AN ECONOMIC STUDY OF THE DAIRY INDUSTRY IN IDAHO

by

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INTRODUCTION

The plan of farming in Idaho, especially on the larger irrigated projects, necessitates the inclusion of considerable live stock. Approximately one-half of the crop acreage for the state as a whole is devoted to forage and feed crops, while in counties where the larger irrigated tracts are located, the area in alfalfa, other tame hay, and feed and forage crops frequently amounts to 60 or 70 per cent of the total cropped acreage. Leguminous crops and cultivated forage crops are very necessary for maintaining the soil fertility requisite to large cash crop yields. Some of the feed crops are produced cheaply because they utilize land and labor of the farmer and his family at times when they are not required for the major farm enterprises.

Dairying affords a most effective way of marketing the large surpluses of feed on Idaho's irrigated farms. Shipment of the feed crops themselves is almost prohibited by their bulk and the expense of transporting them to markets in regions where there is a deficit. Quarantines against alfalfa hay have virtually blocked all shipments out of Idaho. Dairy products are in a highly concentrated form and have a high value per unit of product. The freight rate from Boise to Kansas City on hay is 75 cents per 100

pounds and on butter it is $2.56 per 100 pounds. Valuing butter at forty cents per pound the freight charge on $1000.00 worth of butter from Boise to Kansas City would be $59.00 while the freight charge on $1000.00 worth of hay valued at $15.00 a ton would be $1000.00. The freight charge on the butter per $1000.00 worth of product would be only 5.9 per cent of the cost of shipping hay.

On most farms there is sufficient available labor to care for the dairy cows necessary to consume the surplus hay and feed grown without interfering to any great extent with the major cash crops. This is especially true when the dairy herd is managed to provide for winter dairying and for light milking requirements during the harvest period.

Studies of the management of farms on several of the larger irrigated projects in Idaho covering the past 10 to 15 years indicate that the more permanent farm operators have used dairy cows along with poultry to utilize home grown feeds while the less stable operators kept fewer cows, chickens, and other livestock, and evidently followed the practice of selling hay and feed to a greater extent.

The purpose of this study was to assemble in organized form all available information pertaining to the dairy industry in Idaho in order to present a historical background

based on facts. From the facts obtained an effort was made to interpret trends in the industry and formulate policies which would aid development.

REVIEW OF LITERATURE

No formal presentation of a review of literature will be made since the nature of the thesis calls for constant reference to sources of data. No such study had ever been made of the dairy industry in Idaho previous to this study. The Bureau of Agricultural Economics, United States Department of Agriculture, published a multigraphed series of charts on the dairy industry in the eleven western states but no discussion was presented. Since the material here presented was assembled the California Agricultural Experiment Station has published a similar study of the dairy industry in California.

Complete references will be found to all material used in the body of the thesis.

IMPORTANCE OF DAIRYING IN IDAHO

According to the 1925 Agricultural Census, the value of dairy products produced in Idaho during 1924 was $9,110,184.00 which was one-sixth of the value of all

agricultural products except hay*. On January 1, 1925, there were in Idaho 237,000 dairy cattle, of which number there were 139,400 dairy cows over two years of age, according to the 1925 agricultural census.

Figure 1 shows the relative importance of dairy cattle and other live stock in Idaho. This chart is based upon estimates of the number of the different classes of live stock on January 1, 1926, and upon computations of feed requirements. It should be considered as an approximation of the relative importance of the dairy cattle, sheep, beef cattle, and other live stock of the state from the standpoint of feed and forage needs.

The percentage of animal units** represented by each type of live stock is as follows:

Dairy cattle	-	17.5
Beef cattle	-	29.0
Sheep	-	23.5
Horses	-	23.7
Hogs	-	4.2
Poultry	-	2.1
All live stock	-	100.0

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*Hay was not included because it is fed to livestock, and by including it there would be duplication.

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

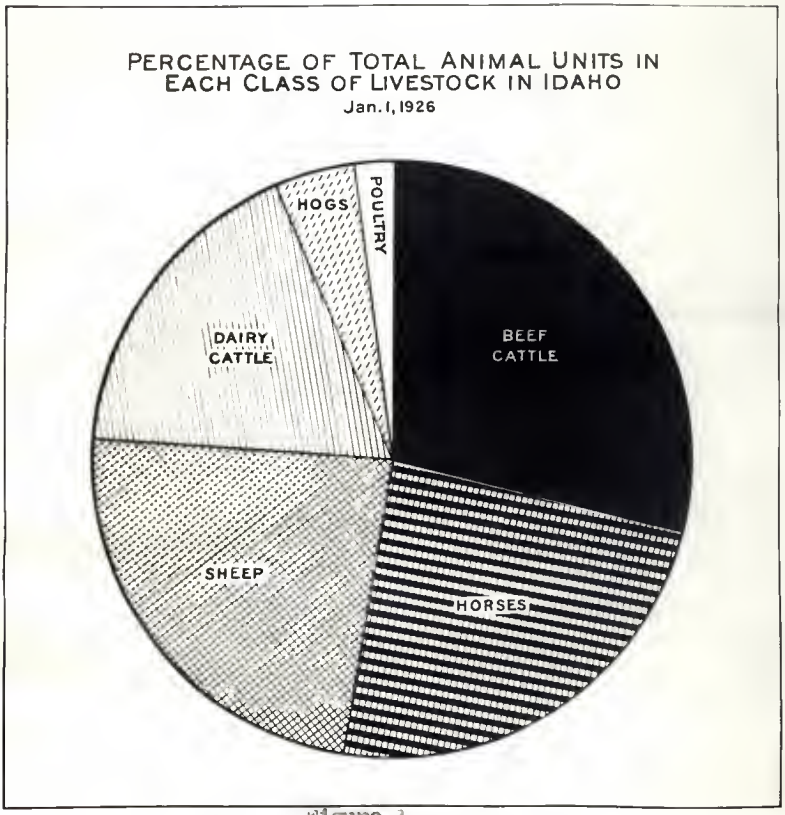

PERCENTAGE OF TOTAL ANIMAL UNITS IN
EACH CLASS OF LIVESTOCK IN IDAHO
Jan. 1, 1926
HOGS
POULTRY
BEEF
CATTLE
DAIRY
CATTLE
SHEEP
HORSES

Figure 1.

RELATION OF THE NATIONAL AND REGIONAL DAIRY SITUATION TO THE INDUSTRY IN IDAHO

Idaho produces a surplus of dairy products. Therefore, cognizance must be taken of the national and regional situation in the dairy industry. Both the present status of dairying and the outlook as indicated by the trends in the industry must be considered.

Per Capita Consumption of Dairy Products

The use of dairy products in the United States has been increasing at a very rapid rate. Milk production in the United States increased from 75 billion pounds in 1914 to 117 billion pounds in 1925, or more than 50 per cent. Population increased about 17 per cent during the past ten years, while during the same period the per capita consumption increased between 25 and 35 per cent.

Figure 2 and Table I show the per capita consumption by products for the years 1917 to 1925, and also the average by periods.

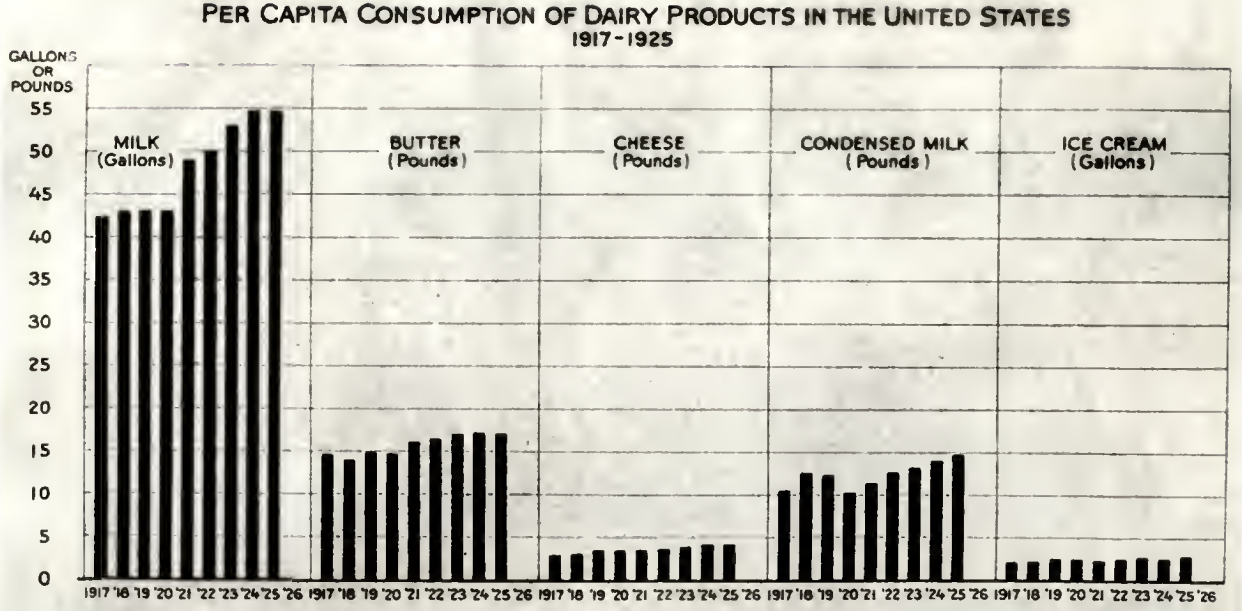

PER CAPITA CONSUMPTION OF DAIRY PRODUCTS IN THE UNITED STATES
1917-1925
GALLONS OR POUNDS
55
50
45
40
35
30
25
20
15
10
5
0
MILK (Gallons)
BUTTER (Pounds)
CHEESE (Pounds)
CONDENSED MILK (Pounds)
ICE CREAM (Gallons)
1917 '18 '19 '20 '21 '22 '23 '24 '25 '26

Figure 2.

TABLE 1. PER CAPITA ANNUAL CONSUMPTION OF DAIRY PRODUCTS IN THE UNITED STATES (1)

Year	Milk	Butter	Cheese	Condensed and Evaporated Milk	Ice Cream
	Gallons	Pounds	Pounds	Pounds	Gallons
1917	42.4	14.6	2.89	10.49	2.07
1918	43.0	14.0	3.00	12.50	2.14
1919	43.0	14.3	3.50	12.30	2.49
1920	43.0	14.7	3.50	10.17	2.46
1921	49.0	16.1	3.50	11.40	2.28
1922	50.0	16.5	3.70	12.89	2.43
1923	53.0	17.0	3.90	13.25	2.60
1924	54.75	17.39	4.20	14.00	2.50
1925	54.75	17.39	4.26	14.97	2.80
Average Period 1921-1925	52.3	16.8	3.71	13.3	2.54
Average Period 1917-1920	42.8	14.5	3.22	11.4	2.29
Increase	9.1	2.3	.49	1.9	.25
Percentage Increase	22.2	15.8	15.2	16.5	10.9

(1) Compiled from data reported by Division of Dairy and Poultry Products, Bureau of Agricultural Economics, (August, 1926).

Increases in consumption per capita between 1917 and 1925 are as follows:

Milk	- 12.4 gallons
Butter	- 2.4 pounds
Cheese	- 1.37 pounds
Condensed and Evaporated Milk	- 4.4 pounds
Ice Cream	- 0.7 gallons

The estimated average table use of dairy products expressed as whole milk was nearly 1000 pounds, or about 110 gallons per person in 1925, which is nearly one-fourth greater than in 1920.

NATIONAL AND REGIONAL EXPANSION IN DAIRYING

The number of cows kept for milk is an index to the future volume of production. The number of cows and heifers over two years old kept for milk in the United States increased 4 per cent from 1920 to 1926. In the same six-year period, the increase in Idaho was 38 per cent, in the Mountain States 21 per cent, and in the Pacific States 14 per cent. Table II and Figure 3 show the increase in number of cows and heifers over two years old kept for milk, and the percentage yearly increases over the year 1920.

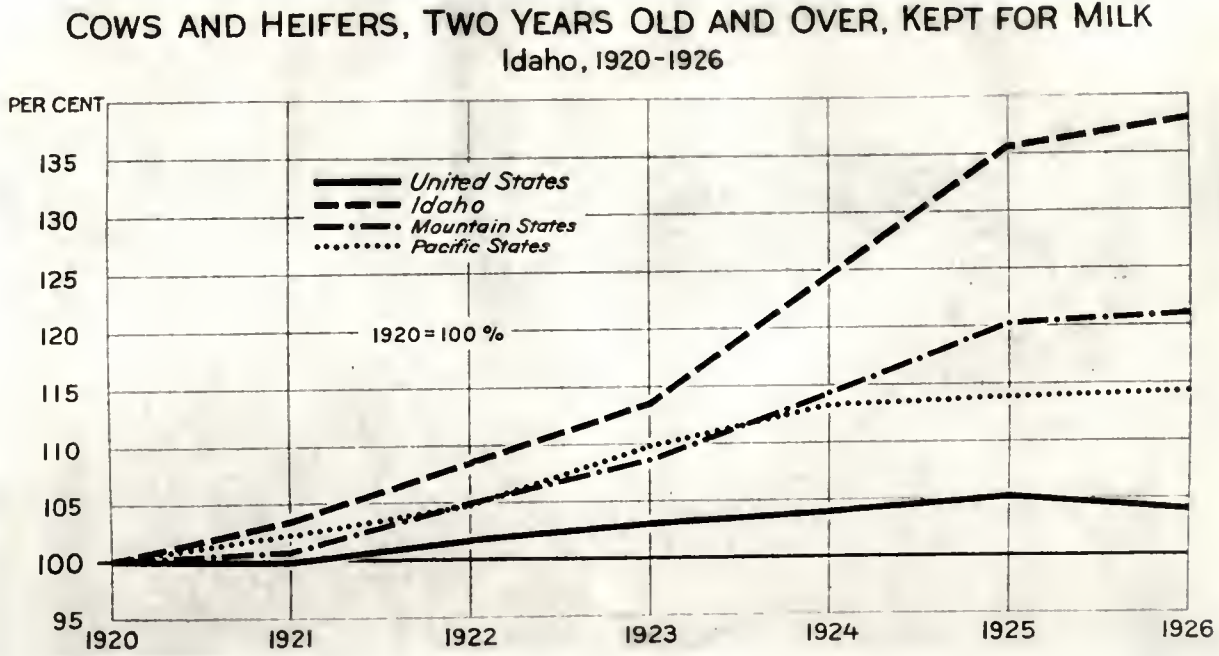

COWS AND HEIFERS, TWO YEARS OLD AND OVER, KEPT FOR MILK
Idaho, 1920-1926
PER CENT
135
130
125
120
115
110
105
100
95
United States
Idaho
Mountain States
Pacific States
1920=100 %
1920
1921
1922
1923
1924
1925
1926

Figure 3.

TABLE II. EXPANSION OF DAIRYING, UNITED STATES, MOUNTAIN STATES, PACIFIC STATES, AND IDAHO, 1920-1926, AS INDICATED BY COWS AND HEIFERS TWO YEARS OLD AND OLDER KEPT FOR MILK (1)

(000 omitted in numbers)

Year	United States		Mountain States (2)		Pacific States (3)		Idaho	
	Number	% of 1920	Number	% of 1920	Number	% of 1920	Number	% of 1920
1920	21,427	100.0	702	100.0	960	100.0	118	100.0
1921	21,408	99.9	707	100.7	982	102.2	122	103.4
1922	21,788	101.7	737	104.9	1007	104.8	128	108.5
1923	22,063	103.0	765	108.6	1056	109.8	134	113.5
1924	22,255	103.9	803	114.3	1088	113.3	147	124.5
1925	22,523	105.1	844	120.2	1094	113.8	160	135.6
1926	22,290	104.0	850	121.0	1098	114.3	163	138.0
Percentage of increase 1926 over 1920		4.0		21.0		14.0		38.0

(1) Estimated number January 1, each year. Table compiled from reports of the Bureau of Census and Division of Crops and Livestock Estimates.

The greatest increase in Idaho took place in 1923 and 1924 when the percentage increase was 11 per cent annually. Based on the 1920 number of cows the increase was low in 1925, due to the fact that 1924 was a "short water" season, the feed supply was under normal and prices of hay and feed were high. As a result appreciable numbers of dairy cows and heifers were sold out of the state.

Table III shows the annual percentage change in the number of cows and heifers over two years of age kept for milk, using 1920 as a base figure. It also shows the

cumulative change for each year compared with 1920.

TABLE III. PERCENTAGE CHANGE IN COWS AND HEIFERS OVER TWO YEARS KEPT FOR MILK IN IDAHO AND UNITED STATES, YEARS 1921-1926, COMPARED TO 1920

	Percentage Change over 1920 Number			
	Idaho		United States	
Year	Annual Change	Cumulative Change	Annual Change	Cumulative Change
1920	Base	Base	Base	Base
1921	3.4	3.4	- .1	- .1
1922	5.1	8.5	1.8	1.7
1923	5.0	13.5	1.3	3.0
1924	11.0	24.5	.9	3.9
1925	11.1	35.6	1.2	5.1
1926	2.4	38.0	-1.1	4.0

Figures based on estimates U. S. Bureau of Agricultural Economics, January 1, each year.

The number of heifers one to two years old is another index to future production, since it indicates the intended increase or decrease in the number of producing cows in the future (See Figure 4 and Table IV). For the United States as a whole there is a decided decrease in the number of heifers one to two years old being kept for milk, with appreciable increases in the Pacific and Mountain States. The number of dairy heifers between one and two years of age being kept for milk increased 36 per cent from 1920 to 1926 in Idaho, while for the United States there were only 87 per cent as many heifers of this age being kept for milk in 1926 as there were in 1920.

