shipments not recorded as carlots.

In the past Los Angeles and San Francisco have been Idaho's most important outside markets for eggs. The present tendency seems to be for Idaho shipments to move eastward. With production increasing more rapidly than population in Pacific coast states the shift appears to be necessary.

San Francisco and Los Angeles are Idaho's most important dressed poultry markets. Because large quantities of dressed poultry are still supplied to those markets from the Middlewest, it seems rather evident that the Pacific coast, with its rapidly increasing population, offers a market for increased output of western states.

Even though the shift in Idaho's egg markets to eastern cities should be permanent, the disadvantage with states of the Middlewest in the matter of transportation expense would not be very important—not greatly in excess of 1 or 2 cents per dozen.

Recent cold storage holdings of both eggs and poultry have been above the 1921-1925 average.

Data available on production trends in relation to population increases, indicate that per capita consumption of eggs and poultry in the United States has been increasing.

Higher egg production per hen is obtained in Idaho and other western states due to more favorable climatic conditions for winter production and the more general use of breeding stock that has been carefully selected for high production. This higher production per hen probably more than offsets the transportation disadvantage.

THE POULTRY SITUATION IN IDAHO

By

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THE NATIONAL SITUATION

Idaho produces a surplus of poultry products. It is, therefore, necessary to consider the national and regional situations along with the situation in Idaho. Both the present status and the outlook as indicated by the trends of the industry must be considered.

Geographical Distribution

Figure I shows the geographical distribution of the poultry industry in the United States in 1925.* This chart gives the geographic distribution of chickens on farms in 1925; also the number of chickens raised and dozens of eggs produced in 1924. The outstanding importance of the Middlewest in poultry production is readily apparent, altho other districts are also important. The western group of states (including mountain and Pacific) had about 8 percent of all chickens on farms in the United States in 1925, and in 1924 produced about 7.5 percent of all chickens raised and 11.5 percent of all eggs produced. (For the list of states included in each geographic division, see footnote to Figure I.)

The relative unimportance of Idaho as a factor in the national situation is more easily understood when it is considered that in 1925 the state had only 0.5 percent of all chickens on farms in the United States, raised only about 0.5 percent of all chickens raised, and produced but 0.6 percent of all eggs produced in 1924.

National and Regional Expansion

The National Trend

Expansion of the poultry and egg industry in the United States has been very rapid as compared both with increases in numbers of other farm animals and with population growth. Figure II and Table 1 show that the population of the United States has slightly more than doubled since 1880, while poultry and egg production is more than four times that of the same year. The rate of increase is also considerably greater than the rates for other classes of livestock.

A closer analysis of the accompanying table and figure will show that while the industry has made a very definite growth thruout the

*The chart is based upon figures from the Bureau of Census, 1925 agricultural census of the United States.

The investigations reported in this bulletin are a part of the general economic survey of Idaho agriculture and its relation to the national situation, conducted by the Idaho Agricultural Experiment Station in cooperation with the Bureau of Agricultural Economics of the United States Department of Agriculture, the Idaho State Department of Agriculture, and other Idaho agencies.

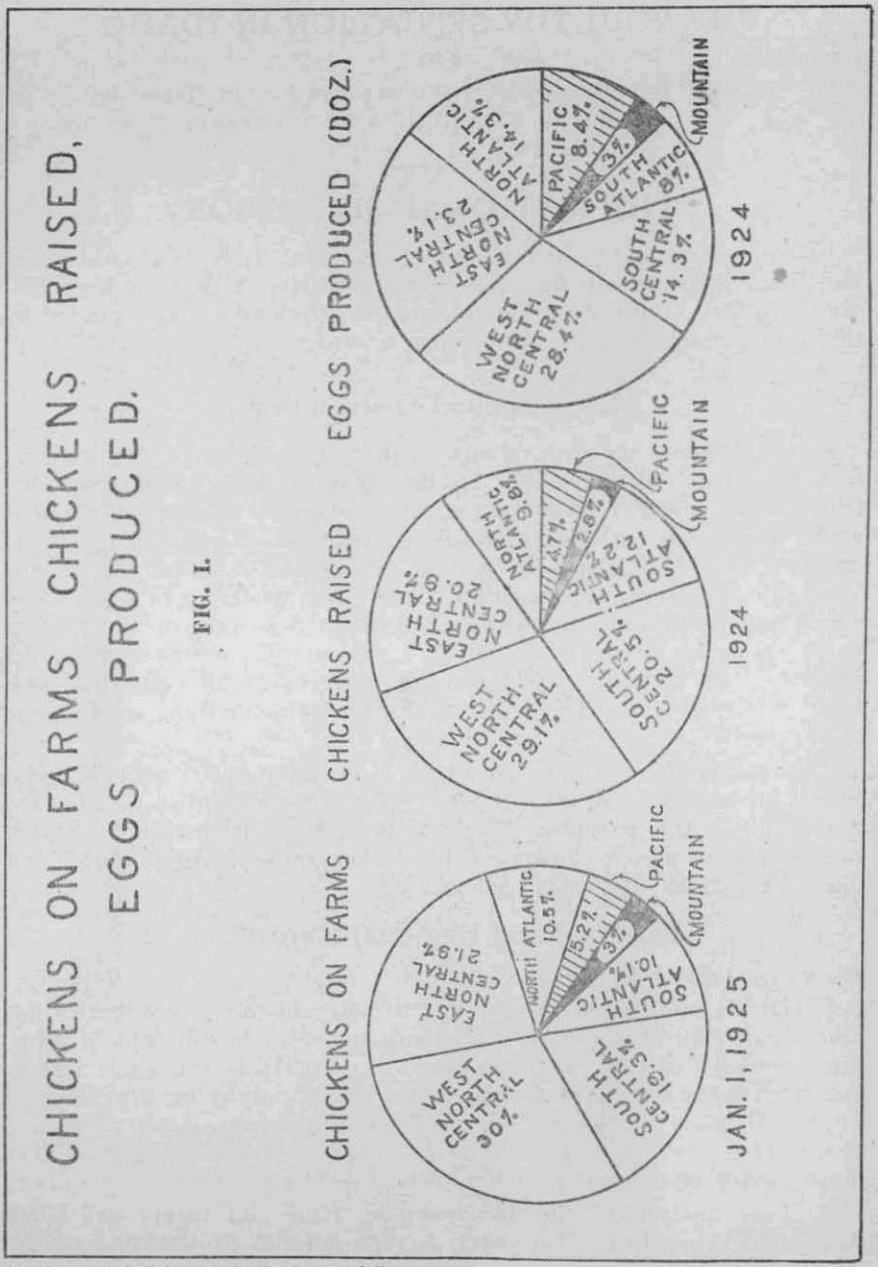


FIG. 1.

(1) States included in each division as follows:
West north central—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.
East north central—Ohio, Indiana, Illinois, Michigan, Wisconsin.
South central—Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Oklahoma, Arkansas.
North Atlantic—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania.
Far western—Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Washington, Oregon, California.
South Atlantic—Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, District of Columbia.

TABLE 1—Production of Eggs, Number of Chickens Raised and on Hand, and Population of the United States, with Rates of Increase, Census Years 1880 1920 and 1925*

Year	Eggs produced (2) (thousands)	Chickens raised (2) (thousands)	Chickens on farm (2) (thousands)	Population United States (thousands)	Index numbers (1880=100) Eggs Produced (percent)	Chickens raised (percent)	Chickens on farm (percent)	Population U. S. (percent)
1880 (June 1) ..	5,482,931	125,507	102,272	50,156	100.0	100.0	100.0	100.0
1890 (June 1) ..	9,836,675	285,609	258,871	62,948	179.41	227.56	253.12	125.50
1900 (June 1) ..	15,523,949	250,624	233,566	75,995	283.13	199.69	228.38	151.52
1910 (Apr. 15) ..	18,899,753	460,611	280,341	91,972	344.70	367.00	274.11	183.37
1920 (Jan. 1) ..	19,848,539	473,302	359,537	105,711	362.01	377.11	351.55	210.76
1925 (Jan. 1)3 ..	22.958,942	545,848	409,811	112.786	418.73	434.91	400.70	224.87

* Data, 1880-1920, from U. S. D. A. Bul. 1385 p. 2. The Poultry and Egg Industry of Europe, by H. C. Pierce.

Compiled from annual reports of Bureau of the Census, except as otherwise stated.

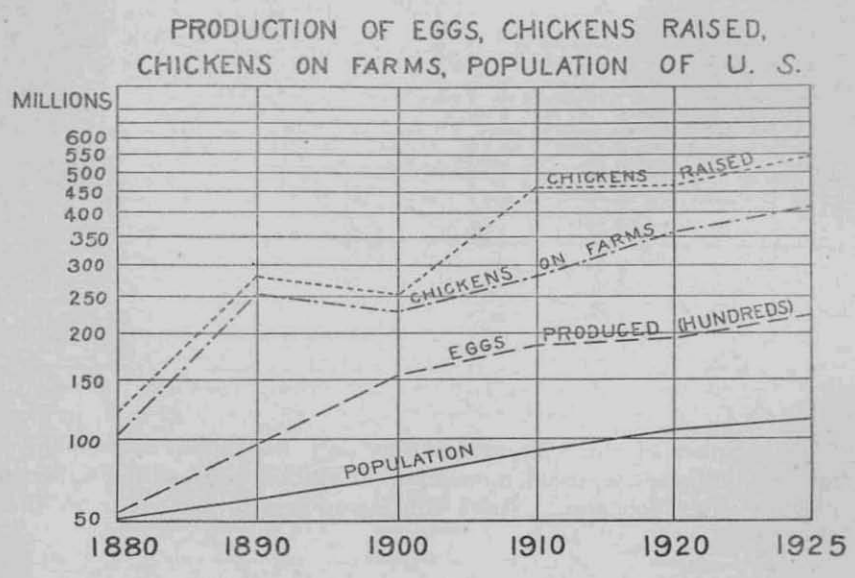
(2) Production figures are for the preceding year.

(3) From 1925 agricultural census, Bureau of Census—latest estimates available.

period, the increase from 1920 to 1925 has been much more rapid than in previous census periods.* It will also be observed that the number of chickens raised has increased more rapidly than the number of chickens on farms. Likewise, the quantity of eggs produced has increased more rapidly than the number of chickens on farms, indicating that the production per hen is increasing also.

* Data, 1880-1920, from U. S. D. A. Bul. 1385, p. 2. The Poultry and Egg Industry of Europe, by H. C. Pierce.

FIG. II.

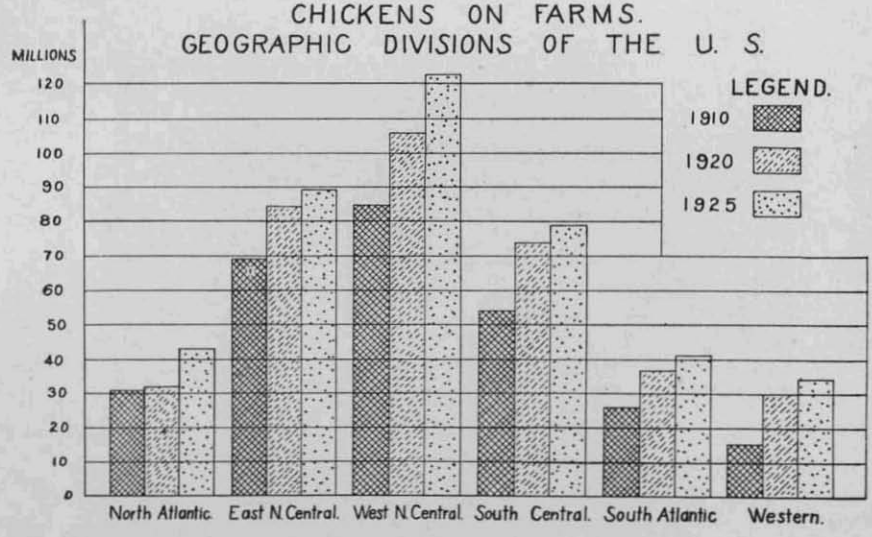


Regional Trends

Regional expansion of the United States poultry and egg industry has an important influence on the industry in Idaho. It is essential to know the trends in important producing areas in order to gain some idea of the extent of competition from those areas.

Geographic distribution of the poultry industry has already been briefly mentioned. The trend in number of chickens on farms is one index to the trend of the industry. Figure III and Table 17 (appendix) show the regional trends in numbers of chickens on farms from 1910 to 1925. An actual increase in numbers took place in all the districts, both from 1910 to 1920 and from 1920 to 1925. The greatest increase in actual numbers from 1910 to 1920 occurred in the west-north-central, east-north-central and south-central states, altho there was an appreciable increase in the south Atlantic and far western groups also. (See Table 18, appendix). For the period, 1920 to 1925, the greatest increase in numbers came from the west-north-central and north Atlantic groups of states, altho Table 18 shows that there was a considerable increase in all districts.