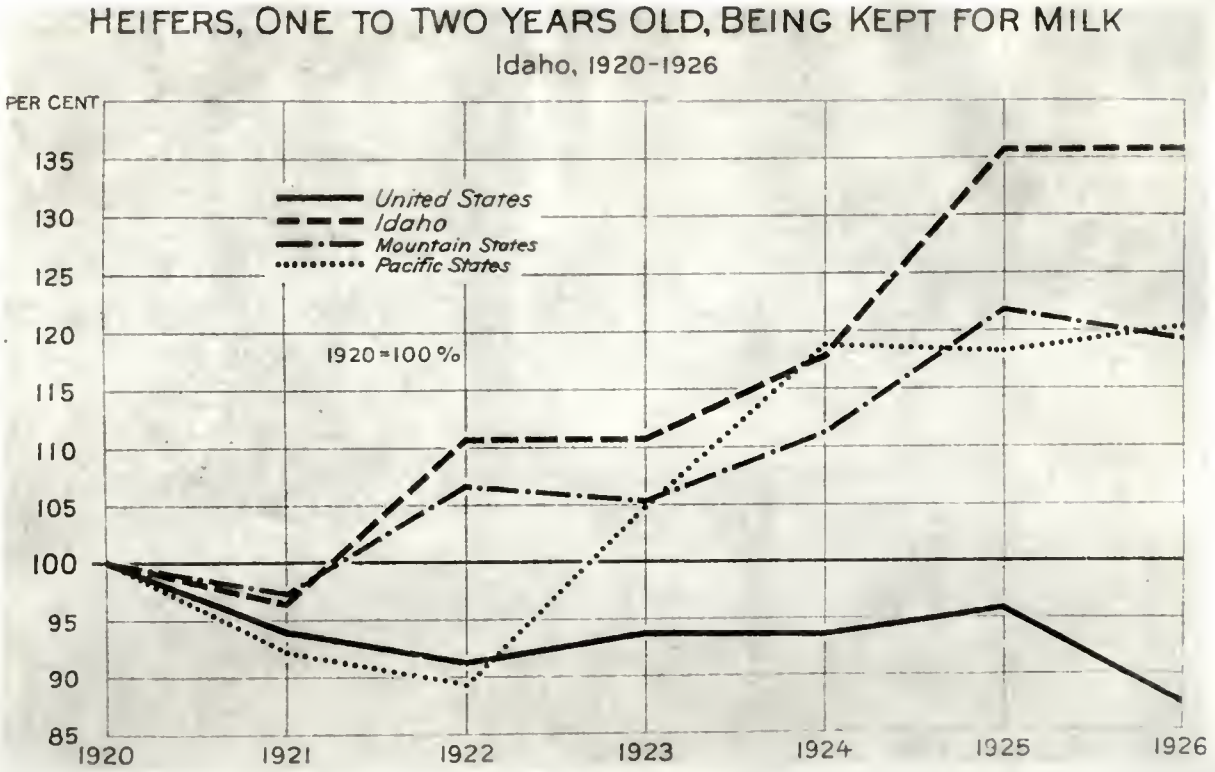

HEIFERS, ONE TO TWO YEARS OLD, BEING KEPT FOR MILK
Idaho, 1920-1926
PER CENT
135
130
125
120
115
110
105
100
95
90
85
United States
Idaho
Mountain States
Pacific States
1920=100 %
1920
1921
1922
1923
1924
1925
1926

Figure 4.

TABLE IV. HEIFERS ONE TO TWO YEARS OLD BEING KEPT FOR MILK, JANUARY 1, 1920-1926*

(000 Omitted in numbers)

Year	United States		Mountain States		Pacific States		Idaho	
	Number	% of 1920	Number	% of 1920	Number	% of 1920	Number	% of 1920
1920	4,418	100.0	151	100.0	207	100.0	28	100.0
1921	4,153	94.0	147	97.3	191	92.2	27	96.4
1922	4,033	91.3	161	106.6	185	89.3	31	110.7
1923	4,147	93.8	159	105.3	217	104.8	31	110.7
1924	4,137	93.6	168	111.2	246	118.8	33	117.8
1925	4,234	95.8	186	121.8	245	118.3	38	135.7
1926	3,861	87.4	180	119.2	249	120.3	38	135.7

*Compiled from reports of the Bureau of Census, division of crop and livestock estimates.

The comparative rate of increase in the number of people and the number of dairy cows is another indication of the trend of the industry. Figure 5 shows the number of dairy cows per thousand people in the United States, Pacific States, Mountain States, and Idaho from 1920 to 1926. Table V gives the data from which this chart was made. It also gives the yearly percentage comparisons of the above mentioned divisions and the United States as a whole.

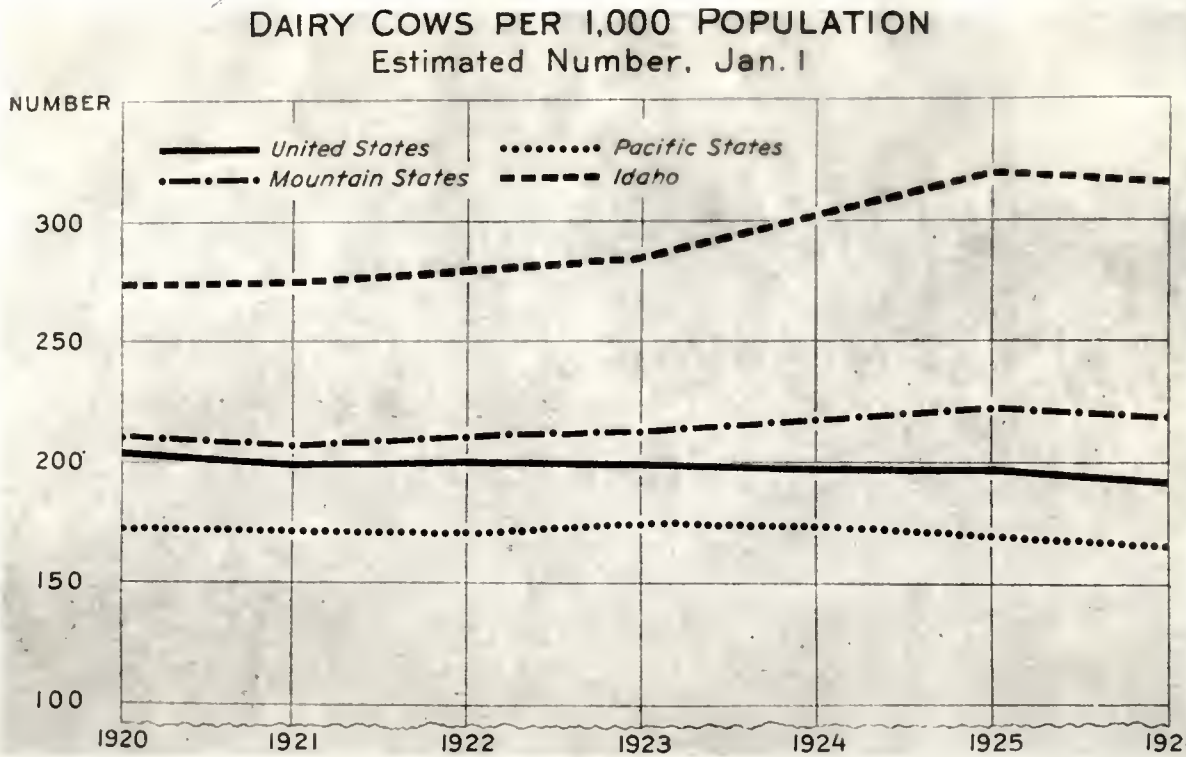

DAIRY COWS PER 1,000 POPULATION
Estimated Number, Jan. 1
NUMBER
United States
Pacific States
Mountain States
Idaho
300
250
200
150
100
1920
1921
1922
1923
1924
1925
1926

Figure 5.

TABLE V. DAIRY COWS PER 1000 PEOPLE, 1920-1926*

Year	United States	Mountain States	Pacific States	Idaho
1920	203	210	172	273
1921	199	206	171	274
1922	200	210	170	279
1923	199	212	174	284
1924	197	217	173	302
1925	197	222	169	319
1926	192	219	165	316
Yearly Percentage Comparisons with United States				
1920	100.0	103.4	84.7	134.7
1921	100.0	103.5	85.9	137.7
1922	100.0	105.0	85.0	139.5
1923	100.0	106.5	87.4	142.7
1924	100.0	110.1	87.8	153.3
1925	100.0	112.7	85.8	161.9
1926	100.0	114.0	85.9	164.6

*Estimated number January 1, each year. Compiled from Table II, p. 15, "Statistics of Dairy Industry with Special Reference to the eleven western states", Bureau of Agricultural Economics, U.S.D.A.

The Pacific States do not have as many dairy cows for their population as does the United States as a whole, while the Mountain States have a greater number in relation to population. Table V shows that the number of dairy cows per 1000 people in the United States decreased from 203 in 1920 to 197 in 1925, or a decrease of 5.41 per cent. In Idaho the number of cows per 1000 people has increased continuously. In 1920 there were 273 cows per 1000 people

as compared to 203 in the United States. This number increased until in 1925 there were 319 cows per 1000 people in Idaho as compared to 197 cows per 1000 people in the United States. In other words, the increase in Idaho figured on this basis was 30.2 per cent in the five years as compared to a decrease in the United States of 5.41 per cent.

Cows per 1000 people in the Mountain States increased from 210 in 1920 to 222 in 1926, an increase of 10.6 per cent. Cows in the Pacific States decreased from 172 per 1000 people in 1920 to 165 in 1926, or 4.1 per cent. Idaho has a still greater number than the Mountain States.

The Pacific Coast group of states as a whole is a "deficit" producing area for dairy products and the trend is not upward as far as cows per 1000 people is concerned. This would suggest that the population of the Pacific States as a group is increasing more rapidly than dairying, and that Idaho and other Mountain States have an opportunity to supply the dairy products necessary to make up the deficit.

As population increases in the Pacific States, a greater percentage of the total milk produced must be used as whole milk and more of the butter and cheese supply must be secured from the Mountain States and the middle west. It is evident that the Pacific States are going to

furnish an increasingly greater market for dairy products if present trends continue.

DAIRY PRODUCTION TRENDS IN IDAHO

The dairy cattle of Idaho are concentrated in the more intensified farming areas, especially in the older well-established irrigated districts. The relative numbers of dairy cattle in the various sections of the state are shown in Figure 6.

The Boise, Payette, and Weiser Valleys, the Twin Falls section, and parts of the Upper Snake and Southeast Idaho districts are shown to be the most important dairy sections.

Growth of the Industry

Expansion in dairying in Idaho has taken place very rapidly, especially during the past six years (See Figure 7).

The number of dairy cows in Idaho by years from 1920 to 1925 is as follows:

1920	-	118,000
1921	-	122,000
1922	-	128,000
1923	-	134,000
1924	-	147,000
1925	-	160,000
1926	-	163,000
1927	-	168,000

Reported January 1, each year.

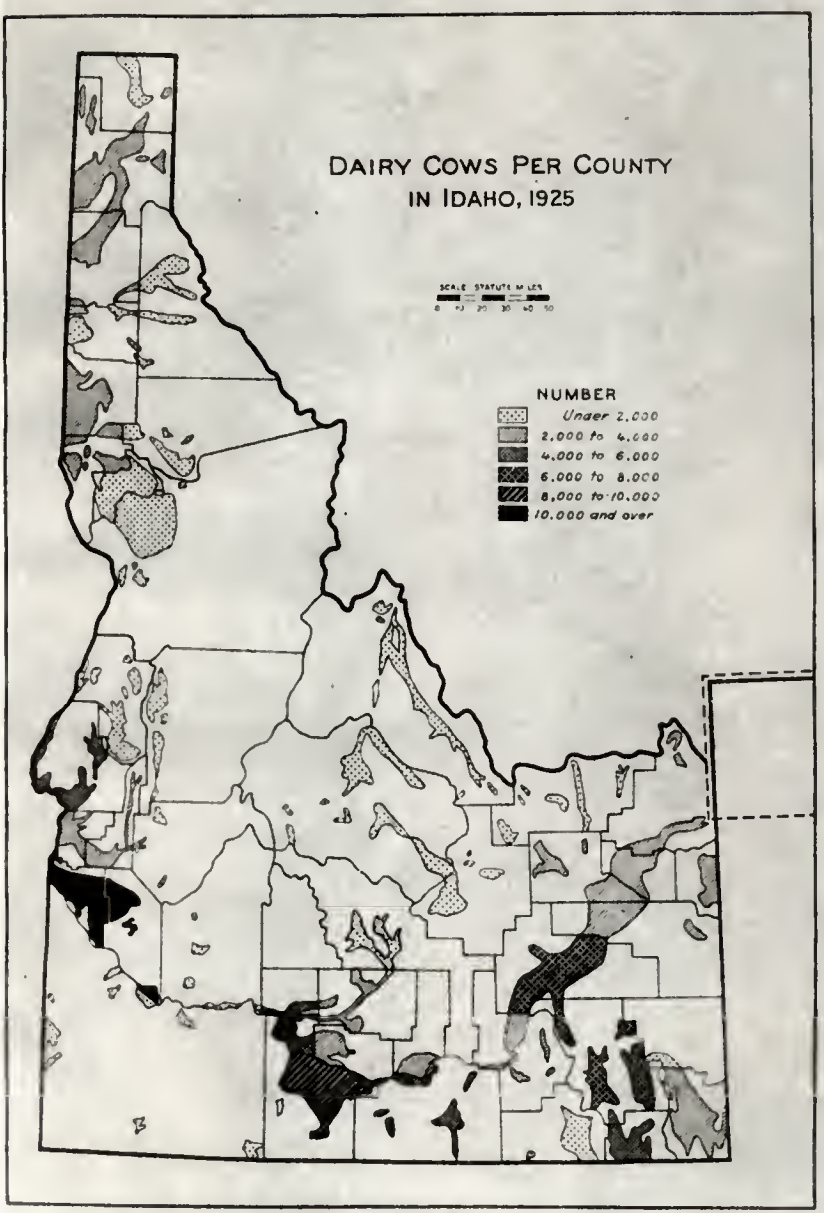

DAIRY COWS PER COUNTY
IN IDAHO, 1925
SCALE STATUTE MILES
0 20 30 40 50
NUMBER
Under 2,000
2,000 to 4,000
4,000 to 6,000
6,000 to 8,000
8,000 to 10,000
10,000 and over

Figure 6.

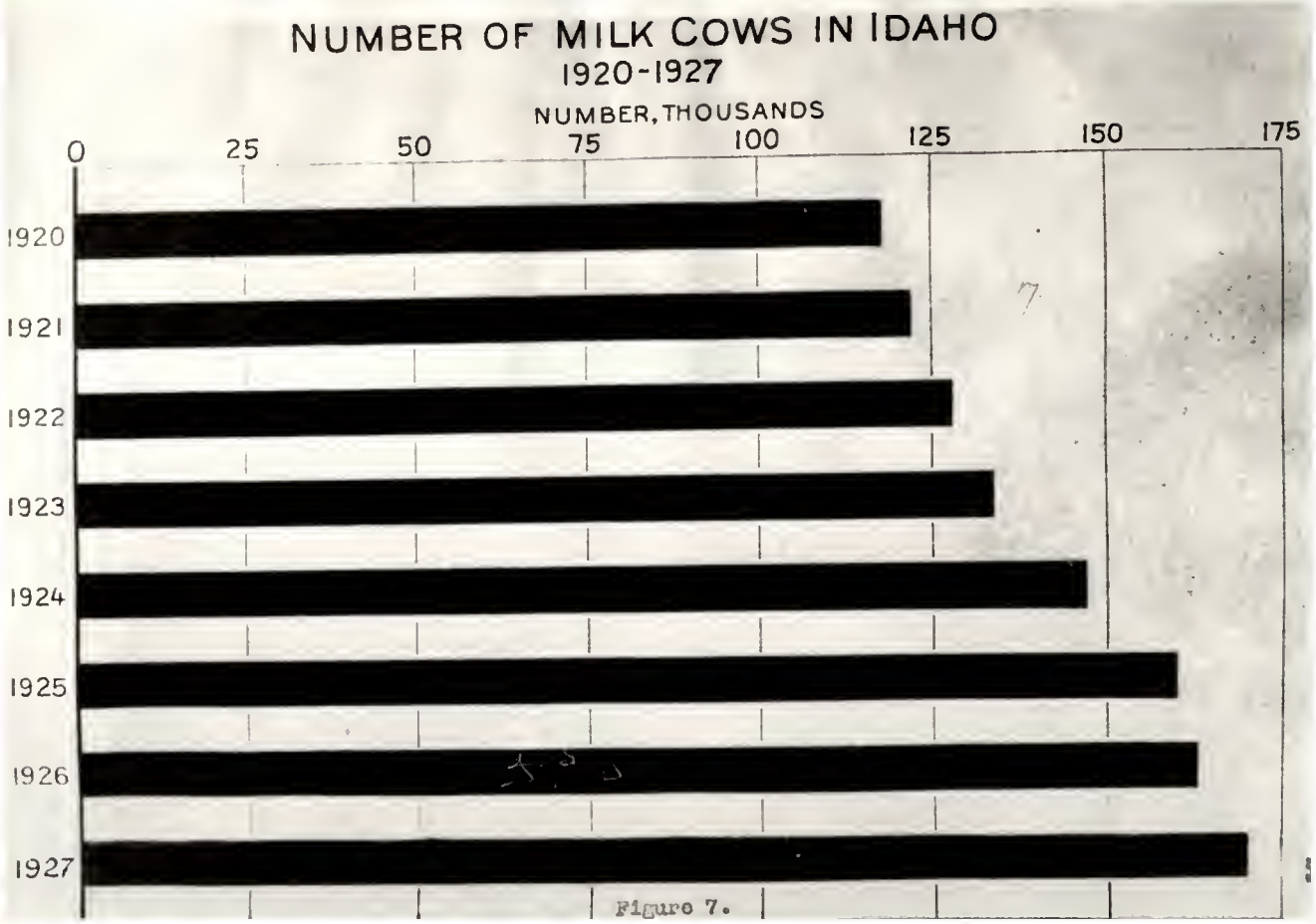

NUMBER OF MILK COWS IN IDAHO
1920-1927
NUMBER, THOUSANDS
0
25
50
75
100
125
150
175
1920
1921
1922
1923
1924
1925
1926
1927

Figure 7.

The 1910 Census shows 80,000 "milk" cows in Idaho. This figure represents cows milked rather than dairy cows. If it were possible to deduct the very common cows milked for short periods, it is probable that the number of "dairy" cows in Idaho would be found to have doubled between 1910 and 1920. The change in the plan of listing dairy cows, as such, was not made until 1920 and it is difficult to secure figures that are comparable. Dairying in Idaho, based on estimated numbers of dairy cows, increased about 44 per cent between 1920 and 1927.

The rapid expansion of dairying in Idaho is further indicated by the average number of cows per farm as at Census periods. In 1910 there were 2.26 dairy cows per farm; in 1920 there were 2.74 and in 1925 there were 3.42.

Table VI shows the relative increase in dairy cattle in proportion to other kinds of livestock.

TABLE VI. PERCENTAGE OF TOTAL ANIMAL UNITS IN EACH CLASS OF LIVESTOCK IN IDAHO, BY CENSUS YEARS*

Industry	1910 % of Total Animal Units	1920 % of Total Animal Units	1925 % of Total Animal Units
Dairy Cattle	11.1	13.3	17.5
Beef Cattle	25.5	29.8	29.0
Sheep	39.4	27.3	23.5
Horses	19.6	24.7	23.7
Hogs	3.2	3.4	4.2
Poultry	1.2	1.5	2.1
All Livestock	100.0	100.0	100.0

*One animal unit equivalent: 1 horse, 1 cow, 5 hogs, 7 sheep, 100 poultry. (Material compiled from U.S. census reports.)

The above data show that dairy cattle increased from 11.1 per cent of the total animal units in 1910 to 17.5 per cent of the total in 1925.

Value of Dairy Products

The value of dairy products and the tremendously increasing importance of this industry in Idaho is shown by Table VII and Figure 8.

TABLE VII. VALUE OF DAIRY PRODUCTS AND CROPS IN IDAHO*

Census Year	Value of all Crops Except Hay	Value of Dairy Products
1909	$23,257,888	$1,379,390
1919	75,094,000	6,368,269
1924	52,917,000	9,110,184

*U. S. census reports.

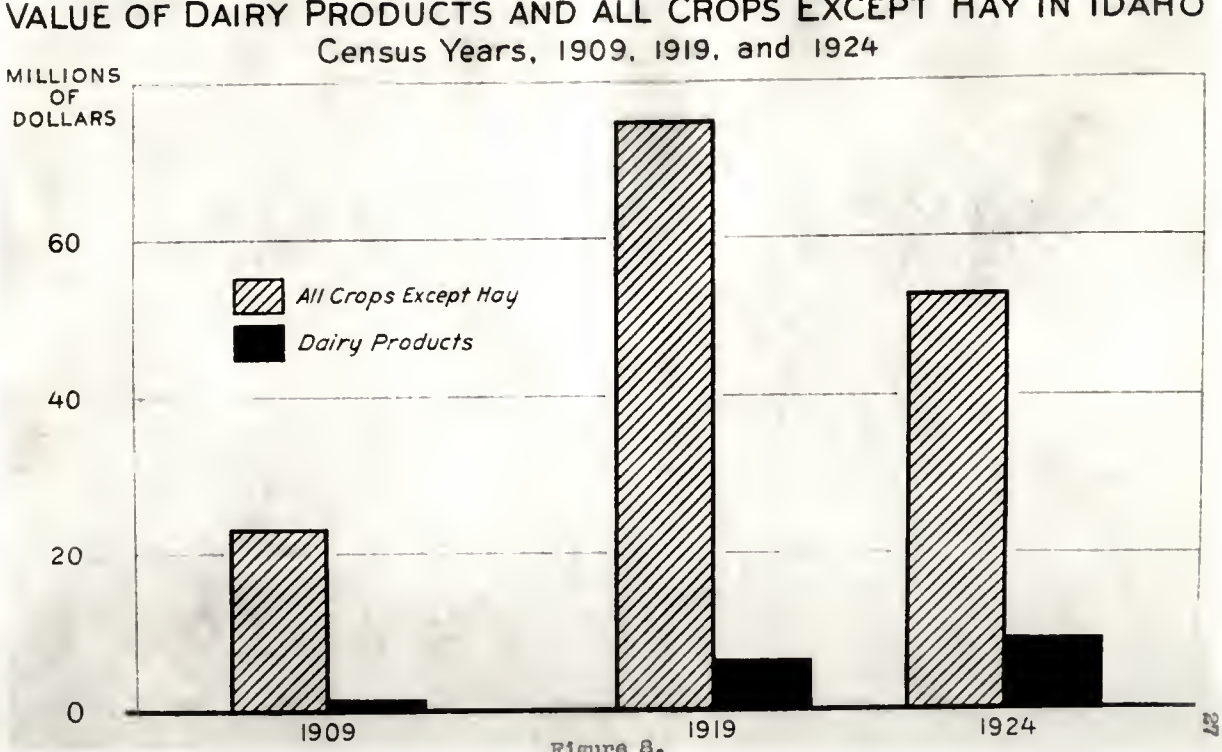

VALUE OF DAIRY PRODUCTS AND ALL CROPS EXCEPT HAY IN IDAHO
Census Years, 1909, 1919, and 1924
MILLIONS OF DOLLARS
60
40
20
0
All Crops Except Hay
Dairy Products
1909
1919
1924

Figure 8.

In the case of dairy products figures given do not include the amount consumed on farms where produced, whereas the figures on crop values include the total value of crops produced, except hay.

Total Milk Production

The foregoing figures do not give a complete picture of the development of dairying in Idaho. Values are not a good comparison because of changing price levels and the unit value of product. The number of cows does not indicate any changes in the efficiency of dairying due to better care and improved stock.

Milk production increased at a much more rapid rate than did the number of cows during the past three census periods. The increase in milk production from 1919 to 1924 is shown by census years in Table VIII, and Figure 9.

TABLE VIII. TOTAL MILK PRODUCED IN IDAHO BY CENSUS YEARS*

Census Year	Gallons of Milk Produced
1909	30,981,341
1919	52,365,498
1924	78,505,003
Increase 1919 over 1909	143 per cent
Increase 1924 over 1919	50 per cent
Increase 1924 over 1909	286 per cent

*U. S. Bureau of Census reports.

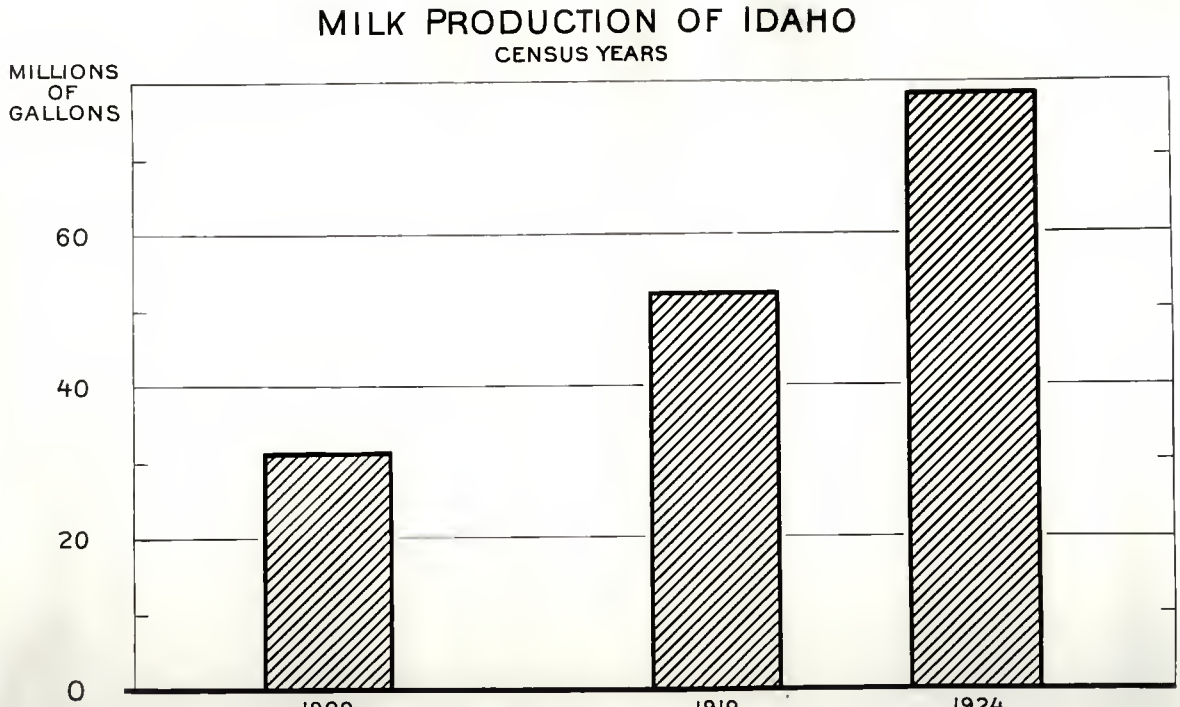

MILK PRODUCTION OF IDAHO
CENSUS YEARS
MILLIONS OF GALLONS
60
40
20
0
1909
1919
1924

Figure 9.

The milk produced in 1924 is the equivalent of nearly 27 million pounds of butterfat as compared with 11 million pounds in 1909.

Increases in Average Production Per Cow in Idaho

The preceding tables show that the total production of milk in Idaho has increased more rapidly than has the number of cows. This is due to the increase in average production per cow as shown in the following table.

TABLE IX. AVERAGE PRODUCTION PER COW IN IDAHO*

Year	Number of Dairy Cows	Average Production Per Cow Per Yr. Milk (Gallons)	Milk (Pounds)	Butterfat** (Pounds)	Percentage Increase Each Period Over Previous Period
1889	27,278	186	1,600	64	
1899	51,929	291	2,503	100	56
1909	69,628	359	3,087	123	23
1919	116,336	414	3,560	142	15
1924	151,722	517	4,446	178	25

*Figures taken from U. S. Bureau of Census Reports.
**Computed by estimating milk to average 4 per cent butterfat.

The above table shows an increase of 886 pounds of milk and 36 pounds of butterfat in the last five years, or a gain of 25 per cent. This is a remarkable increase and some idea of its importance may be obtained in the

fact that the cows in 1924 produced over 3,000,000 additional pounds (3,344,000 lbs.) of butterfat due to the increased production per cow. The average production per cow in the United States in 1909 was 362 gallons; in 1919 it was 366 gallons, and in 1924 it was 440 gallons. By comparing Idaho with the United States as a whole, we find this state has about the same average production per cow and is increasing the average production per cow more rapidly.

The large increase in production per cow in Idaho is undoubtedly due to the increased use of high quality sires; the change from beef type to dairy type cows; the importation of good quality dairy cows; and to improved methods of feeding and management.

Dairy Production Trends in Idaho - By Districts

In order to facilitate the study of changes and some of the factors influencing the changes in dairying in different sections of Idaho, the state has been divided into geographical districts. Figure 10 shows the districts divided by heavy lines. These districts are (1) the Upper Snake River group of counties including Butte County, (2) Southeast Idaho counties including Bannock, of which Pocatello is the county seat, (3) South-central Idaho, which includes the North and South Twin Falls and the

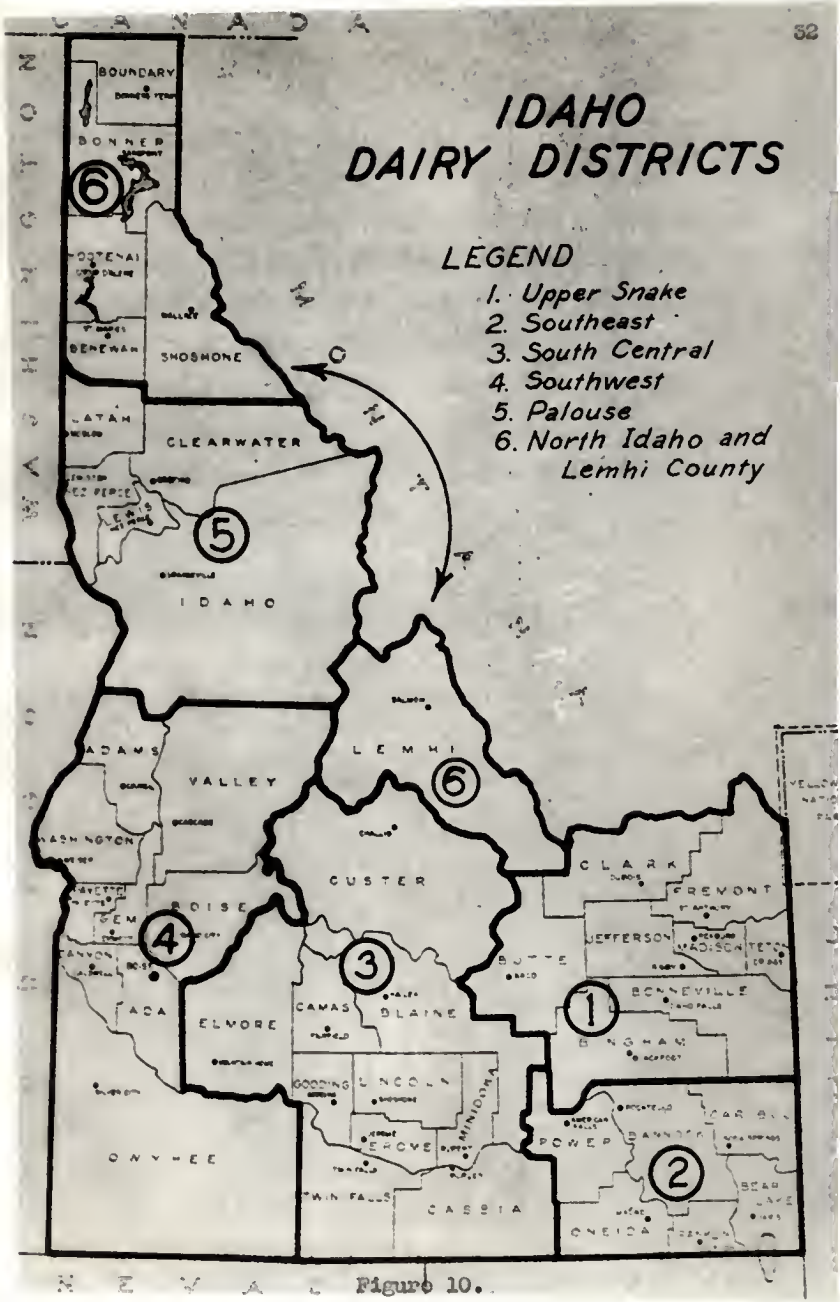

IDAHO
DAIRY DISTRICTS
LEGEND
1. Upper Snake
2. Southeast
3. South Central
4. Southwest
5. Palouse
6. North Idaho and Lemhi County
CANADA
BOUNDARY
BONNER
KOOTENAI
BENEWAH
SHOSHONE
LATAH
CLEARWATER
NEZ PERCE
IDAHO
LEMHI
ADAMS
WASHINGTON
VALLEY
CUSTER
BOISE
GEM
PAYETTE
CANYON
ADA
ELMORE
CAMAS
BLAINE
GOODING
LINCOLN
MINIDOKA
JEROME
TWIN FALLS
CASSIA
ONYHEE
BUTTE
CLARK
FREMONT
JEFFERSON
MADISON
TETON
BONNEVILLE
BINGHAM
POWER
BANNOCK
ONEIDA
BEAR LAKE
NEVADA

Figure 10.

Minidoka projects as well as several counties to the north, (4) Southwest Idaho counties where the Boise, Payette, and Weiser valleys are the important farming sections, (5) the Palouse section which includes the rainfall areas of West Central Idaho, and (6) the "cut-over" district of North Idaho. Lemhi County is considered alone or included in the latter section in the discussion that follows. These divisions have been made on a rather arbitrary geographical basis for convenience in study.

Number of Dairy Cows

Table X gives the number of milk cows in each county of the state, according to Census reports, with the counties ranked according to number of cows.

Figure 11 shows the number of dairy cows in each district for each of the past three Census years, 1910, 1920, and 1925. The data are given in Table XI.

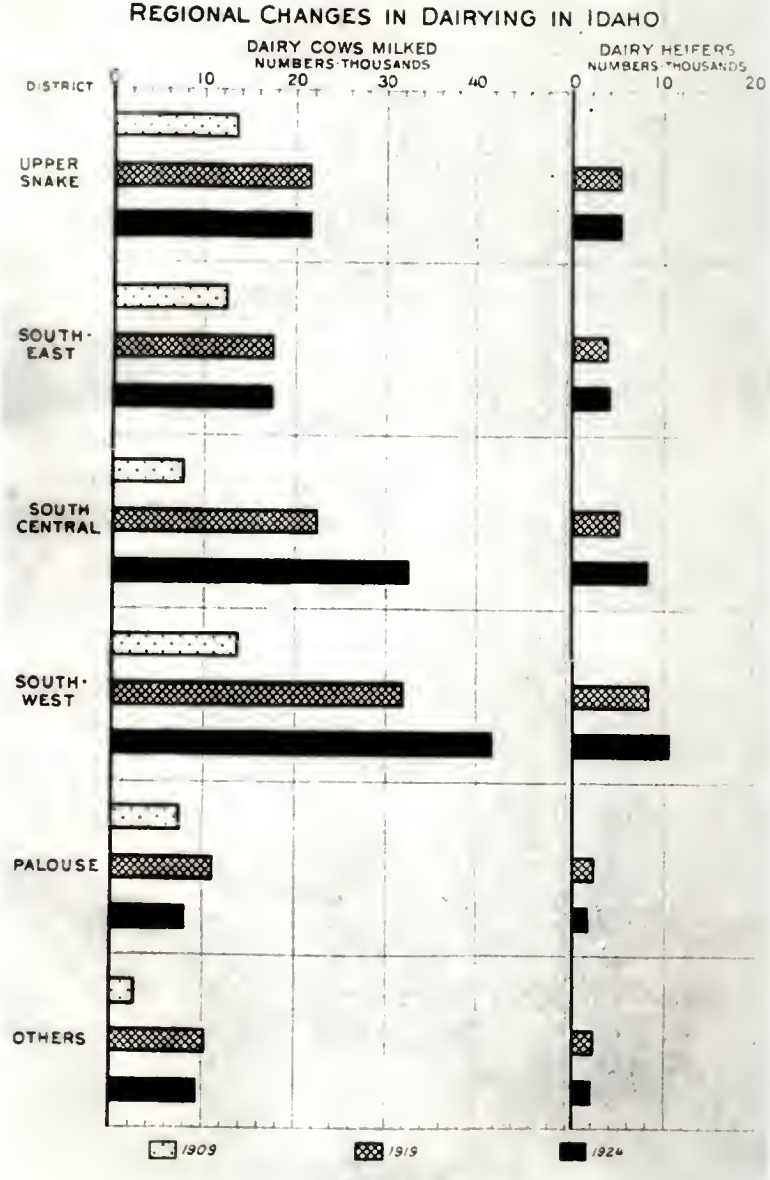

REGIONAL CHANGES IN DAIRYING IN IDAHO
DAIRY COWS MILKED
NUMBERS-THOUSANDS
DAIRY HEIFERS
NUMBERS-THOUSANDS
DISTRICT
10
20
30
40
0
10
20
UPPER SNAKE
SOUTH-EAST
SOUTH CENTRAL
SOUTH-WEST
PALOUSE
OTHERS
1909
1919
1924

Figure 11.