FIG. III.



The number of chickens on farms is only one index to trends. It does not indicate the trend in number of chickens raised nor in quantities of eggs produced. Brief consideration will be given to these latter indexes.

By referring again to Tables 17, 18 and 19 (appendix) regional trends in number of chickens raised and dozens of eggs produced are found to be associated with the number of chickens on farms only in a general way. The greatest increase in numbers of chickens raised from 1919 to 1924 took place in the west-north-central, east-north-central and north Atlantic groups of states. The south-central and south Atlantic groups made only slight increases, while the far western states showed an appreciable increase. When egg production is considered, however, the largest increases from 1919 to 1924 took place in the north Atlantic, far western, west-north-central and east-north-central states. The south-central states showed an actual decrease while the south Atlantic states showed a moderate increase. In terms of percentage or rate of increase, the far western group ranked first, the north Atlantic group second, and the west-north-central group third—(See Table 19, appendix).

FIG. IV.

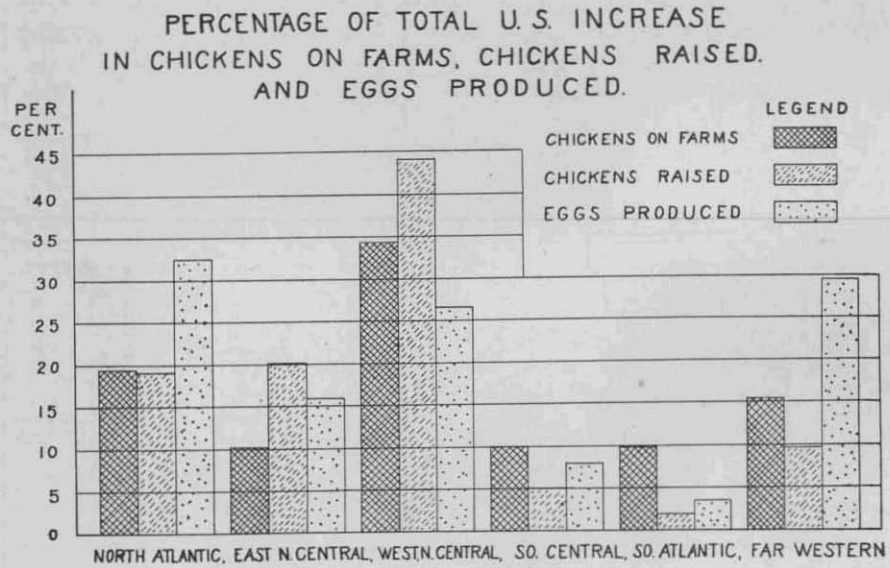
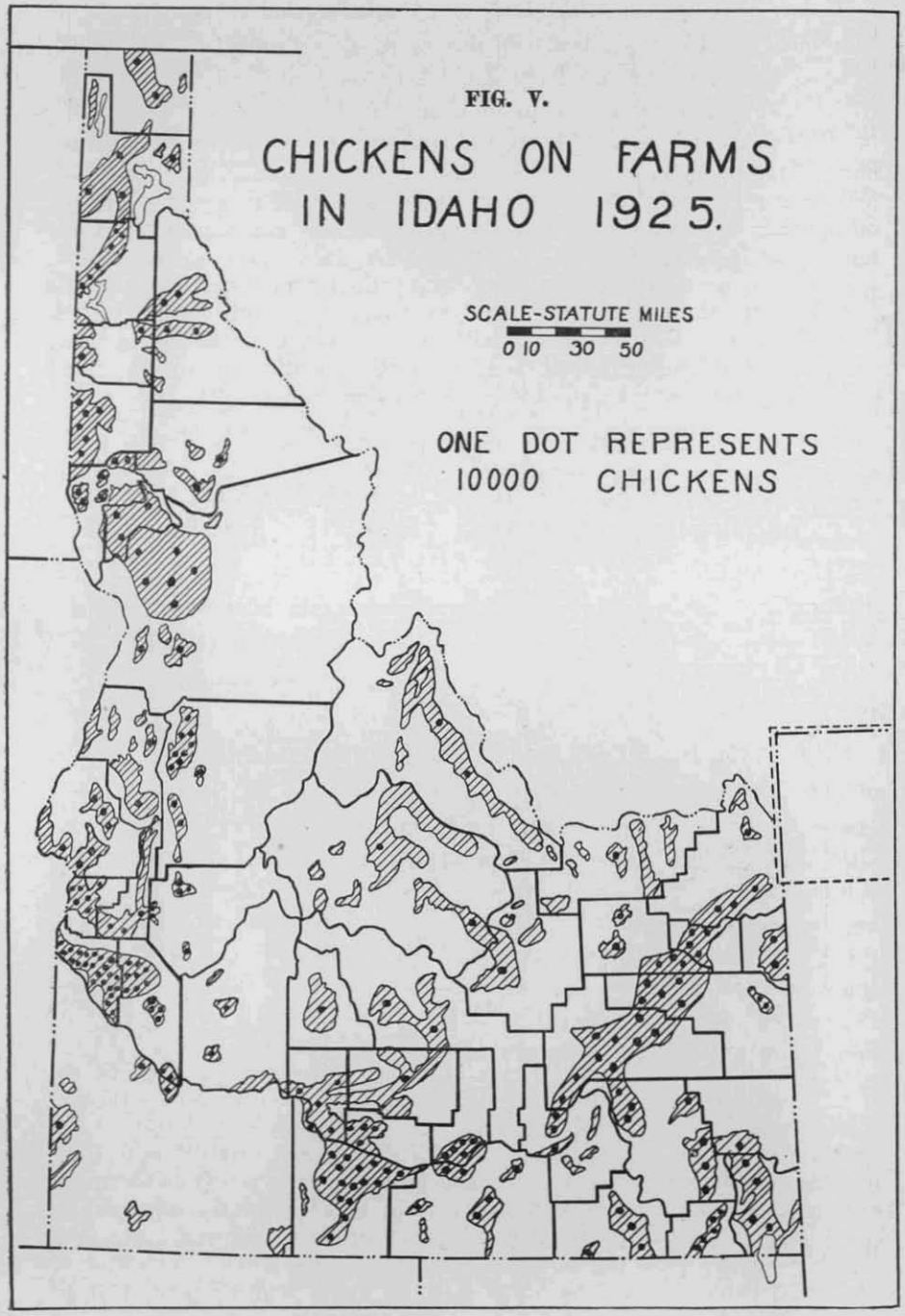


Figure IV and Table 20 (appendix) summarize the discussion of regional trends from 1920 to 1925. The figure shows from where the increased production of chickens and eggs came during the period 1919 to 1924. Total increased production of the United States from 1919 to 1924 is taken as 100 percent. The percentages of the total increase coming from each district is shown for the three indexes used, namely, chickens on farms, chickens raised and chicken eggs produced, more than one-third of the total increase came from the west-north-central states; nearly 20 percent from the north Atlantic states and 15 percent from

FIG. V.


CHICKENS ON FARMS
IN IDAHO 1925.
SCALE-STATUTE MILES
0 10 30 50
ONE DOT REPRESENTS
10000 CHICKENS

the far west. The west-north-central states supplied about 44 percent of the total United States increase in number of chickens raised; the east-north-central and north Atlantic groups about 20 percent each, and the far western states about 10 percent. Percentage distribution of increased egg production in the United States shows that the north Atlantic states supplied about one-third of the total; far western states about 30 percent; the west-north-central group about 27 percent; and the east-north-central about 16 percent. The south-central group showed a minus percent and the south Atlantic group registered only 3.5 percent of the total increase.

The rate of change in each district will help to give a clearer picture of production trends. This is presented in Table 19, which gives the rate of change in number of chickens on farms, chickens raised and eggs produced, for the United States and for the geographic divisions within. The far western group of states showed the greatest rate of growth over the period in number of chickens on farms. From 1920 to 1925 the north Atlantic group was second, and the west-north-central group third. The east-north-central and south-central groups showed the lowest rate of growth from 1920 to 1925, according to these figures.

Trends in Western States

In the foregoing discussion it was shown that the rate of increase in numbers of chickens on farms, chickens raised and eggs produced was greater in the far western group of states than in any other geographic division in the United States. Trends in the Pacific states, mountain states and in Idaho are indicated in Table 2, which gives the number of chickens on farms, chickens raised and eggs produced for these states and for the United States for the years 1910, 1920 and 1925. These figures show that the rate of growth has been much more rapid in both the Pacific and mountain states than in the United States as a whole. The production of eggs more than doubled in the Pacific states from 1909 to 1924, while for the United States as a whole the increase was only around 22 percent. According to these figures the rate of increase in Idaho, while greater than for the United States, was less than for either the Pacific or mountain states. Numbers of chickens in Idaho increased 200 percent from 1910 to 1925; in the mountain states, 225 percent, and the Pacific states, 222 percent. Likewise, Idaho increased its production of eggs 182 percent from 1909 to 1924; the mountain states increased 188 percent, and the Pacific states, 233 percent.

TABLE 2—Chickens on Farms, Chickens Raised and Eggs Produced: United States, Pacific States, Mountain States and Idaho (1)

District	Chickens on farms (1000's)			Chickens raised (1000's)			Eggs produced (1000 doz.)		
	Apr.15 1910	Jan.1 1920	Jan.1 1925	1909	1919	1924	1909	1919	1924
United States	280341	359537	409811	460611	473302	545848	1574979	1654045	1913245
Pacific States	9623	16474	21407	14014	20939	25500	68944	100106	160650
Mountain States	5467	9524	12299	8432	13037	15537	35233	49993	66278
Idaho	1012	1655	2029	1589	2250	2540	6434	8605	11708
	———	1920 as a % of 1910	1925 as a % of 1910	———	1919 as a % of 1909	1924 as a % of 1909	———	1919 as a % of 1909	1924 as a % of 1909
United States	———	128	146	———	103	119	———	105	122
Pacific states	———	171	222	———	149	182	———	145	233
Mountain states	———	174	225	———	155	184	———	142	188
Idaho	———	164	200	———	141	160	———	134	182

(1) Sources of data: Census years 1910 and 1920, from Bureau of Census, Department of Commerce (Given in United States Statistical Abstract 1925, p. 623).
Census of agriculture, 1925, Bureau of Census, latest estimates available (computed from state totals).
* Total production including estimates for incomplete reports.

THE SITUATION IN IDAHO

Importance of the Industry

According to the United States agricultural census for 1925, the value of eggs produced and chickens raised in Idaho during 1924 amounted to $4,722,627.00. This was more than half the value of dairy products produced in that year, the latter being valued at a little more than $9,000,000.00. When compared with the gross value of all crops in 1924 ($53,500,000), the value of eggs produced and chickens raised amounted to about 9 percent of that figure. On January 1, 1925, there were 2,028,805 chickens on farms in Idaho, having a total valuation of about $1,500,000. This figure involved about 3 percent of the $52,000,000 valuation placed on all livestock in that year.

The relative importance of poultry and other livestock on Idaho farms is shown by the following estimates of animal units, expressed in percentage terms: (1)

Beef cattle	29.0
Horses	23.7
Sheep	23.5
Dairy cattle	17.5
Hogs	4.2
Poultry	2.1
All livestock	100.0

(1) One animal unit is equivalent to 1 horse, 1 cow, 5 hogs, 7 sheep and 100 poultry.

These figures are based upon estimates of the number of the different classes of livestock on January 1, 1925, and upon computations of the approximate feed requirements. They indicate in a general way the relative importance of poultry and other classes of livestock of the state from the standpoint of feed and forage needs. It is quite probable that census figures may understate the actual number of poultry in Idaho. The census should, however, indicate accurately trends of production for the state as a whole and also for the areas within the state.

In certain sections of Idaho, including the southwest, the Twin Falls project, and to some extent the Upper Snake and southeastern districts there has been a shift from farm flocks to flocks of commercial size. The great majority of flocks in the state, however, are of the smaller proportions. A few agricultural communities still ship eggs in winter and ship out some surplus in the spring months.

Production Trends in Idaho

Location of Producing Areas

The industry is fairly well distributed thruout the state, but it has important areas of concentration. (See Figure V). The most important centers are Canyon and Ada counties in the southwest district,

Twin Falls County in the south-central district, and to some extent Bannock County in southeast Idaho and Bingham and Bonneville counties in the Upper Snake district.