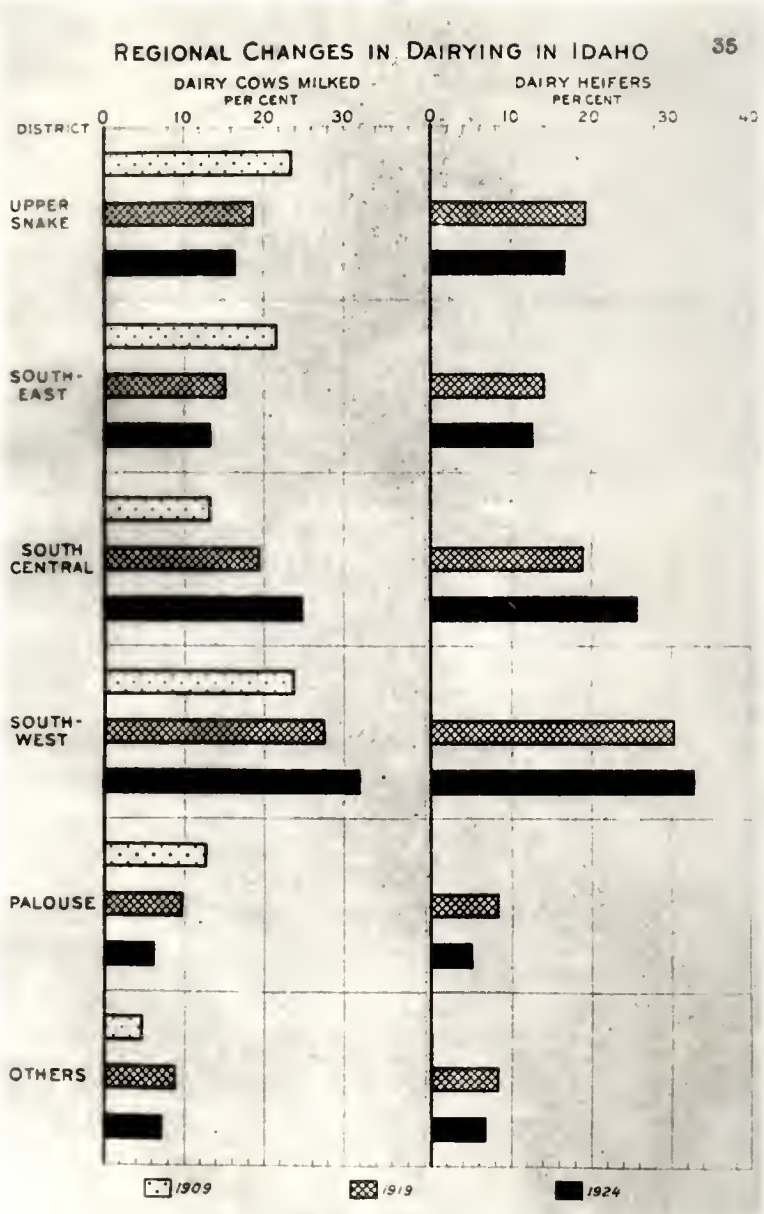

REGIONAL CHANGES IN DAIRYING IN IDAHO
DAIRY COWS MILKED
PER CENT
DAIRY HEIFERS
PER CENT
DISTRICT
0
10
20
30
0
10
20
30
40
UPPER SNAKE
SOUTH-EAST
SOUTH CENTRAL
SOUTH-WEST
PALOUSE
OTHERS
1909
1919
1924

Figure 12

There was an increase in the number of dairy cows in all districts of the state during the past fifteen-year period, but the rate of increase was greater in some districts than in others and only three districts have increased at an equal or greater rate than the state as a whole. The greatest increases were made in all the districts in the period from 1909 to 1919. Field observations would indicate that much of this increase came in the latter part of this period, the time of depression in prices of agricultural products following the World War. The dependability of dairying as a source of income and the fact that prices of dairy products did not drop as much as many other products, awakened a great interest in dairying. With the adjustment of prices of many cash crops during the period from 1920 to 1925 there was less rapid increase in dairying in most districts and an actual reduction in some, such as the Palouse, which is a great wheat-growing section. It is apparent that most of the expansion of dairying in Idaho in the past 15 years has taken place in the districts best suited for this type of farming.

As the sections best adapted to dairying have expanded in this industry the other districts have become of lesser importance to the industry in the state as a whole. This is shown in Figure 12 and Table XI.

TABLE X. NUMBER OF MILK COWS IN IDAHO, BY COUNTIES, RANKED ACCORDING TO IMPORTANCE*

County	Number of cows milked	% of Beef Type	County	Number of cows milked	% of Beef Type	County	Number of cows milked	% of Beef Type
1. Canyon	14,216	1.70	16. Fremont	3,744	11.91	31. Lewis	1,394	25.63
2. Ada	12,580	3.44	17. Teton	3,700	3.11	32. Oneida	1,208	46.80
3. Twin Falls	9,809	2.05	18. Madison	3,694	9.78	33. Blaine	957	35.51
4. Bannock	6,182	5.81	19. Bonner	2,815	5.56	34. Boundary	869	4.81
5. Bingham	6,103	1.77	20. Bear Lake	2,674	18.46	35. Benewah	812	29.93
6. Gooding	5,162	1.45	21. Gem	2,400	15.34	36. Custer	811	50.06
7. Cassia	4,978	10.86	22. Nez Perce	2,191	5.56	37. Caribou	790	19.05
8. Franklin	4,759	2.01	23. Latah	2,112	41.91	38. Butte	761	39.17
9. Washington	4,088	13.07	24. Lincoln	2,088	2.72	39. Camas	757	38.50
10. Jerome	3,747	.61	25. Power	2,022	2.74	40. Clearwater	700	32.62
11. Minidoka	3,698	.44	26. Valley	1,968	5.33	41. Elmore	637	42.68
12. Bonneville	3,297	33.39	27. Idaho	1,894	58.79	42. Shoshone	481	5.87
13. Jefferson	3,118	11.04	28. Owyhee	1,888	10.68	43. Boise	308	56.12
14. Kootenai	3,100	5.34	29. Lemhi	1,867	3.69	44. Clark	293	69.15
15. Payette	3,100	1.49	30. Adams	1,330	36.33			

*1924 Agricultural Census Report for Idaho, January 1, 1925.

(Figure before county names indicates rank in the number of dairy cows.)

TABLE XI. PERCENTAGE OF STATE TOTAL OF "DAIRY COWS" EACH DISTRICT, CENSUS YEARS*

District	1909 Per Cent	1919 Per Cent	1924 Per Cent
Upper Snake District	23.6	18.8	16.5
Southeast Idaho District	21.6	15.3	13.3
South-Central Idaho District	13.3	19.5	24.8
Southwest Idaho District	23.8	27.7	31.9
Palouse District	12.8	9.7	6.2
Other Districts - North Idaho and Lemhi	4.7	8.9	7.2
State Total	100.0	100.0	100.0

*Census Reports on "Dairy Cows Milked", January 1, each year.

The 1925 census figures show that the southwest district had 31.9 per cent of all cows in the state. The south-central district had the next largest number of cows, or 24.8 per cent. The ranking of the other districts follows: The Upper Snake, 16.5 per cent; southeast district, 13.3 per cent; north Idaho and Lemhi County, 7.2 per cent; and Palouse counties had 6 per cent.

In 1909 the south-central district had 13.3 per cent of all cows in the state while in 1924 this district had 24.8 per cent of all cows. The southwest district increased from 23.8 per cent in 1909 to 31.9 per cent in 1924, and the north Idaho district and Lemhi County increased from 4.7 per cent in 1909 to 7.2 per cent in 1924.

Probably the outstanding reasons for greater increase in the south-central and southwest districts are superior climatic and feed conditions together with an absence of outstanding competing cash crop enterprises. More efficient marketing facilities also are present in these sections and relatively higher prices for dairy products prevail. The marked increase in north Idaho and Lemhi County is probably due to an increased demand for dairy products in the mining and lumber districts, and in the Spokane trade area as the population of Spokane and its mining and lumber sections have increased. Another reason for the increase in dairying in northern Idaho is due to the efforts of the county agricultural agents in encouraging the production of alfalfa and clover which provide winter feed for dairy cows. Up until a few years ago dairying in northern Idaho was more or less a summer business.

A decrease during the period 1919 to 1924 of 3000 dairy cows milked is found in the Palouse counties, due, undoubtedly, to the lack of interest in dairying during the recent periods of relatively high returns from wheat farming in this section.

Dairy Heifers Kept for Milk

An analysis of the number of dairy heifers kept for milk January 1, 1920, and 1925, indicates that there was an increase in numbers of 4,800 or 17.4 per cent in Idaho. There were decreases, however, in the Palouse section, North Idaho, and Lemhi County. The Palouse district showed a decrease of 30.5 per cent and the other district 6.4 per cent in this period. Increases in the rest of the state were as follows: south-central, 58.4 per cent; southwest 26.9 per cent; the Upper Snake and the southeast each 2.2 per cent. See Figure 11 for the number of dairy heifers kept for milk in each district by census years, and Figure 12 and Table XII for percentage of state total in each district.

TABLE XII. CHANGES IN PERCENTAGE OF TOTAL DAIRY HEIFERS IN EACH DISTRICT, 1919-1924*

District	1919 Per Cent	1924 Per Cent
Upper Snake District	19.5	16.9
Southeast Idaho District	14.2	12.7
South-Central Idaho District	19.0	25.8
Southwest Idaho District	30.4	32.8
Palouse District	8.4	5.0
Other Districts	8.4	6.7
Idaho	100.0	100.0

*Census Reports.

The rate of increase in dairy heifers in the state by districts was greatest in the south-central group. Heifers in this district increased from 19.0 per cent of the state total in 1920 to 25.8 per cent in 1925. The southwest district was second in percentage increase. The southwest district had 30.4 per cent of all heifers in 1920, and 32.5 per cent in 1925. In these two districts there are more efficient marketing facilities which bring greater returns for dairy products, along with better feed conditions, and more favorable climatic conditions. In the latter district, especially, lack of competition from highly profitable cash crops probably accounts for increased interest in dairying.

There was a decrease in the percentage of all heifers in the other districts. The greatest relative decrease was in the Palouse counties which had 8.4 per cent of all heifers in the state in 1920, but only 5.0 per cent in 1925. The other districts in order of decrease in percentage in the state are: The Upper Snake, which decreased from 19.5 per cent in 1920 to 16.9 per cent in 1925; North Idaho and Lemhi, from 8.4 per cent to 6.7 per cent, and southeast Idaho, which decreased from 14.2 per cent in 1920 to 12.7 per cent of all heifers in the state in 1925.

Sales of Dairy Products from Farms

Table XIII shows the sales of butterfat, milk, and cream from farms in Idaho by districts, computed on a basis of pounds of butterfat which the products contained. Figure 13 shows the total sales of dairy products sold from the farm expressed in terms of total butterfat by Census years.

Figure 13 shows the shifting in the importance of different districts in the state in the sales of butterfat as reported in the Federal Census. Here again the changes in dairy practices are indicated. The Upper Snake has increased its sales of butterfat in comparison to the entire state, although the relative number of cows did not increase at the same rate. It is evident that there has been a change in the type of cow kept for milk, more cows of dairy type and less of common cows. The southwest counties make up the important district, producing nearly two-fifths of the total butterfat sold, while the south-central district produced well over one-fourth. It is evident that southeast Idaho has shifted from butterfat to whole milk production, due no doubt to the expansion of cheese making and proximity to condensaries.

The statistical appendix includes the sales of milk, butterfat, and cream by counties for the census years, 1919 and 1924.

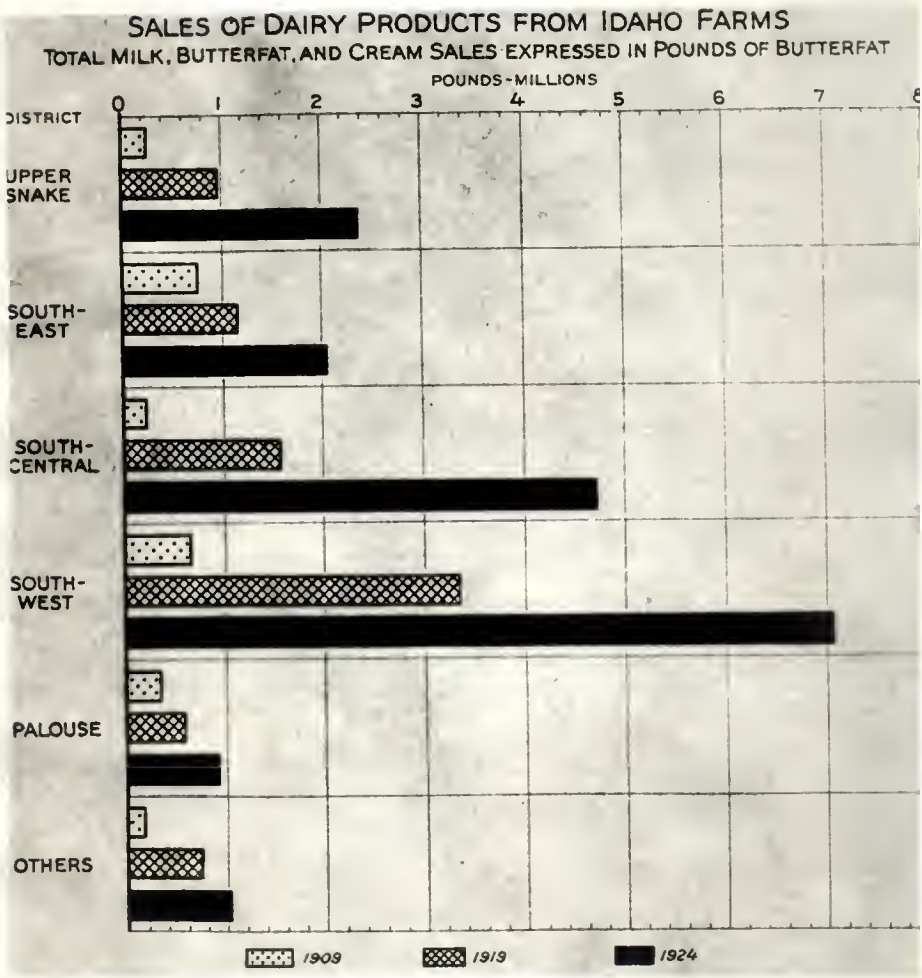

SALES OF DAIRY PRODUCTS FROM IDAHO FARMS
TOTAL MILK, BUTTERFAT, AND CREAM SALES EXPRESSED IN POUNDS OF BUTTERFAT
POUNDS - MILLIONS
0
1
2
3
4
5
6
7
DISTRICT
UPPER SNAKE
SOUTH-EAST
SOUTH-CENTRAL
SOUTH-WEST
PALOUSE
OTHERS
1909
1919
1924

Figure 13.

TABLE XIII. SALES OF DAIRY PRODUCTS FROM IDAHO FARMS EXPRESSED AS POUNDS OF BUTTERFAT, FOR CENSUS YEARS 1909, 1919, and 1924, BY DISTRICTS*

Counties in:	1909	1919	1924
UPPER SNAKE DISTRICT			
Butterfat sold (Lbs.)	118,718	564,801	1,904,798
Milk sold (Lbs. Butterfat)	47,676	108,240	350,696
Cream sold (Lbs.Butterfat)	86,780	304,838	126,672
Total Butterfat (Lbs.)	253,174	977,879	2,382,168
SOUTHEAST DISTRICT			
Butterfat sold (Lbs.)	419,398	651,936	1,784,925
Milk sold (Lbs. Butterfat)	66,645	105,735	116,868
Cream sold (Lbs.Butterfat)	259,078	401,484	147,618
Total Butterfat (Lbs.)	745,112	1,159,155	2,049,411
SOUTH-CENTRAL DISTRICT			
Butterfat sold (Lbs.)	113,332	1,107,121	4,189,138
Milk sold (Lbs. Butterfat)	88,331	238,980	487,989
Cream sold (Lbs.Butterfat)	15,198	235,972	55,310
Total Butterfat (Lbs.)	216,861	1,582,073	4,732,437
SOUTHWEST DISTRICT			
Butterfat sold (Lbs.)	331,238	1,847,573	5,475,166
Milk sold (Lbs. Butterfat)	167,110	1,141,452	1,366,533
Cream sold (Lbs.Butterfat)	158,709	365,585	234,148
Total Butterfat (Lbs.)	657,056	3,354,615	7,075,847
PALOUSE DISTRICT			
Butterfat sold (Lbs.)	184,053	407,400	653,940
Milk sold (Lbs. Butterfat)	51,617	68,951	101,627
Cream sold (Lbs.Butterfat)	109,104	115,256	166,270
Total Butterfat (Lbs.)	344,774	591,607	921,837
NORTH IDAHO AND LEMHI			
Butterfat sold (Lbs.)	25,137	382,981	509,709
Milk sold (Lbs. Butterfat	134,587	236,843	310,056
Cream sold	12,216	137,486	216,590
Total Butterfat (Lbs.)	171,940	757,310	1,035,355

*Compiled from federal census reports.

Production of Milk and Butterfat

The production of milk in Idaho in 1924 amounted to 79 million gallons, as compared with 52 million gallons in 1919, and 21 million gallons in 1909.

Figure 14 shows graphically the milk production in Idaho by districts. It shows that some districts are producing much more than others and the larger producing areas are increasing their production more rapidly.

Table XIV gives the milk production in gallons and in butterfat equivalent. Table XV gives the percentage of the total milk in the state that was produced in each district for three Census years.

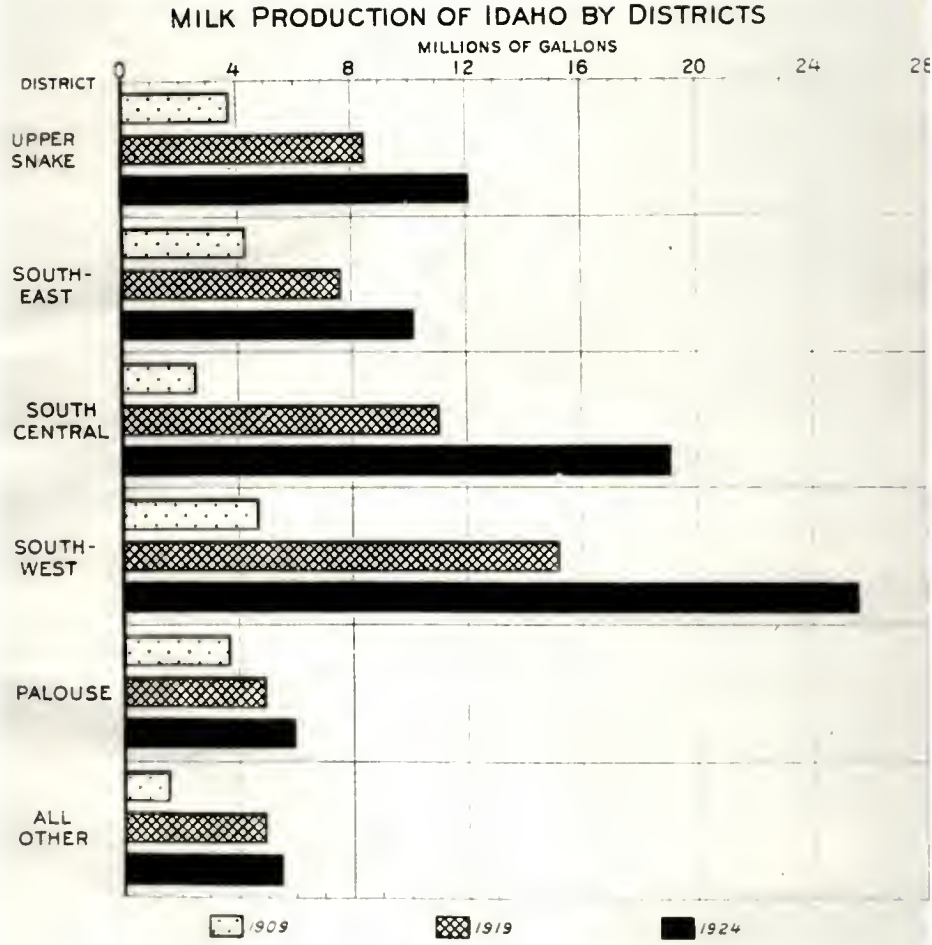

MILK PRODUCTION OF IDAHO BY DISTRICTS
MILLIONS OF GALLONS
0
4
8
12
16
20
24
DISTRICT
UPPER SNAKE
SOUTH-EAST
SOUTH CENTRAL
SOUTH-WEST
PALOUSE
ALL OTHER
1909
1919
1924

Figure 14.

TABLE XIV. PRODUCTION OF MILK (GALLONS) AND BUTTERFAT EQUIVALENT (POUNDS) IN IDAHO, CENSUS YEARS 1909, 1919, and 1924, BY DISTRICTS (1)

Counties In	1909 (3)	1919 (2)	1924 (2)
UPPER SNAKE DISTRICT	3,708,152:	8,489,990:	12,115,499
Milk (Gallons)	1,275,604:	2,920,558:	4,167,732
SOUTHEAST DISTRICT	:	:	
Milk (Gallons)	4,263,839:	7,672,397:	10,175,295
Butterfat (Pounds)	1,466,761:	2,639,305:	3,500,301
SOUTH-CENTRAL	:	:	
Milk (Gallons)	2,571,469:	11,084,859:	19,114,001
Butterfat (Pounds)	884,585:	3,812,926:	6,574,619
SOUTHWEST DISTRICT	:	:	
Milk (Gallons)	4,736,744:	15,235,580:	25,633,857
Butterfat (Pounds)	1,629,433:	5,241,039:	8,818,047
PALOUSE DISTRICT	:	:	
Milk (Gallons)	3,716,287:	4,958,990:	5,962,319
Butterfat (Pounds)	1,256,403:	1,705,892:	2,051,038
NORTH IDAHO AND PANHI	:	:	
Milk (Gallons)	1,590,996:	4,923,652:	5,504,031
Butterfat (Pounds)	547,303:	1,692,736:	1,893,043
STATE	:	:	
Milk (Gallons)	20,861,072:	52,365,498:	78,505,003
Butterfat (Pounds)	7,062,094:	18,012,456:	27,005,781

(1) Compiled from federal census reports.

(2) Includes estimates for incomplete reports.

(3) Does not include estimates for incomplete reports. When such estimates are made the total state milk production for 1909 is 30,981,341 gallons. County estimates for incomplete reports in 1909 have not been made.

TABLE XV. PERCENTAGE OF TOTAL MILK PRODUCED IN DIFFERENT DISTRICTS OF IDAHO FOR CENSUS YEARS, 1909, 1919, AND 1924*

District	Per Cent: 1909	Per Cent: 1919	Per Cent: 1924
Southwest Idaho District	22.6	29.2	32.6
Upper Snake District	17.9	16.2	15.4
Southeast Idaho District	21.4	14.6	13.0
South-Central Idaho District	12.5	21.1	24.4
Palouse District	17.8	9.6	7.6
Other Districts	7.8	9.3	7.0
State Total	100.0	100.0	100.0

*Compiled from United States census reports.

Canyon county ranked highest in 1924 in gallons of milk produced, this county alone producing over 10 per cent of the state's milk. Ada county produced nearly as much, while Twin Falls county produced about 7 per cent of the state total. The statistical appendix includes milk production by counties for the census years 1909, 1919, and 1924.

Changes in Production Per Cow in Districts of Idaho

Since the production has increased in some districts faster than the number of cows, it is evident that the districts vary in average production per cow. The average production per cow and the percentage of the cows milked that were beef type is shown in the following table.

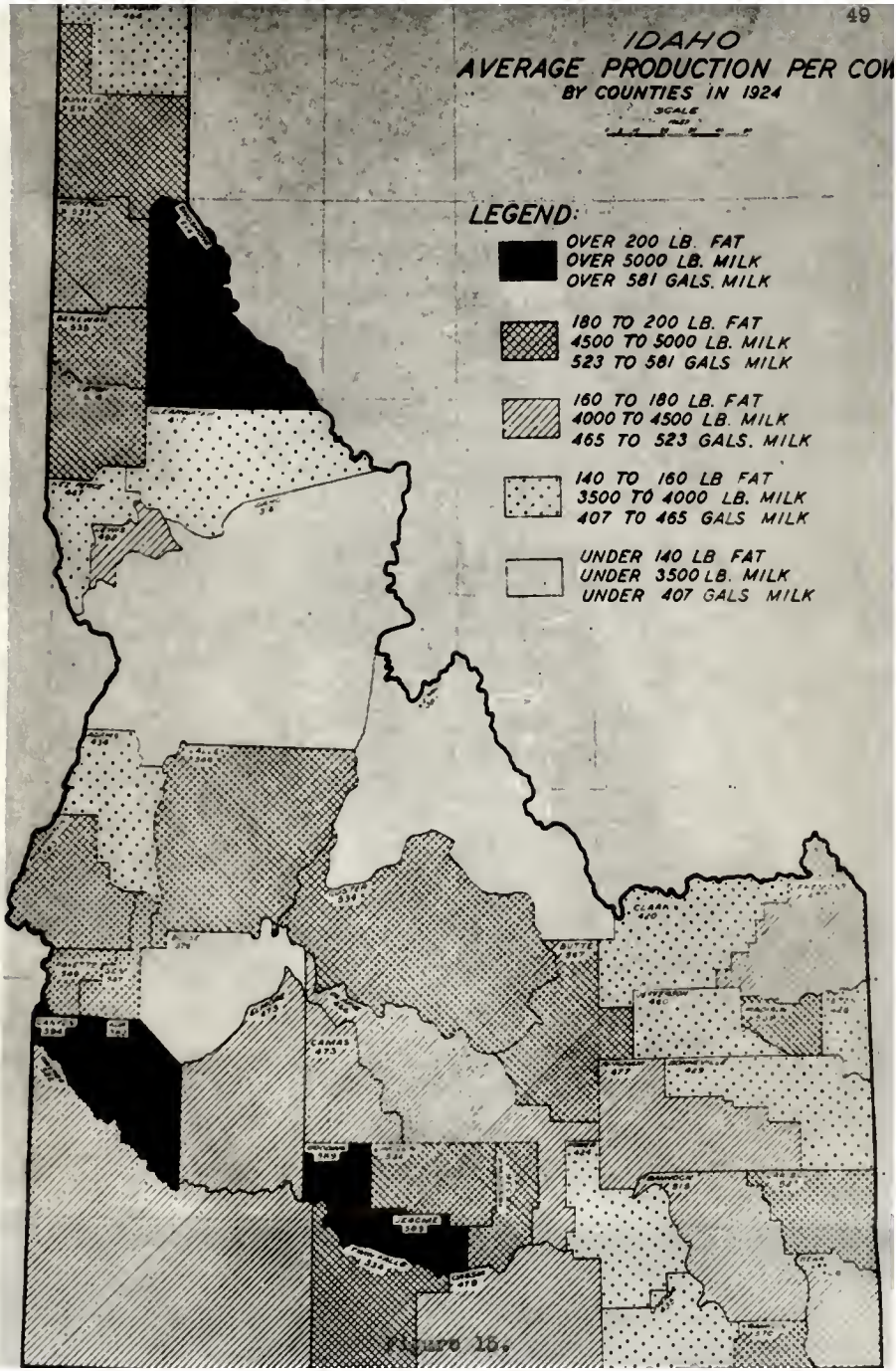

IDAHO
AVERAGE PRODUCTION PER COW
BY COUNTIES IN 1924
SCALE
LEGEND:
OVER 200 LB. FAT
OVER 5000 LB. MILK
OVER 581 GALS. MILK
180 TO 200 LB. FAT
4500 TO 5000 LB. MILK
523 TO 581 GALS MILK
160 TO 180 LB. FAT
4000 TO 4500 LB. MILK
465 TO 523 GALS. MILK
140 TO 160 LB FAT
3500 TO 4000 LB. MILK
407 TO 465 GALS MILK
UNDER 140 LB FAT
UNDER 3500 LB. MILK
UNDER 407 GALS MILK

Figure 16.

TABLE XVI. AVERAGE PRODUCTION PER COW BY DISTRICTS AND PERCENTAGE OF BEEF COWS OF TOTAL COWS MILKED (CENSUS YEAR, 1924)*

District	Average Production			Beef Cows
	Milk (Gallons)	Milk (Pounds)	Butterfat (Pounds)	Per Cent of Total Milked
State Average	517	4,446	178	13.2
Southwest	526	4,524	181	7.6
South-Central	524	4,506	180	12.2
Southeast	498	4,283	171	11.9
Upper Snake	475	4,095	164	15.4
Palouse	440	3,784	151	41.2
North Idaho and Lemhi	381	3,277	131	13.2

*From 1925 agricultural census report.

The greatest percentage increase in production per cow was in the Upper Snake district. In the fifteen-year period 1909 to 1924, production per cow increased 49 per cent, but from 1909 to 1919 the increase was only 11 per cent. The greater increase came between 1919 to 1924, more than 30 per cent.

The South-Central district made the next largest increase, 46.3 per cent in the fifteen-year period. The greatest increase in this section was during the ten-year period 1909 to 1919, when an increase of 23.3 per cent occurred. The increase was only 18.8 per cent between 1919 and 1924.

The percentage increase in production per cow was almost as high in the Southeast district, 44.7 per cent from

1909 to 1924. The increase from 1919 to 1924 was 29.7 per cent, and from 1909 to 1919 only 11.6 per cent.

Percentage increase in production per cow in the other districts follows: North Idaho, 33.2 per cent; the southwest district, 28.3 per cent; and the Palouse district only 16.4 per cent, for the period 1909 to 1924.

These figures show that the highest average production per cow is found in those areas best adapted to dairying, considering feed conditions, climate, competing crops, etc. Some of the newer dairy districts have made more rapid progress in increasing the average production per cow than the older, more established dairy sections, due partially to the change from cows of beef type to cows of the dairy breeds. The more highly developed dairy districts, where expansion has been taking place rapidly, also have the smallest percentage of beef cows among the total cows milked. The large percentage of beef cows milked in the Palouse area indicates lack of permanent dairying due to competing cash crops like wheat. The percentage of beef cows milked in North Idaho and Lemhi County is much smaller than in the Palouse region, indicating greater interest in dairy farming but also indicating, by lower production, poorer feed conditions.

FACTORS AFFECTING DAIRY DEVELOPMENT IN IDAHO

Quality of Cows

We find in Table XVI that the average production per cow varies in different sections of the state. This has considerable bearing on the future development of dairying in certain regions in Idaho, because the higher the production within reasonable limits, the greater the profit, feed and other conditions being the same. The economy of high production per cow is shown in Table XVII.

The records represented in the table were obtained from 10 cow testing associations located in the irrigated sections of southern Idaho. The reports covered the years 1923 to 1925. The average feed cost per pound of butterfat for the 2033 cows was 20 cents and the feed cost per hundred pounds of milk was 82 cents. The average value of butterfat during the period was 43 cents per pound and of milk $1.75 per hundredweight. Forty-five per cent of the cows fall within the production limits of 275 to 374 pounds of butterfat. Although the feed cost increases while the production gains, the profit over feed cost increases much more rapidly. Feed cost per pound of butterfat decreases as production increases. The interest of farmers in dairying is generally indicated by the profits derived from the industry. It is obvious that the higher the production per

TABLE XVII. RELATION OF PRODUCTION PER COW TO PROFIT AND ECONOMY OF PRODUCTION

Number of Cows	Class Pounds Butter-fat	Pounds of Milk Average	Pounds of But-ter fat: Average	Cost of Product	Cost of Rough-age	Cost of Grain	Total Feed Cost	Value of Product Above Feed Cost	Cost per Pound Butter fat
10	Below 74	3,881	68	$ 50.80	$35.90	$ 5.50	$ 41.40	$ 9.40	60.8¢
75	125-174	3,857	155	66.79	42.19	5.72	47.91	18.88	30.9
221	175-224	5,092	202	85.95	43.49	7.13	50.62	35.33	25.0
343	225-274	6,320	251	106.79	43.53	9.43	52.96	53.83	21.1
499	275-324	7,304	299	127.76	46.05	14.35	60.40	67.36	20.2
415	325-374	8,491	349	148.40	37.73	20.10	67.83	80.57	19.4
268	375-424	9,731	397	170.87	47.86	24.42	72.28	98.57	18.2
124	425-474	10,534	445	190.95	50.20	31.26	81.46	109.49	18.3
43	475-524	11,533	492	214.32	49.14	35.05	84.19	130.53	17.1
22	525-574	13,849	548	236.96	51.09	45.91	97.00	139.95	17.7
13	Above 575	15,267	631	274.15	46.23	62.77	109.00	165.15	17.2
2033	Average	7,719	315	$134.76	$46.11	$16.99	$ 63.10	$ 71.76	20.0¢

cow, within reasonable limits, the more economical will be the production and the greater the interest in expansion of the industry.

It is evident from Table XVI, that, in general, the districts in which most of the cows milked are of the dairy breeds, are higher in production than districts where a larger percentage of beef cows are being milked. This is in accord with the economy of high production shown in Table XVII.

Cow Testing Associations

Success in dairying depends largely on keeping profitable cows. The cow testing association is the best organized method of determining the profits obtained from each cow in the herd. The milk and butterfat produced by each cow is determined, and the cost of feeds is subtracted from the value of the product to find the profit over feed cost. Such records make it possible for the farmer to cull his herd intelligently by eliminating the unprofitable cows. This information is also a good guide in breeding up the herd as it enables raising heifer calves from the best cows.

The fact that average production of cows in cow testing associations in Idaho during the years 1924 and 1925 was 300 pounds of butterfat, while the average production for all cows in the state for 1924 was 178 pounds, indicates


IDAHO
COW-TESTING
ASSOCIATIONS
Counties having associations.
CANADA
WASHINGTON
OREGON
NEVADA
UTAH
WYOMING
MONTANA
BOUNDARY
BONNER
KOOTENAI
BENEWAH
SHOSHONE
LATAH
CLEARWATER
NEZ PERCE
LEWIS
IDAHO
ADAMS
VALLEY
WASHINGTON
PAYETTE
GEM
BOISE
ADA
ELMORE
OWYHEE
LEMHI
CUSTER
CAMAS
BLAINE
GOODING
LINCOLN
MINIDOKA
JEROME
TWIN FALLS
CASSIA
BUTTE
CLARK
FREMONT
JEFFERSON
MADISON
TETON
BONNEVILLE
BINGHAM
CARIBOU
BANNOCK
POWER
ONEIDA
BEAR LAKE
FRANKLIN

Figure 16.

that more herds should be in cow testing associations.

On January 1, 1925, only 1.85 per cent of the cows being milked in the United States were in cow testing associations while in Idaho 2.72 per cent were under test. In 1925 Idaho ranked seventeenth in number of cows on test and thirty-sixth in total number of cows being milked.

The monthly report for November, 1926, shows that there were 3,147 cows in Idaho representing 323 herds on test. There were nine associations being operated by 12 test supervisors. Figure 17 shows the counties in which testing associations are either now being operated or have been operated during the period 1920 to 1925. The location of cow testing associations corresponds rather closely with districts having the largest number of cows.

The first cow testing associations were organized in the south-central and southwest districts. These districts have also made the greatest progress in dairy development. An example of improved efficiency in dairying due partially to cow testing associations work is the Weiser-Payette association which reported an increase in average production per cow of 109 pounds of butterfat in three years of consecutive testing.

Cooperative Bull Associations

Although cow testing associations point the way for

immediate herd improvement by elimination of the poor producers, some steps must be taken toward improvement of the herds in the future by a better breeding program. This is best done through cooperative bull associations. The latter is a group of farmers organized for the purpose of joint ownership of three or more high class sires. At the end of each two years' service the bulls are exchanged. Such associations make possible the ownership of much better bulls at a minimum cost. The association extends the period of usefulness of each sire and tends to standardize the herds of the community on one breed. Following the organization of a bull association there is greator interest in dairying, a more permanent program developed, and general improvement in the herds.

Idaho has made very rapid progress in this type of herd improvement during the past few years. On January 1, 1926, there were in this state 34 cooperative bull associations representing almost a thousand farmers owning 5,500 cows. Idaho ranked second among states of the Union in number of bull associations.

The Feed Situation

The available supply of good dairy cattle feeds such as forage, grain, pasture, etc., and their cost have considerable bearing not only on the profits of production but

also on the advisability of expansion of the industry.

Forage Crops

The districts making the greatest development in dairying are those having the largest surplus of legume hays after the needs of horses kept for work and the wintering of beef cattle and sheep are met. Of course, the comparative profit obtained from the various types of live stock during any period will influence the percentages of forage used for each class of live stock. Legume hays are the basis of all good dairy rations and alfalfa is recognized as the best of the legumes. In Idaho alfalfa hay is to a large extent the basic feed in all live stock feeding. The following table compares the acreage and yield of alfalfa in the various districts with the animal units maintained and the percentage of the total dairy cows of the state.

From Table XVIII we note that in general the districts having the highest yield per acre have the greatest percentage of the total state acreage. There also is close relationship between the alfalfa acreage and yield and the percentage of the total animal units. The percentage of the total dairy cows and dairy heifers of the state kept in each district is also closely related to the yield and acreage of alfalfa. These figures indicate that most of the alfalfa is grown in sections best adapted to the crop

TABLE XVIII. ACREAGE AND YIELD OF ALFALFA BY DISTRICTS COMPARED TO LIVE STOCK KEPT IN DISTRICT*

District	Alfalfa Acreage		Seven-year** Average Yield of Alfalfa Per Acre (Tons)	Animal Units		Dairy Cows Milked	Dairy Heifers Kept for Milk
	Acres	Per Cent		Number	Per Cent	Per Cent	Per Cent
Southwest	168,139	23.3	3.64	243,734	24.21	31.9	32.8
South-Central	234,540	32.3	3.52	248,663	24.70	24.8	25.8
Upper Snake	166,809	23.0	2.96	214,802	21.34	16.5	16.9
Southeast	97,947	13.5	2.89	136,907	13.50	13.3	12.7
Palouse	35,018	4.8	1.84	96,122	9.45	6.2	5.0
North Idaho and Lemhi	21,280	2.9	2.58	68,504	6.80	7.2	6.7
State	724,733	100.0	3.09	1,006,732	100.0	100.0	100.0

*Data from the 1925 agricultural census, Bureau of Census.