State Trend

Unfortunately, no exact data are available concerning the growth of the poultry industry in Idaho. Census reports, corrected to include estimates for incomplete reports, show that there were 1,654,771 chickens on farms January 1, 1920. This number had increased to 2,028,805

TABLE 3—Chickens on Farms, Chickens Raised and Eggs Produced, Idaho, 1910-1925*

Year	Chickens on farms number	Chickens raised number (2)	Eggs produced dozens (2)	Value poultry and eggs produced ($)
1910 (Apr. 15) (1)	1053876	1588794	6433840	1842394
1920 (Jan. 1)	1654771	2250489	8604809	4449791
1925 (Jan. 1)	2028805	2539708	11707941	4722627
Rate of increase				
1920 as a percent of 1910	164	141	134	242
1925 as a percent of 1910	200	160	182	256

* Data from 13th to 14th federal census of agriculture, 1910 and 1920—For 1925 data taken from 1925 agricultural census, Department of Commerce.
(1) Includes all poultry.
(2) Production for previous year—partly estimated for incomplete reports.

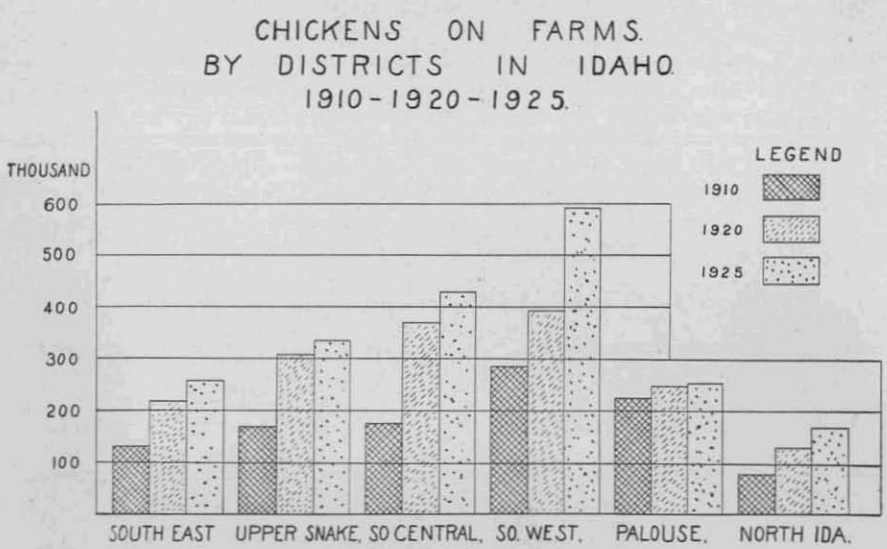
chickens by 1925, representing an increase of about 22.5 percent (see Table 3). In 1919 there were 2,250,489 chickens raised and 8,604,809 dozen eggs produced on Idaho farms. During 1924, 2,539,708 chickens were raised, an increase of about 13 percent over 1919; and 11,707,941 dozen eggs were produced, representing an increase of about 36 percent There are no yearly estimates available on the poultry industry in the state, but indications are that production has increased appreciably since 1925.

Idaho Regional Trends

For purposes of showing regional trends the state has been divided into six districts: the southeast, upper Snake, south central, southwest, Palouse and north Idaho-Lemhi (for counties included in each district see footnote, Table 4). While these arbitrary divisions are not entirely satisfactory they serve to indicate the trends in the important producing areas.

Figure VI shows in graphic form the number of chickens on farms by district for the years 1910, 1920 and 1925. (Data from Table 21, appendix). It indicates in a general way the relative importance of each district and also the increases in each district. There was an actual in-

FIGURE VI



crease in numbers in every district both from 1910 to 1920 and from 1920 to 1925, but the difference in increases of the districts is clearly apparent. The southeast district showed a moderate expansion in numbers of chickens during each period. The upper Snake district, showed a considerable increase from 1910 to 1920, but only a slight increase from 1920 to 1925, South central Idaho experienced an appreciable increase from 1910 to 1920 and a moderate increase from 1920 to 1925. In southwest Idaho, the largest producing section in the state, the number of chickens on farms increased appreciably, both from 1910 to 1920 and from 1920 to 1925. In fact, more than half the total increase in the state from 1920 to 1925 came from this district. The Palouse country had only a slight increase during each period, as is shown in the figure. The last district, north Idaho and Lemhi, showed a moderate increase; when expressed in percentage the rate of increase is found to be high due to the comparatively small number of chickens in those counties.

The relative importance of each district for the years 1910, 1920 and 1925 is shown in Table 4. In 1925 the southwest had nearly 30 percent of the total number of chickens in the state; south central Idaho had about 21 percent, the upper Snake about 16 percent, the Southeast about 13 percent, the Palouse area around 12 percent and north Idaho-Lemhi about 8 percent.

District trends in numbers of chickens raised and dozens of eggs produced are in fairly close proportion to trends in number of chickens on farms. It will be noted in the accompanying table, however, that the southwest district raised more chickens and produced more eggs in 1924 in proportion to the number of chickens on farms than did any other district. South-central Idaho ranked second in this respect, while

the other districts had either an equal or a lower proportion than the state as a whole.

TABLE 4—Chickens on Hand, Chickens Raised and Eggs Produced by Districts in Idaho, 1910-1925 (1) (Percentages of Total Number of Poultry on Hand, Chickens Raised and Eggs Produced in Each Year)

	Chickens on hand			chickens raised			eggs produced		
District (2)	1910	1920	1925	1909.	1919 .	1924 .	1909 .	1919 .	1924.
Southeast	12.4	13.2	12.6	11.0	12.2	11.1	13.6	14.3	10.7
Upper Snake	16.0	18.5	16.4	16.0	17.9	14.4	18.3	18.9	14.6
South central	16.6	22.3	21.2	16.5	21.2	21.1	14.8	22.1	22.8
Southwest	26.6	23.7	29.1	26.9	26.8	33.1	26.3	23.5	33.7
Palouse	21.2	14.9	12.4	20.5	14.3	12.1	17.3	13.1	10.3
North Idaho and Lemhi	7.2	7.4	8.3	9.1	7.0	8.4	9.2	8.0	7.7
State	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(1) Data computed from Table 21.
(2) Counties included in each district:
Upper Snake—Bingham, Bonneville, Butte, Clark, Fremont, Jefferson, Madison, Teton.
Southeast—Bannock, Bear Lake, Caribou, Franklin, Oneida, Power.
South central—Cassia, Twin Falls, Blaine, Camas, Elmore, Gooding, Jerome, Lincoln, Minidoka, Custer.
Southwest—Ada, Boise, Canyon, Gem, Adams, Owyhee, Valley, Washington, Payette.
Palouse—Idaho, Latah, Lewis, Clearwater, Nezperce.
North Idaho and Lemhi—Benewah, Bonner, Boundary, Kootenai, Shoshone, Lemhi.

FACTORS OF DEVELOPMENT IN IDAHO

The causes underlying this increase in poultry production in Idaho are not very different from those causing the national expansion. Many Idaho farmers turned to poultry as a source of constant income during the periods of depression and some of them found the enterprise sufficiently remunerative that they expanded their flocks to commercial-sized units.

The 1925 farm census shows fewer horses and beef cattle; fewer acres of wheat and rye; more dairy cows, swine, and poultry; and more acres of corn, oats, and barley. The rapid increase in dairying has helped the poultry industry to grow because dairy by-products are economical feeds for poultry. Poultry has a place in a balanced farming program for the state and has proved a profitable means of marketing the products and by-products of Idaho farms in a concentrated form. Poultry income is constant.

The Feed Situation

From the results of Experiment Station studies in poultry feeding for egg production there is no question but that dairy by-products—especially sour skimmilk and buttermilk—if available are the most econ-

omical feeds for Idaho farmers and poultrymen to use. For this reason poultry combines well with dairy farming, and more poultry is found in important dairy sections of the state than elsewhere.

Feed Prices

Cost of feeds has a material influence on profits of the industry. By referring to Table 10 it will be seen that United States farm prices of grain were low in relation to eggs and poultry from 1921 to 1924. This, of course, favored the poultry industry a great deal. Grain prices went up during 1924-1925 but in 1926 they declined again. Continued prosperity in the commercial poultry business will depend to a great extent on the relative position of grain and egg prices.

It might be worth while to consider briefly the farm prices of the important grain feeds in several states in order to determine how Idaho compares with states in other regions. Table 5 is presented to show this comparison:

TABLE 5—Farm Prices of Selected Grains, Idaho and Several Important Competing States (1)

(Cents per bushel)

	New York	Iowa	Kansas	Idaho	California
Corn					
Average, 1909-1913	73	47	56	74	87
1914-1920	132	83	95	120	139
1921-1925	93	59	62	79	108
Barley					
Average, 1909-1913	75	60	51	56	70
1914-1920	105	82	74	91	99
1921-1925	76	54	49	62	76
Oats					
Average, 1909-1913	16	33	40	40	58
1914-1920	67	50	55	66	76
1921-1925	53	34	40	45	65
Wheat					
Average, 1909-1913	99	84	85	71	96
1914-1920	170	154	156	145	164
1921-1925	126	108	112	120	126

(1) U. S. D. A. Yearbook, 1925, (December 1 prices).

New York was taken to represent an area near large consuming centers, Iowa and Kansas to represent the Middlewest, Idaho to represent the intermountain district, and California to represent the Pacific coast. In almost every instance grain prices have been higher in New York and California than in Idaho or the other states mentioned, and grain prices have been generally lower in Iowa and Kansas than in Idaho. Wheat prices have shown this same tendency during the past few years. As far as feed grain prices go Idaho is, therefore, at an advantage when compared with New York and California but at a disadvantage when compared with states of the Middlewest.

Idaho is not, however, at as great disadvantage as the above data would indicate. The poultry ration is different, the use of sour skimmilk being much more general in Idaho than in the Middlewest. In the Middlewest the source of animal protein must to a great extent be purchased and while not superior in any way to skimmilk for poultry feeding it is much more expensive. In Idaho the by-products of dairying, such as skimmilk and buttermilk, are usually available for poultry.

Climatic Conditions

Climatic conditions in Idaho are favorable to the poultry industry. Comparatively mild winters make for economical high winter egg production. The rapid increase in poultry production in the West is no doubt due partly to these winter production advantages. Moreover, mild winters together with comparatively cheap lumber have an important influence in lowering poultry house construction costs.

Climatic characteristics of various regions are shown in Table 6.

TABLE 6—Climatic Characteristics for Various Regions of United States (1)

Region and state	Station	Normal temperature				Days Min. T.		Days Max. T.	
		January		July		Below 0°	to 32°	to 99°	to 100°
		M. Min.	M. Max.	M. Min.	M. Max.	0°	32°	99.9°	Over
Northwestern—New York	Albany	15.3	31.3	63.1	82.3	5.5	120.5	8.0	
Northcentral—Iowa	Des Moines	11.0	29.0	64.8	80.7	14.5	118.5	23.5	2.0
Rocky Mountain—Idaho	Boise	21.7	37.6	57.1	89.1	4.5	101.5	35.5	6.0
Pacific Coast—Oregon	Portland	34.0	44.1	56.1	77.9	——	19.5	6.5	.5

(1) Data from U. S. Bureau of Agricultural Economics, special reports.

The mean maximum and minimum temperatures for the Rocky Mountain and Pacific coast stations in January are appreciably higher than are those in the Middlewest and East. The number of days below zero also and the days from zero to 32°F. are fewer in the West than in the eastern states. Hence, extremes of cold are greater in the Middlewest and East than they are in the West. This undoubtedly influences egg production in the winter months. Differences in summer weather may also be a factor. It appears that around Boise, for example, there are more hot days in summer than in Iowa or New York.

Climatic advantages in the late fall and winter months favor Idaho and other western states. Idaho producers may do well to consider their climatic advantages and aim to increase production at those times of the year when prices are highest.

Production Practices

Climatic advantages for winter egg production in Idaho have already been discussed. Highest prices for eggs are usually paid from October 1 to January, with the peak in November or early in December. (See Figure X). It is important, therefore, to hatch early. In most sections of Idaho it is best to hatch in March in order to have pullets fully matured and in the laying house by August 15 or September 1. Pullets should be in full lay by early September to produce the most eggs during the high priced periods. Due to higher production per individual by pullets than by hens during fall and winter months the poultry flock should contain a large proportion—possibly two-thirds—of pullets. Many producers also practice artificial lighting of their poultry houses in order to stimulate egg laying at that time of year.

High average production of eggs per hen is very essential to the success of commercial poultrymen, and is important to economical production on any farm. Reducing feed costs usually will not bring increased returns if the reduction brings an appreciable subsequent drop in production.