**Average of years 1918-1925, Federal Statistician for Idaho reports.

and that alfalfa undoubtedly is an important factor in considering any change in the amount of livestock kept in a district.

The acreage of alfalfa, clover, and other feed crops in each of the twenty important feed-producing counties of Idaho for 1919 and 1924 is given in Table XIX. In general it will be noted that dairy development is greatest in the counties where the larger acreages of legume feeds such as alfalfa and clover are grown.

Feed Prices in Idaho

Farm prices of feeds in different dairy sections of the United States were compared to secure an indication of the relative advantages for dairy production.

Monthly farm prices of specified feeds in California, Wisconsin and Minnesota were secured from the crop reporting service of the U. S. Department of Agriculture and the five-year annual averages computed. Reclamation project records and state statisticians' figures in Idaho furnished farm prices for the same years in the Boise Valley and on the Twin Falls and Minidoka Projects, where dairying is having its greatest development in Idaho. Table XX gives the prices of feeds for the different sections.

TABLE XIX. ACREAGE OF ALFALFA, CLOVER, TIMOTHY, AND TIMOTHY AND CLOVER, 1919 AND 1924 IN TWENTY IMPORTANT COUNTIES

1919

Alfalfa		Clover		Timothy		Timothy and Clover	
County	Acres	County	Acres	County	Acres	County	Acres
Twin Falls	54,056	Ada	5,974	Latah	10,633	Lemhi	18,427
Canyon	49,607	Canyon	2,791	Idaho	10,068	Teton	10,518
Cassia	38,890	Twin Falls	2,488	Valley	9,323	Bonner	9,848
Bingham	38,632	Bonner	985	Kootenai	4,596	Adams	9,266
Ada	31,727	Latah	685	Bonner	4,547	Custer	5,090
Gooding	29,506	Idaho	677	Clearwater	3,911	Bannock	5,082
Bannock	27,291	Minidoka	644	Lewis	3,581	Latah	4,854
Bonneville	26,966	Kootenai	472	Bear Lake	3,578	Idaho	3,448
Minidoka	24,003	Nez Perce	463	Nez Perce	3,130	Owyhee	3,331
Owyhee	22,878	Gem	446	Benewah	2,843	Kootenai	2,925
Jerome	22,329	Boundary	425	Clark	2,677	Caribou	2,918
Washington	22,270	Cassia	415	Fremont	2,035	Bear Lake	2,705
Lincoln	20,449	Gooding	382	Custer	2,027	Clark	1,990
Jefferson	18,906	Bingham	338	Bannock	2,004	Boise	1,895
Gem	17,365	Jerome	335	Twin Falls	1,573	Fremont	1,646
Blaine	17,095	Lemhi	316	Camas	1,555	Gem	1,595
Madison	15,479	Bonneville	262	Lemhi	1,466	Clearwater	1,579
Butte	14,486	Adams	218	Boundary	1,365	Valley	1,548
Custer	14,001	Jefferson	185	Owyhee	1,153	Cassia	1,518
Payette	13,053	Fremont	166	Teton	1,071	Elmore	1,502

1924

Canyon	57,155	Canyon	7,031	Idaho	7,270	Lemhi	12,726
Twin Falls	51,804	Twin Falls	6,791	Valley	6,473	Bonner	12,354
Bingham	41,423	Ada	5,394	Latah	4,625	Teton	7,642
Ada	38,893	Jerome	2,368	Benewah	3,836	Adams	7,513
Bannock	37,154	Payette	2,003	Bonner	3,686	Valley	6,457
Cassia	35,203	Minidoka	1,854	Bear Lake	3,163	Custer	6,359
Gooding	33,614	Idaho	1,466	Clearwater	3,160	Bannock	5,723
Booneville	33,246	Cassia	1,363	Clark	3,145	Kootenai	4,666
Jerome	28,173	Gem	1,551	Lewis	3,084	Latah	4,019
Jefferson	28,132	Gooding	1,142	Kootenai	2,114	Owyhee	2,766
Owyhee	22,192	Kootenai	1,077	Fremont	1,803	Clearwator	2,763
Minidoka	20,753	Bonner	1,055	Boundary	1,776	Bear Lake	2,446
Franklin	19,468	Bonneville	830	Owyhee	1,723	Idaho	2,445
Butte	18,173	Nez Perce	781	Bannock	1,630	Benewah	2,205
Lemhi	17,484	Bingham	693	Nez Perce	1,553	Gem	1,510
Washington	17,392	Latah	379	Teton	1,317	Fremont	1,412
Madison	17,110	Clearwater	332	Adams	1,102	Boise	1,372
Latah	16,552	Washington	285	Shoshone	900	Cassia	1,369
Custer	16,161	Lincoln	274	Lemhi	782	Shoshone	1,178
Blaine	15,459	Adams	265	Boise	444	Elmore	1,118

TABLE XX. ANNUAL AVERAGE PRICES OF SPECIFIED FEED CROPS, WISCONSIN, MINNESOTA, CALIFORNIA, AND TYPICAL IRRIGATED SECTIONS OF IDAHO, 1921-1925*

Crop	Year	Irrigated Sections of Idaho	California	Wisconsin	Minnesota
Corn (per bu.)	1921	.58	.92	.60	.41
	1922	.81	.94	.58	.47
	1923	.81	.98	.77	.65
	1924	.96	1.26	.94	.78
	1925	.84	1.35	1.03	.82
Five Year Average		.80	1.09	.75	.62
Oats (per bu.)	1921	.30	.58	.38	.27
	1922	.48	.56	.34	.28
	1923	.44	.52	.42	.33
	1924	.59	.71	.49	.41
	1925	.44	.72	.44	.37
Five Year Average		.45	.62	.42	.35
Barley (per bu.)	1921	.44	.62	.61	.43
	1922	.67	.65	.55	.42
	1923	.65	.72	.61	.46
	1924	.76	.94	.73	.61
	1925	.57	.87	.80	.65
Five Year Average		.62	.76	.66	.51
Hay (per ton)	1921	4.00	13.63	15.66	8.18
	1922	7.67	13.70	15.11	8.79
	1923	7.83	13.34	13.28	9.81
	1924	9.91	16.60	15.33	9.57
	1925	7.07	16.62	13.02	9.20
Five Year Average		7.30	14.78	14.48	9.11

*From "Weather, Crops and Markets", and "Crops and Markets", U. S. Department of Agriculture, 1921-1926.

Prices on hay in the Idaho sections are for "alfalfa" but in the three states mentioned the quotation was on "loose hay". From a feeding standpoint, the Idaho hay should be equal and may be quite superior to the loose hay quoted in the other states. It was not possible to show satisfactory price data on alfalfa in all sections.

Inasmuch as alfalfa hay provides the major part of dairy feed in Idaho, the lower price of alfalfa in the state indicates advantages for dairying in this state.

Pastures

Idaho has a distinct advantage over many dairy producing sections because of the long pasture season and the large carrying capacity per acre in its irrigated districts. Records of cow testing associations indicate that the period on pasture for 1924 and 1925 ranged around six to seven months.

TABLE XXI. LENGTH OF PASTURE SEASON IN IDAHO*

Name of Cow Testing Association	Year	Number farms Represented	Mode	Average
Weiser-Payette	1925-1926	74	214	205
Canyon County	1925-1926	26	210	
Ada County	1924-1925	23	213	
Gooding-Jerome	1925-1926	54	205 to 214	
Franklin County	1924-1925	27	185 to 190	195
Bonneville County	1924-	15		184

*From cow testing association reports.

Feed By-Products

In several sections of the state there is annually a great tonnage of food by-products or waste products which can best be utilized by feeding them to livestock. Those products include such feeds as wet beet pulp from beet sugar factories; sugar beet tops during beet harvesting; beet molasses from the factories; cull potatoes especially during years of low prices; bean and pea straw and cracked beans and peas in the bean and pea sections; apple pomace from the vinegar factories; waste products from the vegetable canneries such as fresh pea vines, sweet corn shucks, and ear butts; etc.

These feeds are valuable feeds for dairy cows and in the aggregate make up an enormous amount of low priced feed to be utilized. Those dairymen situated where a

supply of such feed is available are able to reduce their production costs very materially.

Feeding Practices

Feeding practices for satisfactory milk production are more simple in the irrigated sections of Idaho than in most other dairy districts. Of all the hays, alfalfa is accorded first rank. It is more palatable, more efficient as a milk producer and yields more to the acre. In the irrigated sections alfalfa is the most common hay crop and is low in price, hence it is fed to the full capacity of the cows. It forms the basis of the dairy ration during the winter months. Since it is high in those elements in which many feeds are lacking, namely, protein and minerals, alfalfa hay alone makes an efficient ration for the average cow in southern Idaho particularly as the hay is so cheap in comparison with other feeds. With high producing cows, that is, cows producing 300 pounds or more of butterfat yearly or an average of one pound a day, additional grain can be fed profitably. However, since cows under these conditions consume such large quantities of alfalfa hay, the ratio of grain to milk can be 1 to 5 instead of the usual recommendation of 1 to 3 which applies in most dairy sections. It is also unnecessary to purchase expensive high protein feeds such as linseed oil meal. All feeds

necessary for profitable production can be grown on the farm.

A comparison of the average monthly farm prices of hay for the years 1921 to 1925 shows the very favorable position of Idaho dairying from the standpoint of feed cost. (See Table XX).

A comparison of the farm prices of corn, oats, and barley indicates that during the same years, Minnesota dairy farmers enjoyed lower prices for concentrated feeds. Wisconsin prices have compared rather closely with Idaho prices, while California prices for concentrated dairy feeds have been appreciably higher. Inasmuch as alfalfa comprises the principal part of the feed for dairy cattle in Idaho and very little concentrated feed is purchased, it is apparent that Idaho dairymen are at no disadvantage from a feeding standpoint.

Pasture is considered the cheapest feed in most dairy districts. It furnishes a balanced ration at low cost and the cow does her own harvesting. In the irrigated sections of southern Idaho the pasture season is longer than in many other districts and the carrying capacity is much greater. In the non-irrigated sections of Idaho the feeding problems are similar to those in the dairy sections of the Middle West. The limiting factors of expansion, especially in the cutover regions, are good pastures and alfalfa hay produc-

tion. Until conditions are bettered a considerable amount of high protein feeds must be purchased. In these sections dairy production will consist largely of utilizing waste feeds and furnishing a better use for family labor.

Season of Year for Freshening

There are several reasons why the season of freshening for dairy cows may influence profitable production. The majority of cows freshen in the spring when there is a surplus of dairy products and prices are low. Spring freshening cows also demand more care during the busy farming season than fall freshening cows.

A study of the annual reports from 10 cow testing associations in Idaho representing 1,273 cows, was made to determine the most profitable time to have cows freshen. The results are shown in the following table:

TABLE XXII. EFFECT OF SEASON OF FRESHENING OF COWS ON PRODUCTION, AND RETURNS OVER FEED COST*

Number of Cows	Season (Months)	Pounds of Milk	Pounds of Fat	Value of Product	Total Cost of Feed	Value of Product Above Feed Cost
381	December, January, Feoruary	8,131	338	145.37	67.97	77.40
376	March, April, May	7,884	318	135.24	64.37	70.87
188	June, July, August	7,809	312	132.16	63.47	68.69
329	September, October, November	7,800	330	141.80	64.66	77.14
1,273	Average	7,925	326	139.51	65.39	74.12

*Figures from Cow Testing Association reports.

Cows that freshened in the winter and fall ranked higher in production than the spring and summer freshening cows. The feed cost per cow did not vary a great deal but the total value of the products was greater for the winter and fall freshening cows, thereby giving a greater profit over feed cost for these seasons compared to spring and summer.

Fall and winter freshening cows will produce well during the winter and will have the advantage of spring grass right at a time when they are beginning to go down in production. The farmer has more time to care for his cows in

the winter months and the cows will be dry during the late summer months when pasture conditions are not conducive to maximum production. In addition, the cows are competing to a minimum extent with field operations during the summer months.

Housing Dairy Cattle

In most of the leading dairy producing sections of the United States, due to climatic conditions, the investment in dairy barns is much greater than is necessary under southern Idaho conditions. The prevailing type of dairy barn in the Middle West is a two-story stable with sufficient storage over the cattle for a winter's feed supply. The cattle are kept in the stable much of the time in winter, thereby requiring much labor in caring for them.

In the irrigated sections of Idaho, where alfalfa hay is abundant and very low in price, the prevailing practice is to stack hay outside all winter and feed it as needed. The low precipitation in this region during the winter months causes such little loss through spoiled hay that, considering the price of hay, it is not deemed advisable to go to the expense of putting it under cover. Most of the hay is fed outside in large racks and the cows are kept in open sheds except at milking time. These sheds are very

cheaply constructed, in fact, many farmers use straw sheds. The milking barn is usually a shed type or very cheaply constructed one-story barn. The investment in a convenient sanitary barn of this type is very low.

Under this system of stabling the cattle are under healthful conditions and are handled with a minimum amount of labor and a very low overhead expense for stables. This is a distinct advantage in dairy production for the Idaho farmer.

In the high altitude sections and in the Palouse and cut-over districts more expensive two-story barns are required because of the higher priced hay and great spoilage in the winter due to more moisture.

Disease Control

Idaho cattle are remarkably free from disease. The task of controlling and eradicating bovine tuberculosis in Idaho is entrusted to the director of the Idaho Bureau of Animal Industry and the United States Bureau of Animal Industry. The task is being successfully accomplished through the united efforts of the above mentioned agencies, cooperating with the livestock owners, veterinarians of the state, and county agricultural agents. Cattle from an area free from tuberculosis have a greater sale value than those from an infected district. Buyers of all classes of cattle


IDAHO
PROGRESS OF
CATTLE TUBERCULOSIS
ERADICATION
Counties completely tested and accredited or in process of accreditation.
Dairy cattle only have been tested.
CANADA
WASHINGTON
OREGON
NEVADA
UTAH
WYOMING
MONTANA
BOUNDARY
BONNER
KOOTENAI
BENEWAH
SHOSHONE
LATAH
CLEARWATER
NEZ PERCE
LEWIS
IDAHO
ADAMS
VALLEY
WASHINGTON
PAYETTE
BOISE
CANYON
ADA
ELMORE
LEMHI
CUSTER
CLARK
FREMONT
JEFFERSON
MADISON
BUTTE
BONNEVILLE
CAMAS
BLAINE
BINGHAM
GOODING
LINCOLN
JEROME
POWER
CASSIA
ONEIDA
OWYHEE
TWIN FALLS

Figure 17.

are naturally attracted to sections of the state that are known to be relatively free from tuberculosis. Idaho now has six counties designated by the United States Department of Agriculture as modified tuberculosis free areas. This designation means that all the cattle in those six counties were tested and the disease found to exist to an extent of less than one-half of one per cent. Before the year is ended at least two more counties will be added to this list. Idaho has more accredited counties than any other western state. The present plan of tuberculosis eradication was started in 1919 and from that date until June 1, 1926, approximately 400,000 cattle were tested. This number represented 27,000 herds. Approximately 3,200 head were condemned. The average per cent of tuberculosis in the Idaho cattle as shown by tests carried on extensively in 15 counties is less than one-half of one per cent. This low average compares well with other western states and is far below the average found in many eastern and central states.

Trend in Butterfat Prices

Another factor affecting expansion of the dairy industry in any district is the market price of butterfat. The prices of butterfat in Idaho have been very favorable compared to other products.

Average monthly and yearly farm prices for butter in Idaho are given in Table XXIII. The average yearly price, 1921 to 1925, was 40.6 cents per pound. Average monthly prices for the same period ranged from 35.6 cents in June to 45.2 cents in November. Prices have tended to drop from January to June, and then have risen again until November and December.

Improved Market Facilities

The marketing system in Idaho as a whole has improved greatly in recent years. Formerly much of the cream was handled through cream buying stations and shipped long distances to market, whereas now there are more and better manufacturing plants within the state and some transportation at least, has been eliminated and saved to producers. The successful creamery cooperatives in the state have also brought about keener competition for the farmer's product. It is estimated by the managers of some of the associations that cooperation among dairymen in certain districts of the state has meant a net return of several cents per pound more than under former conditions.

The trend in the prices of butter and butterfat serves as a good index for trend in prices of other dairy products. If the price of butter is out of line with the price of other dairy products more or less butter will be

TABLE XXIII. BUTTER: AVERAGE FARM PRICES PAID TO PRODUCERS IN IDAHO, 15TH OF MONTH, 1916-1926. (CENTS PER POUND)*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Weighed Aver. Yearly Price**
1916	32	31	30	30	29	28	27	28	30	33	36	38	30
1917	36	36	38	39	37	37	37	40	46	44	48	49	40
1918	48	46	46	44	42	40	42	46	50	57	60	59	47
1919	58	52	50	53	54	51	51	54	56	62	64	57	56
1920	66	60	60	62	60	58	57	58	58	60	60	55	59
1921	47	44	42	42	42	35	29	32	38	42	44	42	39
1922	36	34	35	34	33	32	33	36	38	38	43	44	36
1923	44	43	42	42	42	40	41	44	46	45	46	46	43
1924	45	46	44	40	40	38	37	41	40	40	39	41	41
1925	42	41	37	41	40	39	43	47	46	51	54	52	44
1926	47	45	43	43	44	43	43	39					
1921-1925 Average	42.8	40.2	40.0	39.8	38.0	35.6	37.2	41.4	42.4	44.4	45.2	45.0	40.6

*Data from Federal Bureau of Agricultural Economics, "Monthly Supplement to Crops and Markets."

**Weighed according to monthly movement of market.

produced, depending upon whether the price is relatively high or low. This tendency will continue until prices are again in line.

It is not sufficient, however, for us to know merely what the price of butter in itself has been without regard to trends in prices of other farm products. One of the important reasons for the rapid growth of dairying in Idaho, as well as in many other states in recent years, is the fact that prices of dairy products since 1920 have on the whole been more favorable than prices of most other farm products. Figure 18 and Table XXIV show the trends in the United States farm prices of butter, grains, meat animals and "all farm products". These prices are expressed in relative terms using the five-year period, August 1909 to July 1914, as the base, thus making it possible to compare the different groups. The "all farm products" index includes a list of thirty important agricultural products. If an "all farm products" index number for Idaho were available, it would no doubt be a more satisfactory one to use than the United States index; likewise, with the non-agricultural index. However, since no such indexes are available the United States farm prices and indexes are used. They will at least show the important relationships.

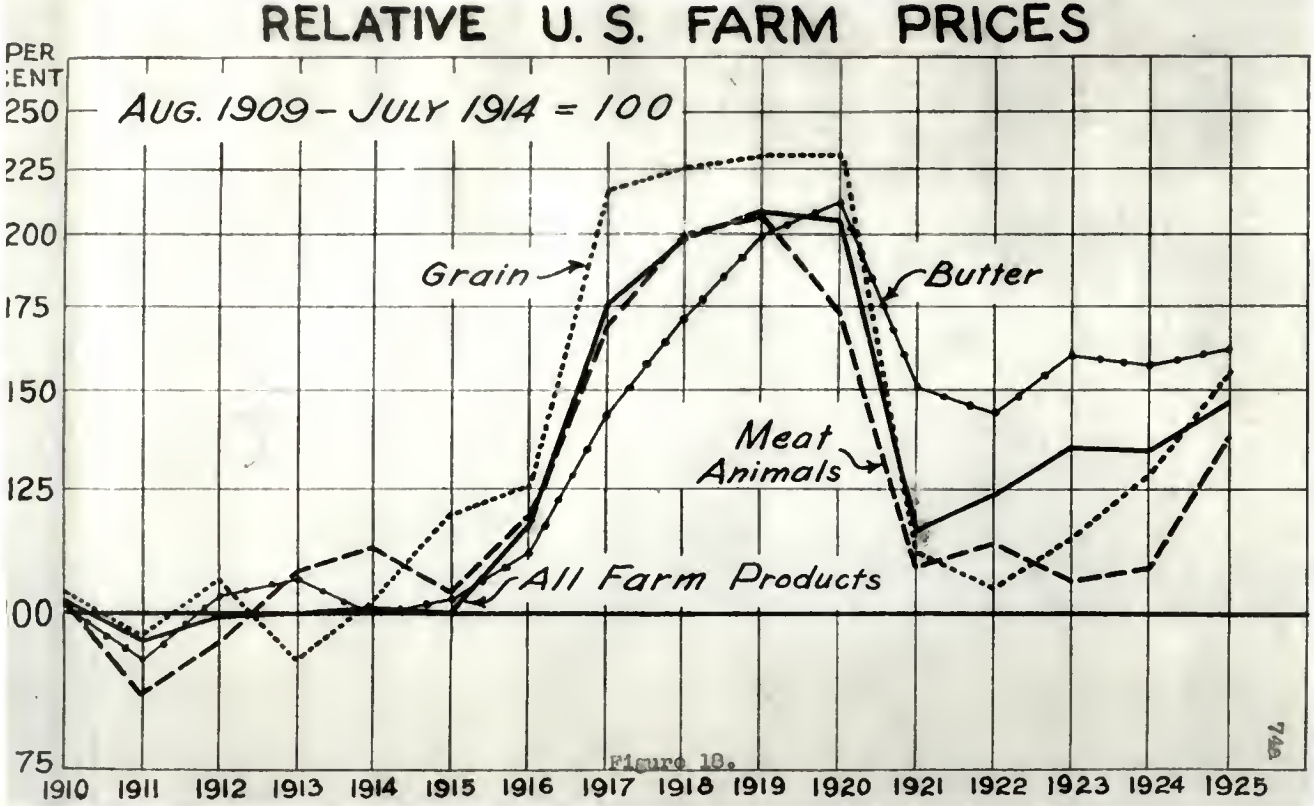

RELATIVE U. S. FARM PRICES
PER CENT
AUG. 1909 – JULY 1914 = 100
250
225
200
175
150
125
100
75
Grain
Butter
Meat Animals
All Farm Products
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925

Figure 19.

TABLE XXIV. RELATIVE UNITED STATES FARM PRICES*
(Aug. 1909 - July 1914 = 100)**

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

*Relative prices are obtained by dividing the actual United States farm price of each comodity in a given year by the average United States farm price of the five-year period (August 1909 - July 1914) and multiplying by 100.

**United States Bureau of Agricultural Economics, "Index of Farm Prices".

From 1916 to 1919 the "all farm products" index was higher than the butter index but from 1920 onward it was lower. The grain index and meat animals index showed a similar relationship, except that the grain index was above the butter index from 1915 to 1920 and lower after 1920. In other words, the price of butter did not rise as rapidly during the war, nor did it drop as rapidly after the war, as

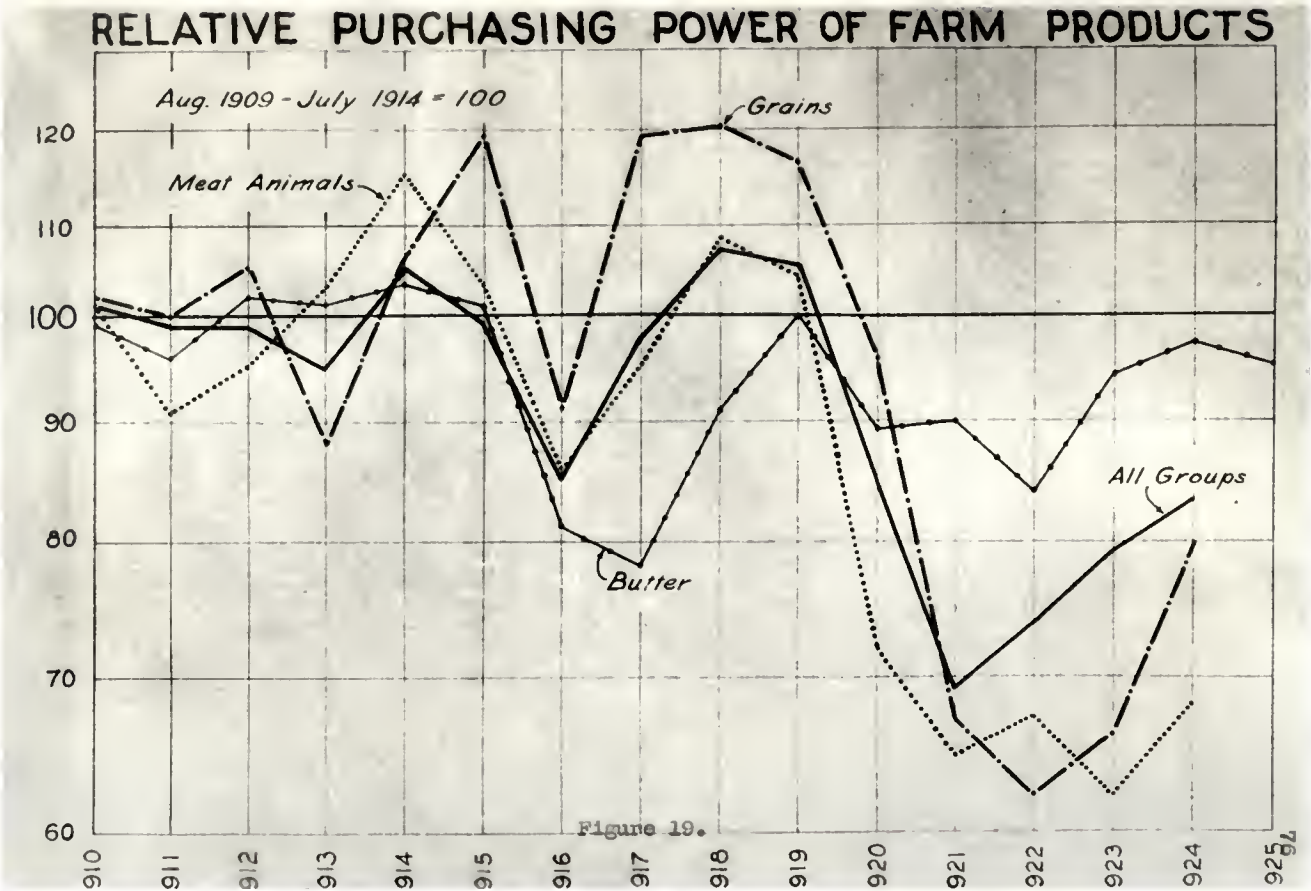

RELATIVE PURCHASING POWER OF FARM PRODUCTS
Aug. 1909 - July 1914 = 100
Grains
Meat Animals
All Groups
Butter
120
110
100
90
80
70
60
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925

Figure 19.

did the price of other farm products. Butter has held a substantial lead over the "all farm products" index up to the present time.

Figure 19 and Table XXV show the relative purchasing power of the above mentioned groups of products, expressed in terms of non-agricultural commodities. The purchasing power of butter in terms of non-agricultural commodities remained below 100 per cent until 1920. Since then it has remained at a higher level than the other groups.

TABLE XXV. RELATIVE PURCHASING POWER OF FARM PRODUCTS (1)

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

(1) Bureau of Agricultural Economics (Index Number of Farm Prices). Relative purchasing power is obtained by dividing the index number of each commodity or group by the index numbers of wholesale prices of non-agricultural commodities.

The foregoing discussion brings out the fact that butter prices during the past six years have been favorable as compared with most other agricultural commodities. Butter prices still remain favorable and there appears to be little danger of serious price declines in the near future at least. Further slight decreases in number of dairy cows occurred in 1926 in the United States as a whole, and numbers of heifers are insufficient for normal replacements. On the whole, the national dairy situation is as favorable as it was a year ago, if not more favorable.

OUTLOOK FOR DAIRYING IN EACH DISTRICT OF IDAHO

Southwest Counties

In the southwest section of Idaho where dairy development is most advanced, sales of dairy products constitute a major part of the farm income on some farms, while hogs take the same place on others. Usually poultry and hogs on a very extensive scale do not combine well, as both are rather dependent on dairy by-products for best results. Dairying is usually carried on, supplementing special orchard or cash crops, to insure a constant income on the farm and to furnish the market for the surplus hay which in this section does not have the ready outlet to sheep and cattle feeders as does the surplus hay of other sections of

south Idaho more favorably located to stock ranges. Other reasons for the outstanding dairy development in the Boise, Payette, and Weiser valleys are the long seasons of good pastures and usually mild climatic conditions. Development of very satisfactory marketing facilities where highest possible returns are made to the producers through cooperative cream pools and creameries also has been a factor. The competition of these cooperative agencies tends to maintain a high price level throughout the section. Then, too, the lack of any outstanding cash crops, together with denser population and smaller farms, has necessitated adjustment and shifts to dairying in this section of Idaho. Some other sections have been able to carry on without dairying because of ability to produce high values per acre with potatoes, beans, beets, and in some sections peas, alfalfa and clover seed.

Dairying in southwest Idaho is not organized on farms with large herds, the number of cows kept per farm depending upon available alfalfa hay, pasture and feed. In normal years some farms which do no dairying have a surplus of hay for sale which finds its outlet through cattle and lamb feed lots and dairymen secure additional feed needed at low prices.

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 flocks of chickens than did the less stable operators. The cows created a "home market" for hay and feed and the farmers were able to realize something for spare time which might otherwise have been idle. Farmers who were forced to engage in dairying to uphold their economic status and to have funds for paying interest, taxes, water rent, and family living expenses during unfavorable years experienced in the past, have found the enterprise highly profitable because of the very favorable natural conditions, cheap forage and pasture. They have graded up their herds, adopted approved dairy practices, have built efficient marketing agencies through cooperative effort, and the industry in this section is now on an established and permanent basis.

South-Central Idaho

This section, which comprises the north and south side Twin Falls irrigation tracts, the Minidoka project and adjacent counties to the north, has made considerable progress in dairying. The enterprise, however, has not approached the development which conditions indicate is possible. This seems due, primarily, to the high values

of cash crops in favorable years and the usually ready market for surplus alfalfa hay which is so essential for maintenance of soil fertility and high crop yields. South-Central Idaho is located favorably to the great sheep and cattle ranges and is ideal for wintering sheep and cattle.

Hazards of price change, insects and other pests, and, in some years, water shortage have tended to cause farmers in this district to give more consideration to dairying to insure a steady income, rather than to risk loss or complete failure waiting for highly profitable crop years. Conditions in south central Idaho in general are as favorable for dairy production as in southwest Idaho but, although the industry is developing rapidly, it lacks somewhat the stability of the southwest district.

Southeast Idaho

Shorter pasture seasons, rather inefficient marketing facilities to insure full returns, and less favorable climatic conditions have retarded dairy development in southeast Idaho. Longer feeding and more substantial housing are necessary. Unsatisfactory returns from beef cattle have caused farmers to consider dairying and many tried to add to their income by milking beef cows. Disappointment over the results probably has been a retarding factor. In very recent years, however, this section of Idaho has

probably experienced more rapid development in dairying than than any other district. There has been outstanding improvement in the quality of dairy cattle by means of bull associations and importations of high-class sires and foundation females. Farmers have increased farm income and dairy profits through interest in cow testing associations and the adoption of approved dairy practices. Dairying is carried on largely as a major or minor side line. While there are a few large herds in the district, the usual sized herd is from four to ten cows, depending on feed available.

Upper Snake District

Although the Upper Snake district as a whole produces high yields of alfalfa and a large surplus above farm needs, there is usually a very ready market for suplus hay for range cattle, sheep and feed lot purposes. Sugar factories with large tonnages of pulp and the surplus hay attract feeders to this section. The ability of farmers to secure very high values per acre from a rather wide choice of cash crops has tended to keep down dairy expansion to some extent. Potatoes frequently yield $300 to $400 per acre values. Potatoes, seed peas, Grimm alfalfa, clover seed, and sugar beets usually have furnished farmers with sufficient purchasing power to meet current needs. On the whole,

this section has been able to carry on without an enterprise like dairying which affords a regular and constant income, but which has the handicap of constant labor requirements.

The pasture season is shorter due to the higher altitude and to climatic conditions, and longer winter feeding is necessary. More substantial housing is necessary than in southwestern and south central Idaho.

Dairying, however, furnishes a substantial source of income. As in southeast Idaho, cheese factories operate in many communities. Much butterfat is shipped to large centers both south and north. Three creameries operate in the Upper Snake to furnish part of the immediate local butter needs. More and more farmers are becoming interested in dairying, at least as a minor side line involving little cash expense except original investment and furnishing some constant cash income during "low value" crop years and assuring them a good market for hay.

Palouse District

The Palouse counties have enjoyed an excellent market for butterfat in the Spokane trade territory. Climatic conditions are favorable for dairying and alfalfa can be grown successfully, but the apparent ease of securing from cash crops, principally wheat, farm income sufficient to

maintain themselves and lack of good pastures, have retarded development of dairying. A lower scale of wheat prices, more attention to production of forage crops and better pasture methods, probably the adoption of sweet clover as a pasture base, undoubtedly will be factors in the growth of dairying in the Palouse section. Extensive advancement of dairying can not be expected in this region in the near future as a great change in farming methods must first be brought about.

North Idaho and Other Sections

North Idaho has especially favorable marketing conditions. The Spokane trade area embracing the lumber and mining districts furnishes a constant home market. Dairying, however, has not made much progress the past five years. Settlers have been unable to clear land for enough cultivated feed crops to maintain many dairy cows. Yields of feed crops have been low due to soil conditions. This, however, is being corrected by proper soil treatment. Alfalfa and sweet clover are now being established and should make possible feed production for an increased number of dairy cows. The section also is handicapped by the inadequacy of native pastures. The cut-over pastures have low carrying capacity.

Building materials are relatively cheap and silos will probably be used considerably when the herds become larger.

In spite of production handicaps, agricultural progress in most of the cut-over sections is going to depend largely upon the ability and determination of settlers to produce feed crops, improve pastures, and market their crops through live stock, principally dairy cattle.

Conditions in Lemhi County, which is included in the North Idaho district for discussion, are favorable for dairying. Alfalfa and feed grains yield well. Potatoes, however, furnish a high value cash crop and retard dairy development.

DAIRY MANUFACTURING AND MARKETING

Total Milk Production

Table XXVI gives the milk production according to the latest available figures, in the United States, Pacific States, Mountain States, and each state of the latter two regions for the census years, 1919 and 1924. This is shown graphically in Figure 20. Figures 21 and 22 and Table XXVI show the percentage of the total milk produced by the western groups of states, and the percentage each of the western states contributed toward the total.

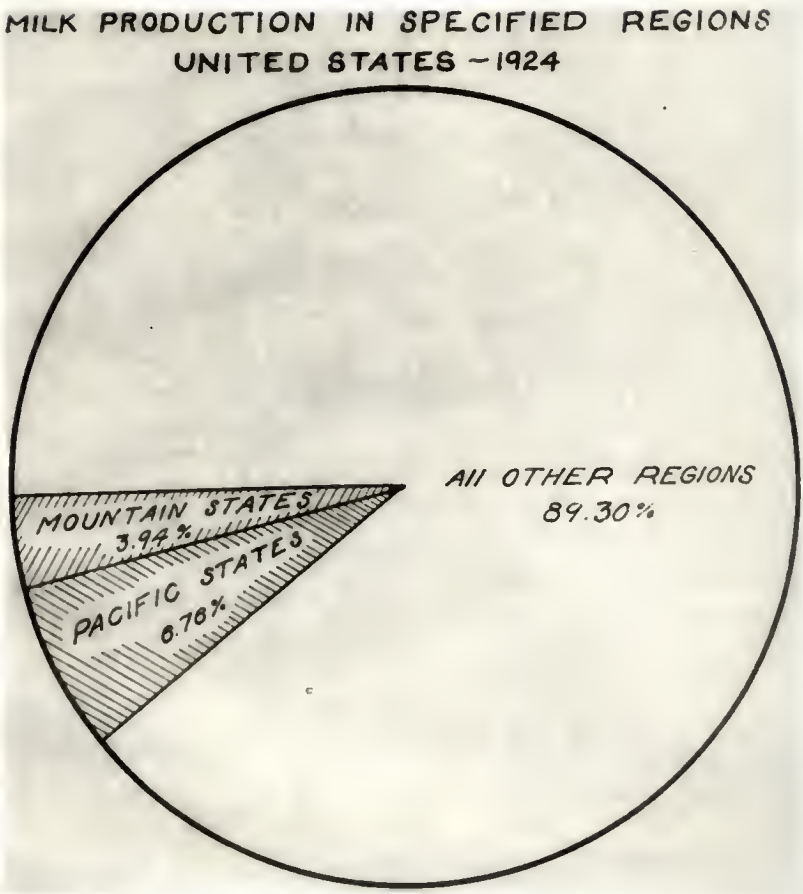

MILK PRODUCTION IN SPECIFIED REGIONS
UNITED STATES – 1924
MOUNTAIN STATES
3.94%
PACIFIC STATES
6.76%
All OTHER REGIONS
89.30%

Figure 20.