Many farmers can reduce feed costs without reducing production by using more home grown feeds and by-products. The practice of culling to eliminate light producers is generally known. Light producers in the flock reduce the average and at the same time increase unit costs of production. Other practices that make for high average production are proper housing and ventilation, good breeding stock, intelligent feeding, sanitation and ample range.

Tables 7 and 8 are presented to show the effect of average egg production per hen on economy of production and upon the net profit per unit of production. The tables are based upon records of from 10 to 15 poultry demonstration farms conducted by the University of Idaho extension poultryman during the years 1922-23 and 1923-24 . Unfortunately not enough farms were included in the project so that safe conclusions could be drawn. In Table 7 the farms are grouped on the basis of average number of hens per flock, while in Table 8 the grouping is made on the basis of average number of eggs laid per hen.

Table 7 indicates that, in general, the larger flocks had higher average egg production per hen than did the smaller flocks; that the total income per hen was higher, and that feed and other costs per hen were also higher for the larger flocks. The table seems to indicate that the smaller flocks produced eggs at a lower unit cost than did the larger flocks, but that the net return per hen was lower also. The importance of having high average egg production per hen in the larger flocks is

TABLE 7—Condensed Report, Poultry Demonstration Farms, Classified on Basis of Size of Flock,* 1922-23 and 1923-24

Item	Group I (1)			Group II (2)			Group III (3)		
	1922-23	1923-24	Average, 1922-24	1922-23	1923-24	Average, 1922-24	1922-23	1923-24	Average, 1922-24
Average number of hens per flock	91.4	112.9	104.3	323.3	285.6	304.4	770.75	592.1	651.6
Number of eggs laid per hen	138.0	144.1	142.0	166.3	137.9	152.5	186.7	162.7	172.1
Total income per hen (4)	$ 4.00	$ 4.53	$ 4.34	$ 6.74	$ 4.90	$ 5.90	$ 7.57	$ 5.86	$ 6.52
Feed cost per hen	1.54	1.63	1.60	1.92	1.94	1.94	2.48	2.48	2.31
All costs but labor per hen	2.26	2.64	2.50	4.22	2.93	3.63	4.13	4.31	4.24
Hours labor per hen	3.39	2.18	2.60	3.59	2.15	2.92	2.24	3.02	2.71
Income for labor per hen	1.74	1.89	1.84	2.52	1.97	2.27	3.44	1.55	2.28
Income per hour's labor	.51	.86	.71	.70	.92	.78	1.54	.51	.84
"All costs" per hen (5)	3.20	3.29	3.26	5.26	3.55	4.47	4.84	5.18	5.04
Income above "all costs" per hen	.80	1.55	1.08	.148	1.35	1.43	2.73	.68	1.48
Feed cost per dozen eggs	.13	.14	.135	.14	.175	.153	.16	.18	.161
Hour's labor per dozen eggs	.29	.18	.22	.26	.19	.23	.14	.22	.19
"All costs" per dozen eggs	.28	.27	.275	.38	.32	.35	.31	.45	.35
Average price received per dozen eggs	.22	.23	.223	.23	.27	.25	.27	.29	.29

(1) Group 1, for 1922-23 includes 4 farms, for 1923-24, 6 farms. Range in size of flocks, 50.5 to 163.

(2) Group 2, for 1922-23 includes 3 farms, for 1923-24, 3 farms. Range in size of flocks 198 to 403.

(3) Group 3, for 1922-23 includes 3 farms, for 1923-24, 6 farms. Range in size of flocks, 486 to 980.

(4) Total income includes market eggs, market meat, other sales from poultry enterprise, and inventory gain.

(5) "All costs" include inventory loss, cash outlay, market value of feeds, depreciation, interest in investment and $ .30 per Hr's labor.

* These records were obtained under the supervision of Pren Moore, University extension poultryman.

brought out in Group III by comparing 1922-23 with 1923-24 figures. These groups are not made up of identical farms in both years, but the relationships show, nevertheless. In 1922-23 Group III averaged 187 eggs per hen and in 1923-24 163 eggs per hen. Both the total and net returns per hen were greater in 1922-23 than in 1923-24. Also the cost of egg production was lower and the returns for labor per hen were higher.

Table 8 includes the same farms as were included in making up Table 7, but classified on the basis of average number of eggs laid per hen instead of on the basis of size of flock. The total and net income per hen for the three groups is in direct proportion to the average number of eggs per hen. Cost of egg production tends to decrease and income for labor tends to increase as the average number of eggs laid per hen increases.

TABLE 8—Condensed Report, Poultry Demonstration Farms, Classified on Basis of Average Number of Eggs Laid per Hen, Average 1922-23, 1923-24

Item	(1) Group A	(2) Group B	(3) Group C
Average number of hens per flock	167.3	402.1	502.4
Number of eggs laid per hen	129.2	163.9	180.3
Total income per hen	$ 4.01	$ 6.72	$ 7.07
Feed cost per hen	1.73	2.45	2.29
All costs but labor per hen	2.64	4.34	3.94
Hours labor per hen	2.95	3.50	2.06
Income for labor per hen	1.37	2.38	3.13
Income per hour's labor	.46	.68	1.52
"All costs" per hen	3.52	5.32	4.55
Income above all costs per hen	.49	1.40	2.52
Feed cost per dozen eggs	$ .16	$ .18	$ .155
Hours labor per dozen eggs	.27	.26	.14
"All costs" per dozen eggs	$ .33	$ .39	$ .305
Average price received per dozen eggs	$ .23	$ .27	$ .265

(1) Group A, Range in number of eggs laid per hen, 98 to 137.5, includes 9 farms
(2) Group B, Range in number of eggs laid per hen, 148 to 160.5 includes 8 farms.
(3) Group C, Range in number of eggs laid per hen, 166 to 192.5, includes 8 farms.

Poultry Diseases

Contagious diseases among poultry in Idaho are not serious, but they are important. Raising chickens away from the barnyard on new range each year is a good preventive. An alternative system of yarding which allows cropping every other year may also be valuable as a preventive measure. Pullets should be hatched early so that they are fully matured bodily and sexually by September 1. If range grown, they will go into the laying house in better weight and more disease resistant than if raised close to the house and barns. At present most poultry diseases in the state are fairly well under control, but continued close attention of them is essential.

Cooperation, Grading, Standardization

Organization of the Idaho Egg Producers, a cooperative association with headquarters at Caldwell, began functioning in December, 1921. It was the first attempt in the state at large volume marketing of eggs by producers. Previous to that time local grocery stores afforded the only means for the marketing of eggs. Farmers took what they could get for their eggs and made little attempt to improve the quality of their product. Formerly a very high percentage of eggs produced in the state were low in quality. In recent years, however, the situation has changed. The organization has brought about careful grading, improvement of quality, and standardization of grades, and it assembles the product into carlots for distant shipment.

Trend in Egg Prices

The average monthly and yearly farm prices of eggs in Idaho from 1909 to 1926 were as follows:

TABLE 9—Eggs: Monthly Farm Prices Received by Producers in Idaho the 15th of Each Month (1)

(cents per dozen)

Year	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average Jan.-Dec.	Average Mar.-Aug.	Average Sept.-Feb.
1909			28	22	22	22	24	26	28	30	34	38		24.0	35.0
1910	42	38	30	24	23	24	26	28	30	33	37	40	31.2	25.8	35.0
1911	38	32	26	20	20	21	23	25	27	30	33	36	27.6	22.5	32.0
1912	36	30	24	22	20	21	22	25	28	31	36	36	27.6	22.3	32.8
1913	35	31	24	20	21	19	21	24	27	30	38	39	27.4	21.5	33.7
1914	39	29	22	18	19	19	21	24	27	32	35	41	27.2	20.5	33.5
1915	38	28	20	17	19	20	21	24	25	29	33	41	26.2	20.2	34.2
1916	39	38	21	19	22	23	24	26	30	35	44	47	30.7	22.5	40.5
1917	45	41		32	32	33	33	37	41	43	50	55	40.2	33.4	46.5
1918	46	44	35	32	31	34	36	40	41	47	56	63	42.1	34.7	51.3
1919	62	39	38	34	35	37	37	44	44	54	66	77	47.2	37.5	60.5
1920	73	49	40	38	39	39	43	49	50	59	65	65	50.7	41.3	54.8
1921	55	35	30	21	19	20	23	31	31	38	45	46	32.8	24.0	38.3
1922	35	35	20	19	19	17	16	18	25	35	45	14	24.8	18.2	30.2
1923	34	28	23	17	19	20	20	20	25	34	46	42	27.3	19.8	35.7
1924	38	29	16	18	19	18	22	25	27	35	45	47	28.2	19.7	39.0
1925	44	36	24	23	23	26	29	29	32	38	48	45	33.0	25.7	36.8
1926	31	27	23	20	22	22	24	24	30	38	44	43	29.0	22.5	36.2
1927	34	28	23	18											
Average 1909-1926	43	33	27	23	24	24	26	29	32	37	45	46			

(1) Data compiled from United States Department of Agriculture Monthly Supplements to Crops and Markets, "Estimated Prices Received by Producers."

Egg prices trended upward from 1915 to 1920, but in 1922 were on a decidedly lower level. They recovered again during the next three years, but dropped several cents from 1925 to 1926. Idaho was formerly a deficit producing area with respect to poultry products and because of this fact prices tended to remain at higher levels than they otherwise would have.

Eggs and Other Products

It is essential to know what the trends in prices of other farm products have been in order to determine the status of the poultry industry. Relative United States farm prices for eggs, grains, meat animals, and "all farm products" are shown in Figure VII and Table 10. Relative prices are used to compare trends in prices of different commodities. The average prices of the various commodities for the period August, 1909, to July, 1914, are considered as 100, and computations for each year are made accordingly.

The index number of eggs did not rise as rapidly as the "all farm products" index from 1916 to 1918, but after 1920 egg prices did not drop as rapidly either. The relative farm price of eggs in 1922 was 133. It rose to 157 in 1925 and dropped to 147 in 1926. The "all farm products" index stood at 124 in 1922 and rose to 147 in 1925. It dropped to 136 in 1926. Egg prices have been at a higher level than "all farm products" although in 1926 both index numbers dropped 10 points. In comparison with prices of meat animals and grain the relative farm price of eggs has been high during the past six years, although in 1925 the relative price of grain was almost the same as that of eggs and in 1926 the relative price of meat animals was nearly the same. It will be noted from the table that butter prices have been higher than egg prices since 1923.

FIGURE VII

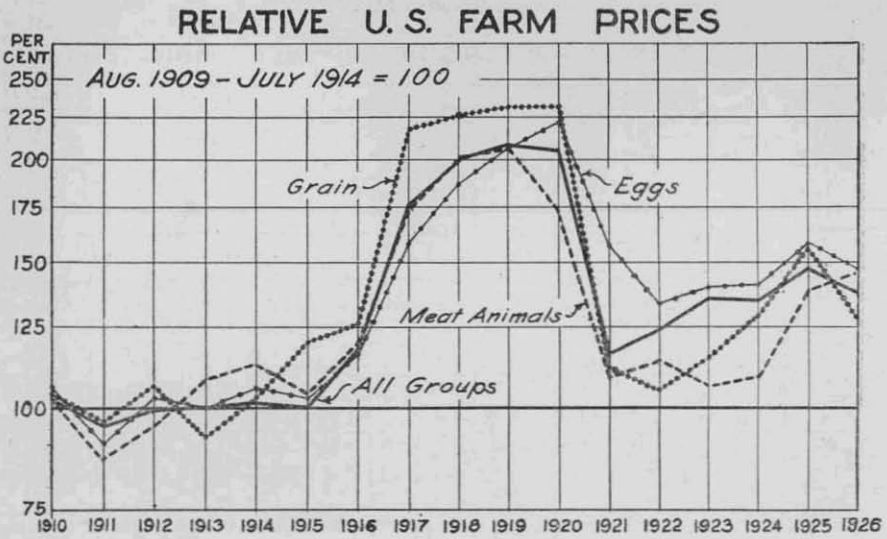


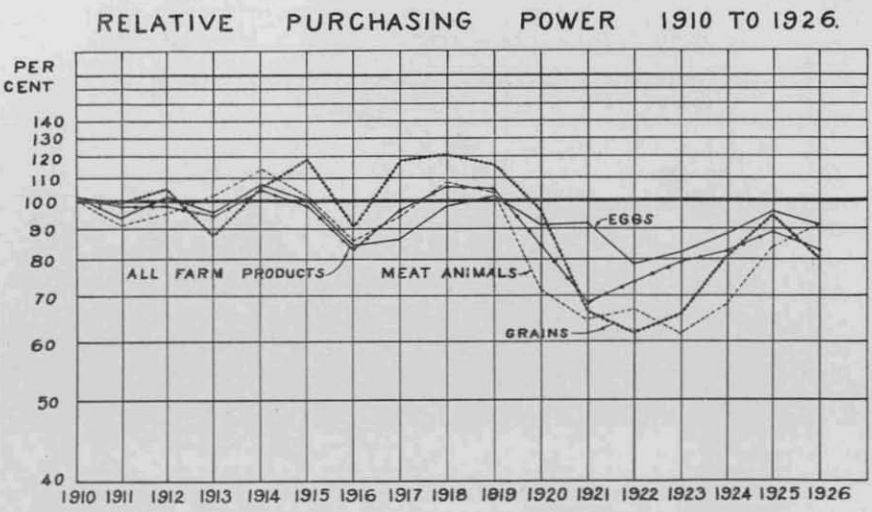
TABLE 10—Relative Farm Prices (1) of Eggs, Butter, Grains, Meat Animals, and All Farm Products. (August, 1909-July, 1914=100 [2])

Year	Eggs	Butter	Grains	Meat Animals	All farm products (30 items)
Base prices	$ .215	$ .255			
1910	105	102	104	103	103
1911	90	92	96	87	95
1912	102	103	106	95	99
1913	100	106	92	108	100
1914	105	100	103	112	102
1915	102	102	120	104	100
1916	116	112	126	120	117
1917	159	142	217	173	176
1918	186	171	226	202	200
1919	206	200	231	206	209
1920	222	214	231	173	205
1921	155	151	112	108	116
1922	133	140	105	113	124
1923	140	161	114	106	135
1924	141	157	129	109	134
1925	157	161	156	139	147
1926	147	163	129	146	136

(1) "Relative prices" are obtained by dividing the actual United States farm price of each commodity in a given year by the average United States farm price for the five-year period (August, 1909 to July,1914) and multiplying by 100.
(2) Data from U. S. Bureau of Agricultural Economics, supplement to the Agricultural Situation, June, 1925, and subsequent issues.

The relative purchasing power of the above commodities in terms of non-agricultural commodities is given in Figure VIII and Table 11. The relative purchasing power of eggs from 1922 on was higher than that of other groups of commodities listed except butter. Since 1920 the purchasing power of eggs, grains, meat animals, and "all farm

FIGURE VIII



products" in terms of non-agricultural commodities has remained below 100. Eggs, grains, and "all farm products" trended downward from 1925 to 1926, while meat animals and butter trended upward.

TABLE 11—Relative Purchasing Power (2) of Eggs, Butter, Grains, Meat Animals, and All Farm Products, United States, 1910-1926 (1)

Year	Eggs	Butter	Grains	Meat Animals	All farm products (30 items)
1910	102	99	102	101	101
1911	94	96	100	91	99
1912	102	102	105	95	99
1913	96	101	88	103	95
1914	108	103	106	115	105
1915	101	101	119	103	99
1916	84	81	91	86	85
1917	87	78	119	95	97
1918	99	91	121	108	107
1919	103	100	116	104	105
1920	92	89	96	72	85
1921	93	90	67	65	69
1922	79	84	62	67	74
1923	82	94	66	62	79
1924	88	97	80	68	83
1925	95	98	94	84	89
1926	91	101	80	91	84

(1) Data from U. S. D. A. Bureau of Agricultural Economics, supplement to the Agricultural Situation, June, 1925, and subsequent issues.
(2) Relative purchasing power is obtained by dividing the relative farm price as given in Table 12 by the Bureau of Labor Statistics index number of non-agricultural commodities (1910-1914=100) and multiplying by 100.

From this brief discussion we may conclude that egg prices have in general, been favorable during the past five or six years when compared with those of other farm products. This is no doubt one important reason for the rapid expansion of the poultry industry since 1920. In terms of non-agricultural commodities, however, the purchasing power of eggs is below that of the 1910 to 1914 average.

MARKETING IDAHO POULTRY PRODUCTS

There are no large consuming centers in Idaho to absorb the surpluses of poultry products and consequently they must be shipped to outside markets. The principal markets for surplus eggs and poultry from Idaho in the past have been the inter-mountain and Pacific coast cities. Quite recently, however, considerable shipments of eggs have also been made to Detroit, Chicago, New York, Philadelphia, and other eastern points.* Spokane, Butte, Ogden and Salt Lake are the important inland cities to which Idaho ships poultry products, and Los Angeles and San Francisco are the main markets on the coast.

* The Idaho Egg Producers, a cooperative organization with headquarters at Caldwell, reports that since September 1, 1926 a large part of its egg shipments have gone to eastern markets. Recently only part cars of lower quality eggs have been shipped to California by that organization.

Extent of Carlot Shipments

The poultry industry in Idaho has advanced from the practically deficit basis of a few years ago, to an export basis of considerable importance at the present time. Table 12 gives the carlot shipments of eggs and poultry from southern Idaho for the years 1918 to 1926. During the years 1918 to 1921, the export trade was insignificant. In fact, as late as 1921-22 Idaho imported quantities of eggs at certain seasons of the year. Beginning with 1922, however, the upward trend in shipments was very pronounced. Shipments increased from 51 cars in 1922 to 207 cars in 1925 and 276 cars during 1926. Carlot shipments of live and dressed poultry increased rapidly also, increasing from 40 cars in 1922 to 137 cars in 1926. The larger shipments in 1924 may be accounted for by the dry year and high feed prices. Many farmers sold much of their poultry stock in the 1924-25 fall and winter.

TABLE 12—Carlot Shipments of Eggs and Poultry From Stations in Southern Idaho on the Oregon Shortline Railroad, 1918-1926 (1)

Year	Carloads of eggs			Carloads of live and dressed poultry		
	Freight	Express	Total	Freight	Express	Total
1918	21		21	25	1	26
1919	20		20	22		22
1920	9		9	10		10
1921	13	1	14	12		12
1922	51		51	34	6	40
1923	188		188	62	18	80
1924	240		240	147	4	151
1925	207		207	115		115
1926	276		276	137		137

(1) Data from special reports of the Union Pacific Railroad, through the state statistician.

District points of origin of egg and poultry shipments are shown in Table 13. The importance of the Boise Valley section is readily apparent, more than half the total carlot shipments from southern Idaho having originated there each year since 1923. The Twin Falls area is second in importance and the Upper Snake section is third.

The volume of shipments from southeast Idaho does not appear in the accompanying table for the reason that considerable amounts of eggs and poultry are moved in trucks to Utah and there assembled with the Utah product. This, together with the fact that packing companies which operate large produce houses ship a lot of their eggs in mixed cars, makes carlot shipments a rather uncertain index to the commercial growth and importance of the industry. However, it may safely be concluded from the foregoing table that production of eggs and poultry has been increasing quite rapidly, and that Idaho must rely upon outside markets to dispose of its surplus.

North Idaho is not included in the above shipments. Comparatively

TABLE 13—District Points of Origin of Eggs and of Live and Dressed Poultry Shipped from Southern Idaho, 1923-1926 (1)

Section of state	1923	1924	1925	1926	1923	1924	1925	1926
	Eggs (carl'ds)	Eggs (carl'ds)	Eggs (carl'ds)	Eggs (carl'ds)	Live and dressed poultry (carl'ds)	Live and dressed poultry (carl'ds)	Live and dressed poultry (carl'ds)	Live and dressed poultry (carl'ds)
Boise Valley Payette, Nampa, Caldwell, Meridian, Emmett, Boise, Parma, Weiser, Montour	132	143	133	186	32	83	71	77
Twin Falls Twin Falls, Burley, Buhl, Jerome, Rupert, Wendell	34	57	41	52	27	44	23	36
Gooding Picabo, Gooding, Fairfield, Shoshone	2	1		3	2	15	13	13
Upper Snake River Pocatello, Roberts, American Falls, Blackfoot, Driggs, Mackay	20	34	24	34	1	8	5	10
Southeast Idaho Preston, Montpelier	0	5	9	1	0	1	2	1
Total	188	240	207	276	62	151	114	137

(1) Data from special reports of the Union Pacific Railroad, through the state statistician.

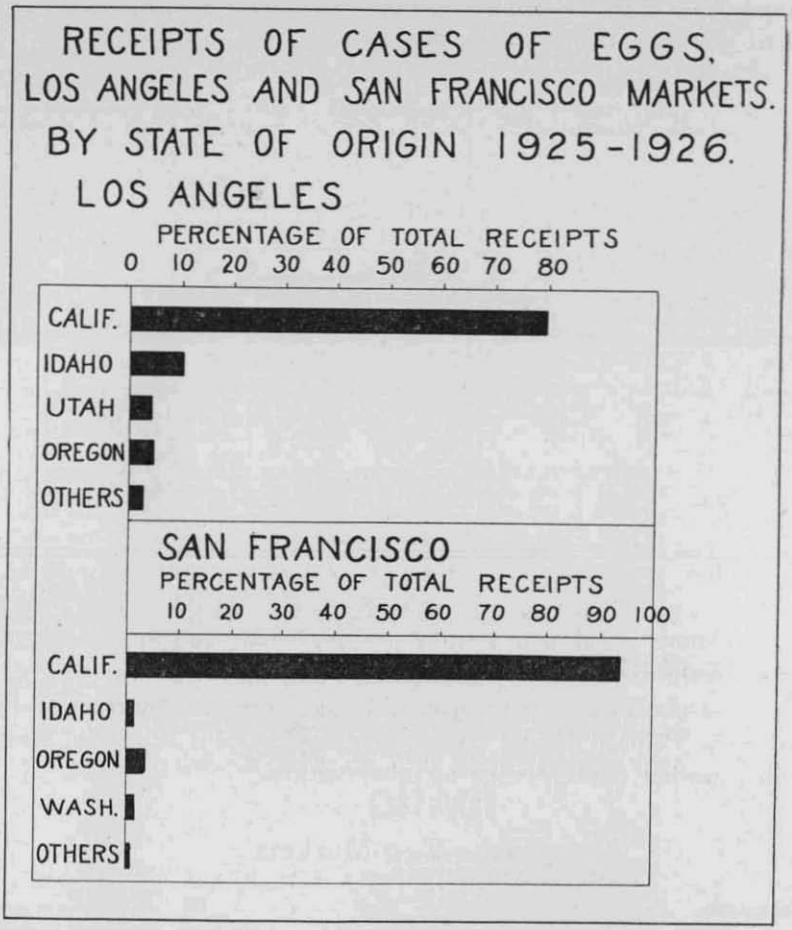
few eggs move in carlot quantities and the mining and timber industries nearby create a satisfactory market for the surplus poultry and eggs. Also, there is considerable movement of these products by truck to Spokane. The Palouse district produces a small surplus at certain seasons of the year but imports eggs at other seasons.

Idaho Egg Markets

Destinations

Los Angeles and San Francisco have until very recently, been the most important markets for Idaho's surplus eggs. Figure IX and Table 14 show the relative importance of Idaho in those markets. In 1925 and 1926 about 80 percent of total egg receipts at Los Angeles came from California, and from 10 to 11 percent came from Idaho, Utah, and Oregon. Washington and other western states supplied the remaining 10 percent. During the same years California supplied from 92 to 95 percent of total receipts at San Francisco, Idaho from .8 to 1.4 percent, Oregon from 2 to 5 percent. The remainder came from Washington and other western states. Idaho shipments on the San Francisco market increased slightly and to the Los Angeles market decreased slightly. Utah increased its shipments to Los Angeles, while Oregon decreased.

FIGURE IX



During the first four months of 1927, egg receipts at Los Angeles and San Francisco decreased greatly as compared with the first four months of 1926. Only 6,100 cases were received at Los Angeles from Idaho during January to April, 1927, whereas 12,200 cases were received from Idaho in the same period the previous year. California is supplying a larger percentage and other states a smaller percentage of egg receipts at these two markets.

Complete information is not available as to the extent of egg shipments from Idaho to eastern markets. During 1926 Idaho shipped about 11,000 cases of eggs to New York City. Egg receipts at New York from Idaho totaled 7,400 cases during the first four months of 1927, which

was about the amount received during the same period in 1926. Chicago, Detroit, Philadelphia, and other eastern cities are also beginning to take quantities of Idaho's eggs. The following figures on egg receipts from Idaho at stated cities during 1926 show this tendency(1):

New York ..... 10.884 cases.
Chicago ..... 6,573 cases
Philadelphia ..... 6,623 cases
Boston ..... 1,280 cases

During 1925 and earlier years Idaho shipped a negligible quantity of eggs to these markets.

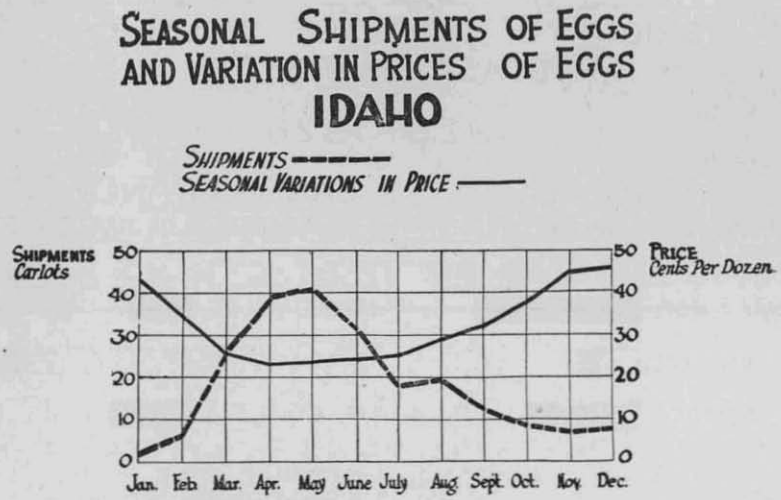
(1) U. S. D. A. Bureau of Agricultural Economics, Market News Service.

TABLE 14—Receipts of Eggs on the Los Angeles and San Francisco Markets, by States of Origin, 1925-1926 (1)

Origin	Los Angeles				San Francisco			
	Cases, 1925	Cases, 1926	Percent 1925	Percent 1926	Cases, 1925	Cases, 1926	Percent 1925	Percent 1926
California	456,458	446,211	79.4	79.7	686,461	709,840	91.9	95.4
Idaho	62,048	56,135	10.8	10.0	6,306	10,411	.8	1.4
Utah	15,713	26,424	2.7	4.7	240	——	——	——
Oregon	24.052	19.365	4.2	3.5	37.348	16,013	5.0	2.2
Washington	5,018	4,857	.9	.9	10,780	5,826	1.4	.8
Colorado	3,526	2.704	.6	.5	——	——	——	——
Others	8,235	4,009	1.4	.7	5,571	1,570	.9	.2
Totals	575,050	559,705	100.0	100.0	746,706	743,660	100.0	100.0

(1) Data from United States Department of Agriculture, Bureau of Agricultural Economics.

FIGURE X



Seasonal Movement of Eggs

Monthly shipments of eggs from Idaho are heaviest in April, May and June, and lightest in the late fall and winter months. Reference to Figure X and Table 22 (appendix) shows that the volume of egg shipments is greatest when farm prices are lowest, and lowest when farm prices are highest.

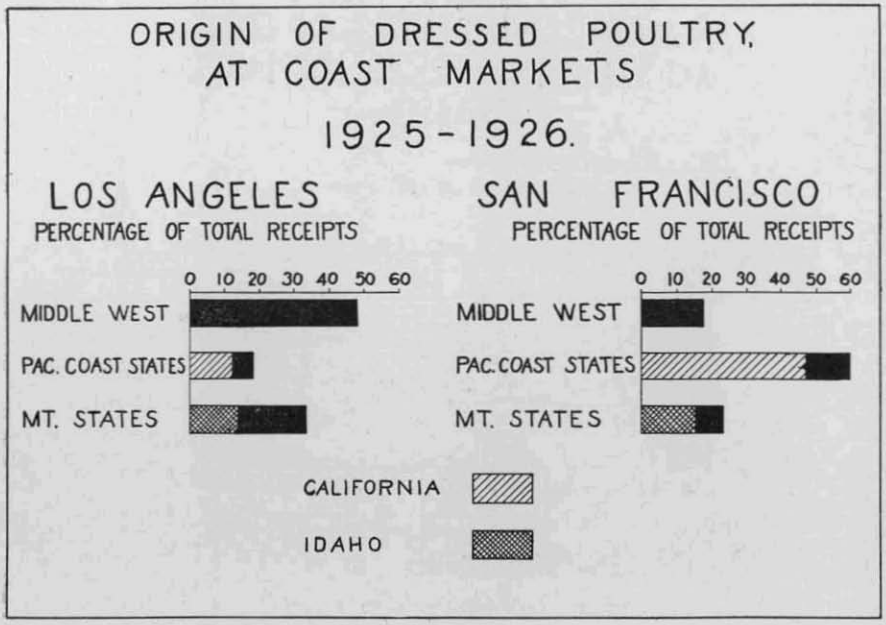
About 36 percent of total shipments have, on the average, been made in the two months, April and May. The 1923-1925 average range in monthly shipments was from 2.6 cars in January, to 40.6 cars in May. The average of monthly shipments was 18.3 cars.

Dressed Poultry Markets

The trend in carlot shipments of dressed poultry from the state has already been discussed. It was shown that the trend has been definitely upward and that outside markets are becoming increasingly important. Idaho's largest dressed poultry markets are Los Angeles and San Francisco. Figure XI shows in graphic form the origin of dressed poultry receipts at these coast markets, expressed in percentages of total receipts coming from each region and important shipping state. San Francisco is the more important market for Idaho's dressed poultry, while Los Angeles, as was pointed out above, is the big egg market, (See also Table 23, appendix).

The areas competing directly with Idaho on the Los Angeles and

FIGURE XI



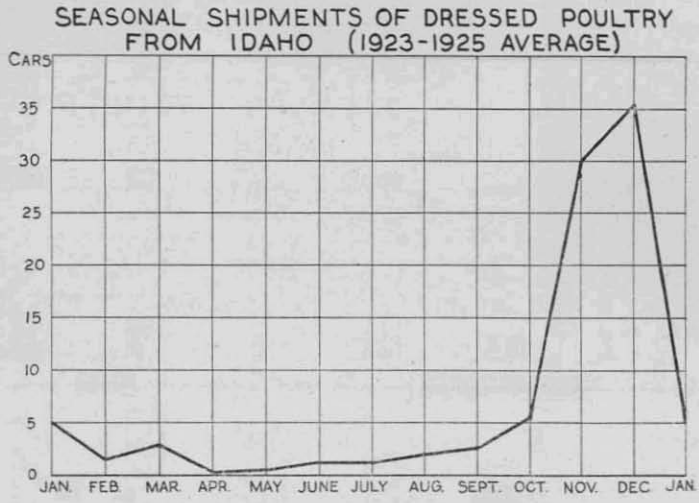
San Francisco dressed poultry markets include states of the Middlewest as well as of the West. In 1926 about 18 percent of total receipts at Los Angeles came from Idaho, about 44 percent came from the Middlewest, and nearly 20 percent came from the Pacific coast. In the same year Idaho supplied 20 percent of total receipts at San Francisco, the Middlewest about 16 percent and the Pacific coast states about 57 percent. Table 23 (appendix) shows that Kansas, Oklahoma and Texas in addition to mountain and Pacific states are heavy shippers to Los Angeles. California supplies nearly half of San Francisco's receipts.

These figures indicate that the West is a deficit producing area as far as dressed poultry is concerned and that it is drawing upon the Middlewest primarily to fill the deficit.

Seasonal Movement

Figure XII, based on data from Pacific Fruit Express Company reports, shows that carlot shipments of dressed poultry are heaviest in November and December. Comparatively few shipments are made in other months; the 1922-'25 average shows that nearly three-fourths of total yearly shipments are made during the two-month period.

FIGURE XII



Future Markets

The growth of population in the Pacific coast states has been very rapid since 1910. In fact, the rate of increase for all the western states has been considerably greater than for the United States as a whole. In spite of this rapid increase in population, however, egg production was shown in the discussion of regional trends. Idaho has in the past

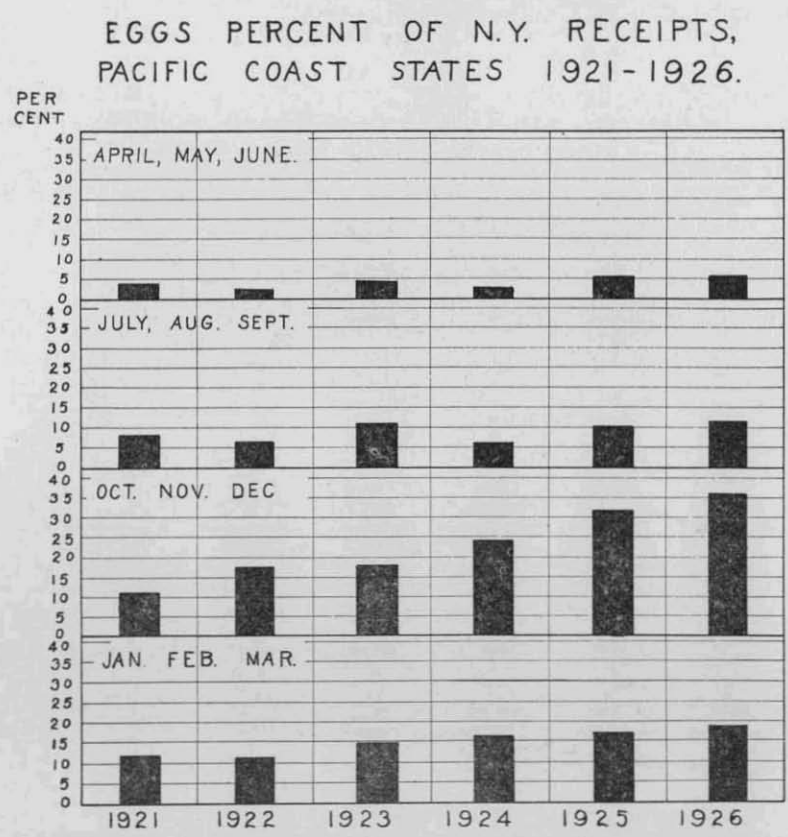
shipped most of its surplus eggs to Pacific coast markets, but the trend in shipments appears to be eastward at the present time. Idaho as well as the other western states may have to rely upon eastern markets to dispose of its surplus in the future. California, Oregon and Washington have for several years made heavy shipments to New York. The following table gives the amount of eggs received at New York from each of the Pacific coast states for the years 1921 to 1926:

TABLE 15—Amount of Eggs Received at New York From Each of the Pacific Coast States, 1921-1926 (cases of eggs)

State	1921	1922	1923	1924	1925	1926
California	393,589	354,068	429,739	330,900	456,403	438,856
Oregon	34,266	14,911	34,567	40,065	53,750	54,475
Washington	104,038	143,175	270,771	253,752	375,484	543,399
Totals	531,839	512,154	735,077	624,717	885,637	1,036'730

(1) From United States Department of Agriculture, Bureau of Agricultural Economics, special reports.

FIGURE XIII



The trend in shipments from Pacific coast states eastward has been definitely upward. In 1921 there were 531,839 cases sent to New York and in 1925 885,637 cases were shipped. In 1926 the shipments amounted to 1,036,730 cases.

Seasonal distribution of New York egg receipts coming from Pacific coast states is presented graphically in Figure XIII. The figure shows that shipments of eggs from the Pacific coast are becoming increasingly important in the late fall and winter months. In 1921 the percent of October-December New York receipts from the Pacific coast was about 12, and of January-March receipts about 13. By 1926 the October-December percent increased to 36.1 and the January-March percent increased to 19.4 percent.

The western states have in the past paid more attention than eastern states to the marketing of a standardized product in large quantities, as well as to the production of eggs of the weight, shell texture, shell color, and yolk color required by eastern markets. More attention is now being paid to the production and marketing of eggs in the eastern and middlewestern states to meet the competition from the far West.

As far as future markets for dressed poultry are concerned it seems rather evident that the Pacific coast offers a market for increased output of western states with its rapidly increasing population. Large quantities of dressed poultry are supplied from the Middlewest, indicating that the West is a deficit producing area. The shorter distance from Idaho to Pacific coast markets gives Idaho an advantage over eastern competitors.

Cooperative Marketing

The movement toward cooperative marketing of eggs in Idaho began in 1923. The present organization of poultrymen, known as the Idaho Egg Producers, began operation about March 1, 1924, after withdrawing from the Pacific Cooperative Poultry Producers about January 10, 1924. During 1924 the association received, re-packed, graded and sold 820,879 dozen, or 27,362 cases, or 69 carloads of eggs. They received for them about $230,000 which was distributed mainly to the producers about Caldwell. The association increased in membership from 390 on March 1, 1924 to 973 on January 1, 1925. During 1925, the number of carloads received, graded, packed and shipped increased from 67 to 90. Gross receipts increased in 1925 to $328,845.68. The association now has branch receiving and candling stations at Pocatello and Twin Falls. The membership on January 1, 1926, was 965.

Before the Egg Producers were organized eggs were sold on the local markets almost entirely. Farmers took what they could get for them. The organization brought about careful grading, improvement of quality, standardizing of grades and the assembling of carloads. Thus, the local surplus and increase in production is more satisfactorily placed on outside markets.

THE TURKEY INDUSTRY

The turkey industry has in recent years become valuable as a source of income, especially in the central and southern sections of the state. According to estimates of the extension poultry specialist more than $1,000,000 worth of turkeys are shipped from Idaho each year.

There are vast areas in the state that are especially suited to turkey raising. Large open spaces abounding in insect life, such as grasshoppers and crickets, make an ideal combination for turkey production. The trade generally recognizes that Idaho produces a superior quality bird.

The industry has two logical divisions: breeding and meat production. Turkey raising is most common on dry farms or on areas near the range, as unlimited range is essential.

The Southern Idaho Turkey Growers—a cooperative marketing association with headquarters at Boise—handles a large part of the crop each year. A better quality product is being worked for but considerable quantities are still delivered in poor finish and often poorly dressed. A spread of from 8c to 10c exists between a No. 1 and a No. 2 turkey, which emphasizes the importance of maintaining high quality.

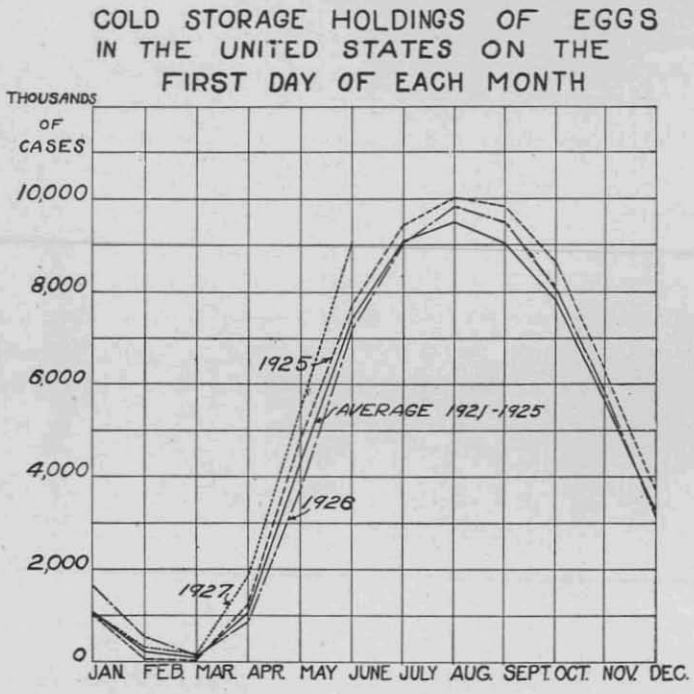
Turkey growing is becoming more firmly established each year. Idaho producers are learning that they are able to produce a turkey that cannot be excelled in quality by any and can be equalled by few other sections in the country. Because the demand for turkeys is limited mostly to the Christmas and Thanksgiving trade, producers should guard against the possible danger of over-expansion.

OUTLOOK: EGGS AND POULTRY

The National Outlook

The trend in egg production has been decidedly upward since the war, increasing about 16 percent from 1919 to 1924, while the population of the United States increased about 8 percent. Egg production during the first months of 1927, as evidenced by arrivals at the leading terminal markets, continued above that of a year previous. This greater volume of eggs, coming either as a result of more hens or more favorable weather conditions, or both, forced prices below last year's level and changed the shortage of a short time ago to a surplus of some proportions.

FIGURE XIV



The Cold Storage Situation

Figure XIV and Table 24 (appendix) shows the cold storage holdings of eggs in the United States on the first day of each month for 1921-1925, averaged, and since January 1, 1925.

This chart shows that the holdings of eggs during 1925 were greater

* The U. S. Department of Agriculture, Bureau of Agricultural Economics, "The Agricultural Situation," April, 1927, p. 16.

than average except for the first months of the year. Holdings during 1926 were also above the average. The number of eggs in cold storage on January 1, 1927, was about average. On March 1 there was nearly three times the average left in storage, and on April 1 so many eggs had been received that stocks were more than twice as large as they were a year ago and almost twice the average.

FIGURE XV

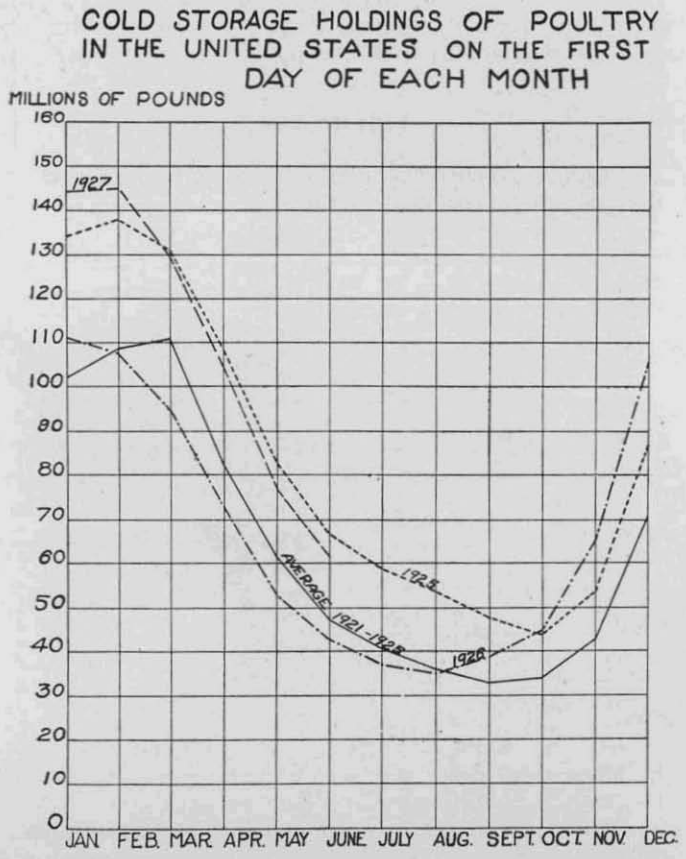


Figure XV and Table 25 (appendix) show that the dressed poultry stocks on January 1, 1927, were relatively heavier than average and remained considerably heavier than average on April 1. This is not a satisfactory situation and as a consequence prices are several cents lower than they were last year on practically all grades, with no marked effect in stimulating trade activity.

Foreign Trade

The United States total foreign trade in eggs and poultry is relatively small when compared with domestic production. Imports and exports of eggs and poultry January 1-December 31, 1926, compared to activity for the same period, 1925, are given in Table 16.

TABLE 16(3)—Imports and Exports of Poultry and Eggs, January 1-December 31, 1926. (Thousands).

		Imports		Exports	
		1926	1925	1926	1925
Shell eggs	Dozens	298	609	26,634	24,999
Whole eggs, dried	Pounds	677	1,455		
Whole eggs, frozen	"	9,392	12,531		
Yolks, dried	"	4,398	5,683		
Yolks, frozen	"	4,161	5,802	(1) 522	(1) 301
Egg albumen, dried	"	3,453	4,189		
Egg albumen, frozen, prepared or preserved	"	3,611	4,328		
Live poultry	"	1,908	2,072	565	712
Dressed poultry		6,027	2,774	(2) 3,406	(2) 5,102
Poultry prepared in any manner		465	366		

(1) Includes all forms of frozen and dried eggs.
(2) Includes game.
(3) This table is from "The Agricultural Situation," Volume XI, No. 2, February, 1927, p. 16, published by the Bureau of Agricultural Economics, United States Department of Agriculture.

If the poultry industry continues to expand more rapidly than the demand for its products, it will be necessary to look more and more to foreign markets as an outlet for the surplus. If such a condition is reached it is very probable that prices will be materially affected. The United States is already exporting quantities of both poultry and eggs, but is importing egg products. A lowering of the tariff would likely result in increased imports of these products that we import under the present tariff and thus will affect adversely the prices obtained for such products.

Per Capita Consumption

The trend in per capita consumption of eggs and poultry has an important bearing upon the national situation. Unfortunately, there is not a great deal of information available on per capita consumption of these products. From data available on egg production and marketing of dressed poultry the trends indicate that consumption has increased to an appreciable extent. An analysis of production trends in relation to population increases indicates that the per capita consumption of poultry products has been increasing. Marketings of eggs and dressed poultry at such markets as New York, Boston, Philadelphia, Chicago, San Francisco, and Los Angeles have been on an upward trend. Storage stocks of eggs and dressed poultry are much larger than they were eight or ten years ago. This has resulted in surplus production of eggs and dressed

poultry, not required to supply current consumptive needs, to be put into storage, thus making for more even distribution of consumption of these products throughout the year.

The State Outlook

Dairy by-products such as sour skimmilk and buttermilk are among the most economical feeds for Idaho farmers and poultrymen to use. Poultry seems to offer a promising source of income to producers in those sections of the state where there is an increasing abundance of these by-products. Idaho producers also have the advantage of using home-grown grains rather than having to purchase them, thus enabling farmers to convert the more bulky crops into highly concentrated products having high unit value.

Idaho seems to be at a disadvantage in competition with states of the Middlewest in the matter of farm values of grain feeds for poultry feeding. Nevertheless, Idaho has an advantage over such states as New York and California where considerable grain feeds must be purchased from a distance.

Another condition favoring the poultry industry in Idaho and the West is the favorable climate in the late fall and winter months, which makes for economical high winter egg production. The highest prices of eggs are usually from October 1 to January with the peak in November or early December. Producers in Idaho should consider their climatic advantages and aim to increase egg production at those times of the year when prices are highest.

There is a question, of course, as to how many eggs New York and other eastern markets will take and still maintain the premium prices which western shippers have enjoyed. The increasing supply of eggs coming on the eastern markets from the Pacific coast states and other regions of the country is tending to force winter egg prices to lower levels. If the present trend of egg production continues, shipments of Pacific coast eggs to eastern markets will be greater in 1927 than in 1926, but a larger proportion of the product is being marketed in cities other than New York.

Idaho's egg markets seem to be shifting to the East at the present time. More eggs are being marketed in cities like Detroit, Philadelphia and New York than formerly. With the rapidly increasing egg production in the Pacific coast states this shift appears to be necessary. However, even tho the shift should be permanent, the disadvantage with states of the Middlewest in the matter of transportation expense would not be very important—it would not greatly exceed 1 or 2 cents per dozen.

It seems evident that the Pacific coast offers a market for increased output of dressed poultry of western states with its rapidly increasing population. Large quantities of dressed poultry are still being shipped from the Middlewest to supply the coast markets. The shorter distance from Idaho to Pacific coast markets gives Idaho an advantage as compared with states eastward.

Outlook in Idaho Districts

Southwest Idaho

This area is the most important poultry section in the state. The industry underwent somewhat of a setback during 1924 when feed prices were high, but it recovered in 1925. Farm flocks numbering from 50 to 200 are in the majority but many flocks are increasing in size. There are more flocks of commercial size in this section than ever before and more than in any other part of Idaho. Likewise, more surplus poultry products are shipped from this section than from any other section in the state.

The Boise, Payette, and Weiser valleys are well adapted to poultry raising. Climate is moderate, not running to extremes of heat or cold. The soil is fertile and not easily contaminated because of its sandy loam nature. General farming is well established. Quite a large amount of dairy by-products is available for poultry feeding. The Idaho Egg Producers, a cooperative poultry association with headquarters at Caldwell, has also been a contributing factor in the increase in numbers of poultry in this section.

Some of the more important factors in the rapid development of poultry in the area may be summarized as follows:

1. A market for surplus eggs and dressed poultry.
2. Low feed costs due to dairy by-products.
3. The high production obtained, due probably to better care.
4. The fact that poultry fits in well with the prevailing systems of farming.
5. The absence of highly profitable cash crops with which poultry has to compete.
6. Favorable soil and climatic conditions.
7. Climatic conditions favorable to high winter production.

A study of records of crops grown and livestock kept on individual farms of the Boise Valley for the past 12 years indicates that the more permanent farm operators had more dairy cows, along with fairly large farm flocks of chickens, than did the less stable operators. The cows created a "home market" for the available alfalfa hay, pasture and feed, and the poultry flocks utilized the dairy by-products and other waste feeds that would otherwise have had little market value.

Approved production practices have been quite generally adopted, and improved breeds are taking the place of the common stock that was prevalent a few years ago. Poultry, together with dairying, is now on a permanent and established basis.

South Central Idaho

This section as a whole is coming forward rapidly in poultry production and is now the second largest producing section in the state. An area has developed around Twin Falls, where many farmers are

increasing the size of their flocks, and there has been a marked interest in poultry and turkey raising around Gooding. Poultry flocks in Gooding County almost doubled from 1924 to 1925, according to observations of the state poultry specialist.

Crop yields are high and the soil, feed, and climatic conditions of the area are very favorable for poultry production. Acreages of feed crops such as corn and barley are increasing and less wheat is being grown. Fewer beef cows and more dairy cows are being kept.

Most of the eggs from this section are marketed cooperatively thru the Idaho Egg Producers. This association has been an important factor in the development of the poultry industry in south central Idaho.

Profits from potatoes in some of the counties, especially Cassia and Minidoka, have caused many farmers to reduce their poultry. Potato raising was especially profitable in 1925 and 1926 and consequently many farmers lost some of their interest in sidelines such as poultry. On the other hand, the hazards of price fluctuations, insects and other pests, and in some years water shortage, have taught farmers to be cautious about possible overbalancing of crop enterprises, and to give more consideration to dairying and poultry to insure a steady income rather than risk loss or complete failure waiting for highly profitable crop years.

Southeast Idaho

This section made fairly rapid growth in poultry raising from 1921 to 1924, and additional interest has developed in the last two years. In sections where wheat raising predominates or where beef cattle are on the increase, poultry is not increasing; in counties where more dairy cows are being kept and more feeds, such as corn and oats, are grown poultry is increasing as a supplementary farm enterprise.

The long distance to the cooperative marketing facilities at Pocatello has probably been one factor in the slow expansion of poultry in removed communities of this section. In the southeastern corner of the state many eggs are marketed through agencies in Utah. Turkey raising has increased because of the free range present in that section. The climate is not as satisfactory for poultry raising as in either southwest or south central Idaho and consequently the hatching period must come a little later in the season. Future development will probably come largely as a supplementary enterprise to dairying and general farming.

Upper Snake District

The amount of poultry kept in this section has not increased during the past years and is not increasing at the present time. The slow progress in the upper Snake River country can be attributed to less favorable climatic and soil conditions and to competing enterprises which are more profitable. In the sections around Blackfoot and Roberts, however, the farming is more balanced and dairying has become better established. The poultry enterprise has increased in these sections to fit in with the general type of farming. Some improvement has been made

in housing facilities, but a more general adoption of approved poultry practices is desirable.

Palouse Section

Except around Moscow and Lewiston, poultry is not increasing in the Palouse or Camas Prairie country. Increased industrial activity at Lewiston has stimulated the poultry industry in that section.

Most of the farmers need to start at the bottom by getting one standard variety of chickens and practicing more careful culling, mating and feeding. More attention should also be given to quality of product. Extensive development in dairying and poultry in the Palouse section cannot be expected until a great change in farming methods is first brought about.

North Idaho

Poultry raising is expanding somewhat in the cut-over section. Many flocks have been increasing in size and housing facilities are improving. Most of the eggs from North Idaho go to the mines and lumber camps, which offer very satisfactory markets for the product. The small tracts of cleared land in Kootenai, Bonner and Boundary counties are well adapted to poultry raising and dairying, altho settlers have found difficulty in clearing enough land for the feed and forage crops needed. The higher feed costs prevailing in this area in comparison with southern Idaho have retarded poultry development to some extent.

TABLE 17—Chickens on Farms, Chickens Raised and Chicken Eggs Produced, United States and Geographic Divisions[1]

Geographic division[2]	Chickens on farms (1000's)			Chickens raised* (1000's)			Chicken eggs produced (1000 dozens)		
	1910 (April 15)	1920 (Jan. 1)	1925 (Jan. 1)	1909	1919	1924	1909	1919	1924
United States	280341	359537	409811	460611	473302	545848	1574979	1654045	1913245
North Atlantic	31289	33256	42967	44828	39537	53319	214134	189085	273172
East north central	69471	84516	89653	98896	99252	113878	389257	400445	441628
West north central	85192	105348	123077	118998	126763	158837	442168	474592	543436
South central	53671	74011	79081	110385	108400	112101	290953	295160	274140
South Atlantic	25627	36408	41327	65059	65374	66752	134290	144662	153799
Far western	15091	25999	33706	22446	33977	41037	104177	150099	226928

(1) Sources of data as in Table 2. For states included in each division see footnote figure 1.

TABLE 18—Changes in Numbers of Chickens on Farms, Chickens Raised and Eggs Produced, United States and Geographic Divisions[1]

Geographic divisions	Chickens on hand (1000's)		Chickens raised (1000's)		Eggs produced (1000 dozens)	
	1920 over 1910	1925 over 1920	1919 over 1909	1924 over 1919	1919 over 1909	1924 over 1919
United States	79196	50274	12691	72546	79066	259200
North Atlantic	1967	9711	—5291	13782	—25049	84087
East north central	15045	5137	356	14626	11188	41183
West north central	20156	17729	7765	32074	32424	68844
South central	20340	5070	—1985	3701	4207	—21020
South Atlantic	10781	4919	315	1378	10372	9137
Far western	10908	7707	11531	7060	45922	76829

(1) Computed from Table 2.

TABLE 19—Rate of Change in Number of Chickens on Farms, Chickens Raised and Eggs Produced, United States and Geographic Divisions [1]

Geographic division	Chickens on hand			Chickens raised			Eggs produced		
	1920 as a % of 1910	1925 as a % of 1910	1925 as a % of 1920	1919 as a % of 1909	1924 as a % of 1909	1924 as a % of 1919	1919 as a % of 1909	1924 as a % of 1909	1924 as a % of 1919
United States	128	146	113	103	119	115	105	122	115
North Atlantic	106	137	129	89	119	134	89	128	144
East north central	122	129	106	100	115	114	103	113	110
West north central	124	144	117	107	134	125	107	123	114
South central	138	147	107	98	102	103	101	94	93
South Atlantic	142	161	114	100	103	102	108	115	106
Far western	172	223	130	151	183	120	144	218	151

(1) Computed from Table 2.

TABLE 20—Percentage of Total United States Increase from Each Geographic Division, for Chickens on Hand (1920 to 1925), Chickens Raised and Eggs Produced (1919 to 1924)[1]

Geographic division	Chickens on hand	Chickens raised	Eggs produced
United States	100.0	100.0	100.0
North Atlantic	19.3	19.0	32.4
East north central	10.2	20.2	15.9
West north central	35.3	44.2	26.6
South central	10.1	5.1	—8.0
South Atlantic	9.8	1.9	3.5
Far western	15.3	9.7	29.6

(1) Computed from Table 3.

TABLE 21—Chickens on Hand, Chickens Raised and Eggs Produced, by Districts, in Idaho, 1910-1925 *

District[3]	1910[1]	1920[2]	1925[2]
Southeast:			
Chickens on hand	130767	217942	256600
Chickens raised	143180	273310	281710
Doz. eggs produced	694062	1232487	1255567
Upper Snake:			
Chickens on hand	168568	306629	331804
Chickens raised	208499	402440	365149
Doz. eggs produced	955482	1633180	1709228
South Central:			
Chickens on hand	174966	369665	429916
Chickens raised	213285	477400	534659
Doz. eggs produced	755472	1899707	2672439
Southwest:			
Chickens on hand	280484	392394	590185
Chickens raised	349581	603754	840125
Doz. eggs produced	1337851	2022564	3952088
Palouse:			
Chickens on hand	223286	247336	252258
Chickens raised	266278	321885	306487
Doz. eggs produced	882765	1130244	1211637
North Idaho and Lemhi:			
Chickens on hand	75805	120805	168042
Chickens raised	117244	171700	211578
Doz. eggs produced	463276	686627	906982
State:			
Chickens on hand	1053876	1654771	2028805
Chickens raised	1298067	2250489	2539708
Doz. eggs produced	5088908	8604809	11707941

*Data computed from federal census, 1910 and 1920, and from United States agricultural census, 1925. Chickens raised and eggs produced are for the previous year; that is, 1909, 1919 and 1924.

(1) As reported.

(2) Adjusted to include estimates for incomplete reports.

(3) See Table 4.

TABLE 22—Eggs: Monthly Carlot Shipments from Idaho, 1923-1925, and Average Farm Price Per Dozen, Idaho, 1909-1925 (cents)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
(1) Carlot shipments:													
1923	4	2	14	34	42	27	13	18	11	10	5	7	187
1924	4	12	40	52	44	33	26	24	15	9	6	2	267
1925	0	4	19	31	36	34	16	16	14	7	12	15	204
Ave. 1923-1925	2.6	6.0	26.3	39.0	40.6	31.3	18.3	19.3	13.3	8.6	7.6	8.0	219.3
(2) Price per dozen:													
Ave. 1909-1925	43.6	34.9	26.3	23.2	23.6	24.2	25.9	29.1	31.6	37.2	44.4	45.4	
Ave. 1916-1925	47.1	37.4	28.1	25.3	25.8	26.7	28.3	31.9	34.6	41.8	51.0	43.1	

(1) Data from Union Pacific Fruit Express, special reports.

(2) Computed from Idaho farm price 15th of month as given in U. S. D. A. Monthly Crops and Markets.

TABLE 23—Receipts of Dressed Poultry by States of Origin, Los Angeles and San Francisco, 1925-1926[1]

Origin	Los Angeles				San Francisco			
	Pounds, 1925	Pounds, 1926	Per cent, 1925	Per cent, 1926	Pounds, 1925	Pounds, 1926	Per cent, 1925	Per cent, 1926
Middlewest:								
Kansas	1,033,443	1,031,805	21.5	20.9	648,207	475,909	11.5	7.8
Oklahoma	526,325	262,536	10.9	5.3	49,352	147,247	.8	2.3
Nebraska	192,011	176,433	3.9	3.6	127,517	*86,144	2.3	1.4
Texas	464,582	372,068	9.7	7.5	.....	74,382	.....	1.2
Illinois	68,737	114,572	1.4	2.3	146,683	93,500	2.6	1.5
Other	231,999**	209,650*	5.0	4.2	51,585	163,910	1.0	2.1
Totals	2,517,097	2,167,064	52.4	43.8	1,023,344	1,041,092	18.2	16.3
Pacific Coast:								
California	623,356	603,074	13.0	12.2	2,707,884	2,906,700	48.2	45.6
Oregon	160,755	203,674	3.3	4.1	464,331	494,565	8.3	7.8
Washington	36,123	146,771	.8	3.0	268,123	259,707	4.8	4.0
Totals	820,234	953,519	17.1	19.3	3,440,338	3,660,972	61.3	57.4
Mountain:								
Idaho	514,896	871,459	10.7	17.6	632,933	1,279,772	11.3	20.1
Utah	260,612	293,895	5.4	5.9	.....	.....	.....	.....
Montana	85,884	214,752	1.8	4.3	439,604	260,651	7.8	4.1
New Mexico	155,350	147,705	3.2	2.9	.....	.....	.....	.....
Other	446,729	298,192	9.4	6.2	78,385	135,426	1.4	2.1
Totals	1,463,471	1,826,003	30.5	36.9	1,150,920	1,675,849	20.5	26.3
Grand Totals	4,800,802	4,946,586	100.0	100.0	5,614,604	6,377,913	100.0	100.0

(1) Data from U. S. D. A. Bureau of Agricultural Economics.
*Includes 26,500 pounds from Canada and 30,985 pounds from New York.
**Includes 89,953 pounds from New York.

TABLE 24—Cold Storage Holdings of Eggs in the United States on the First Day of Each Month
(Thousands of Cases)

Year	Jan. 1	Feb. 1	March 1	April 1	May 1	June 1	July 1	Aug. 1	Sept. 1	Oct. 1	Nov. 1	Dec. 1
Average, 1921-1925	1,117	203	27	1,030	4,346	7,475	9,147	9,513	9,070	7,790	5,668	3,315
1925	1,050	81	21	1,240	4,872	7,712	9,482	10,024	9,873	8,612	6,322	3,786
1926	1,677	574	75	857	3,717	7,215	9,127	9,845	9,563	8,035	5,885	3,215
1927	1,111	253	87	1,858	5,501	9,096	.....	.....	.....	.....	.....	.....

Source of data; Yearbook for the U. S. Department of Agriculture, 1925, and The Agricultural Situation, published by the Bureau of Agricultural Economics.

TABLE 25—Cold Storage Holdings of Frozen Poultry in the United States on the First of Each Month
(Millions of Pounds)

Year	Jan. 1	Feb. 1	Mar. 1	Apr. 1	May 1	June 1	July 1	Aug. 1	Stpt. 1	Oct. 1	Nov. 1	Dec. 1
Average, 1921-1925	102	109	101	82	62	48	41	36	33	34	43	71
1925	134	138	131	109	83	68	59	54	48	44	54	87
1926	111	108	95	73	53	43	37	36	39	45	65	107
1927	144	145	130	105	77	62	....	....	....	....	....	....

Source of Data same as Table 24.

UNIVERSITY OF IDAHO AGRICULTURAL EXPERIMENT STATION

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