TABLE XXVI. MILK PRODUCTION IN THE UNITED STATES AND SPECIFIED REGIONS, 1919 and 1924*

Regions of states	1919 gallons produced	Per Cent of United States	Per Cent of 11 western states	1924 gallons produced	Per Cent of United States	Per Cent of 11 western states	Per Cent 1924 as of 1919
United States	7,805,143,792	100.00	---	9,198,303,635	100.00	---	117.8
Pacific states	509,793,680	6.53	---	622,372,824	6.76	---	122.1
Mountain states	260,412,164	3.34	---	362,511,808	3.94	---	139.2
Eleven western states	770,205,844	9.87	100.00	984,884,632	10.70	100.00	127.9
California	276,424,216	- --	35.60	340,308,805	---	34.55	123.1
Washington	140,524,518	---	18.20	169,846,011	---	17.24	120.8
Oregon	92,844,946	---	12.50	112,218,008	---	11.40	120.8
Colorado	79,492,631	---	10.32	96,496,262	---	9.80	121.4
Idaho	52,365,498	---	6.79	78,505,003	---	7.97	149.9
Montana	51,251,095	---	6.65	73,185,407	---	7.44	144.6
Utah	29,339,512	---	3.80	40,847,359	---	4.15	139.2
Wyoming	14,542,841	---	1.88	24,318,069	---	2.47	167.2
Arizona	14,370,833	---	1.86	18,415,661	---	1.87	128.1
New Mexico	12,737,649	---	1.60	19,260,659	---	1.96	151.2
Nevada	6,312,105	---	.80	11,483,388	---	1.16	181.9

*B. Hunter's Report.

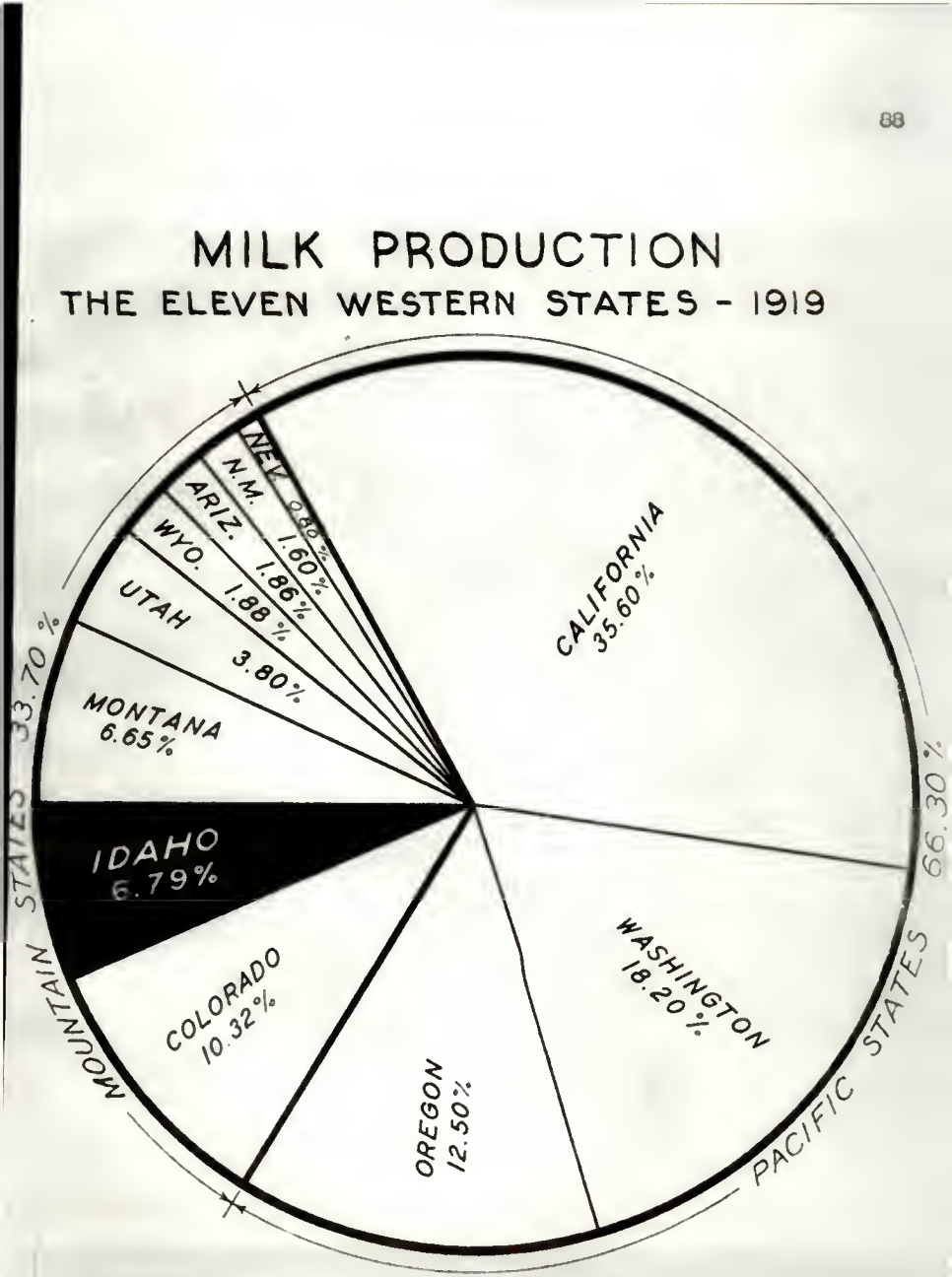

MILK PRODUCTION
THE ELEVEN WESTERN STATES - 1919
MOUNTAIN STATES 33.70 %
PACIFIC STATES 66.30 %
CALIFORNIA 35.60 %
WASHINGTON 18.20 %
OREGON 12.50 %
COLORADO 10.32 %
IDAHO 6.79 %
MONTANA 6.65 %
UTAH 3.80 %
WYO. 1.88 %
ARIZ. 1.86 %
N.M. 1.60 %
NEV. 0.60 %

Figure 21.

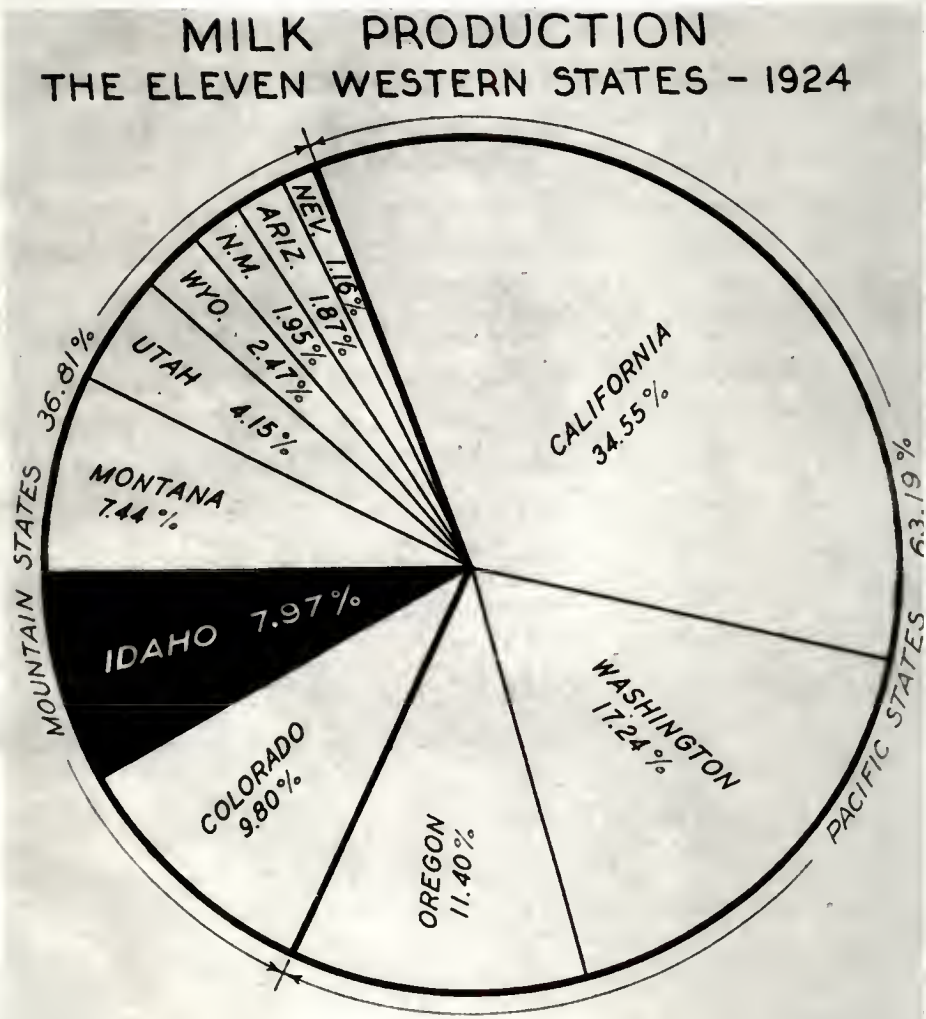

MILK PRODUCTION
THE ELEVEN WESTERN STATES - 1924
MOUNTAIN STATES 36.81%
PACIFIC STATES 63.19%
NEV. 1.16%
ARIZ. 1.87%
N.M. 1.95%
WYO. 2.47%
UTAH 4.15%
MONTANA 7.44%
IDAHO 7.97%
COLORADO 9.80%
OREGON 11.40%
WASHINGTON 17.24%
CALIFORNIA 34.55%

Figure 22.

Total milk production in the United States increased 18 per cent in the five-year period 1919-1924 and in the eleven Western States 28 per cent. The Mountain States increased 39 per cent while the Pacific States made a gain of 22 per cent. The data show that during the five-year period 1919-1924, production in the Western States increased much more rapidly than in the United States as a whole. Furthermore the gain was more rapid in the mountain group than in the Pacific group. Idaho made about 50 per cent increase in production of milk, increasing still more rapidly than even the Mountain States.

Due to the small percentage of United States total milk production represented by the 11 western states, the proportion of the total produced in the western group did not change much, the percentage being 9.87 in 1919 and 10.70 in 1924. In 1924 Idaho produced 8 per cent of the milk produced in the 11 western states or 0.9 of one per cent of the total milk of the United States.

Butterfat Marketed from Various Areas of Idaho

Figures 23 and 24 show the development of Idaho from 1919 to 1924 in total butterfat sold, which includes that sold as butterfat and that sold as milk and cream. Unfortunately, census reports do not segregate the milk sold according to whether it is sold to cheese factories, con-

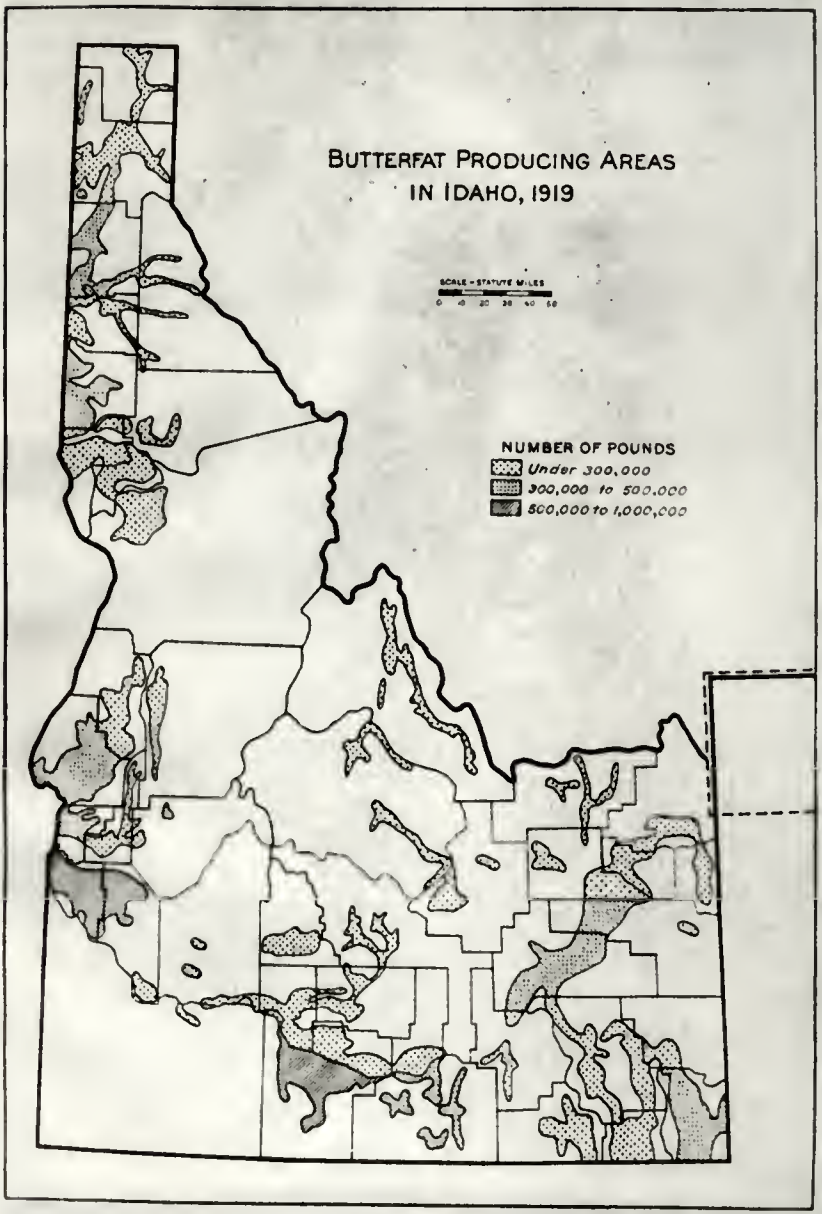

BUTTERFAT PRODUCING AREAS
IN IDAHO, 1919
SCALE - STATUTE MILES
0 10 20 30 40 50
NUMBER OF POUNDS
Under 300,000
300,000 to 500,000
500,000 to 1,000,000

Figure 23.

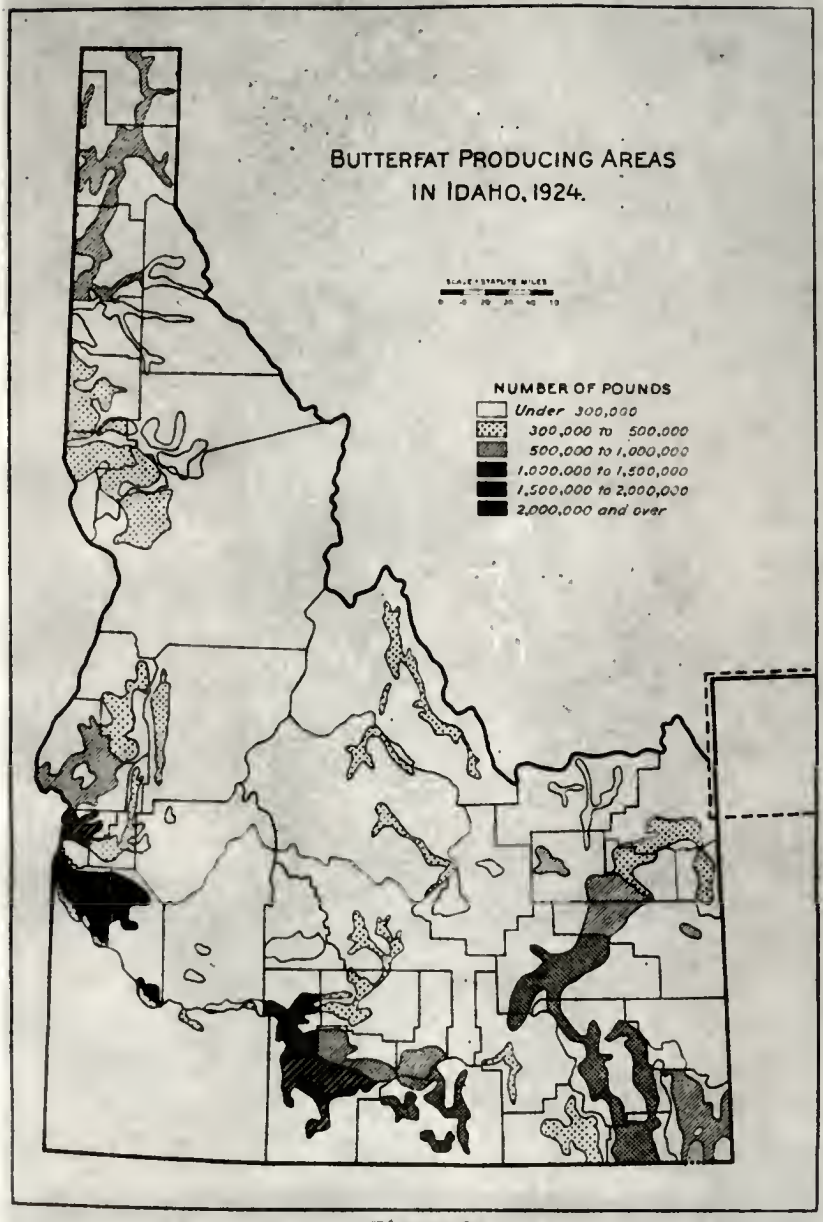

BUTTERFAT PRODUCING AREAS
IN IDAHO, 1924.
NUMBER OF POUNDS
Under 300,000
300,000 to 500,000
500,000 to 1,000,000
1,000,000 to 1,500,000
1,500,000 to 2,000,000
2,000,000 and over

Figure 24.

denseries, or sold as cream to creameries. These reports list it all as butterfat.

The heaviest producing regions in 1924 were the Boise Valley, the Twin Falls tract and Payette County. In 1924 Canyon and Ada Counties (Boise Valley) each produced over 2,000,000 pounds of commercial butterfat, while Payette and Twin Falls Counties each produced between 1,500,000 and 2,000,000 pounds. Gooding, Bingham, Bannock, Cassia, and Franklin Counties rank next in production with between 1,000,000 and 1,500,000 pounds. All other counties produced less than 1,000,000 pounds each.

In 1919 Ada, Canyon, and Twin Falls Counties were the only ones producing between 500,000 and 1,000,000 pounds. Eight counties, namely Kootenai, Latah, Washington, Payette, Cassia, Bingham, Booneville, and Bear Lake produced between 300,000 pounds and 500,000 pounds. All others produced less than 300,000 pounds that year.

Uses of Milk in Idaho

Of the milk produced in Idaho in the last census year (1924), the percentage used for various purposes compared with the average for the United States is shown in Figure 25 and Table XXVII.

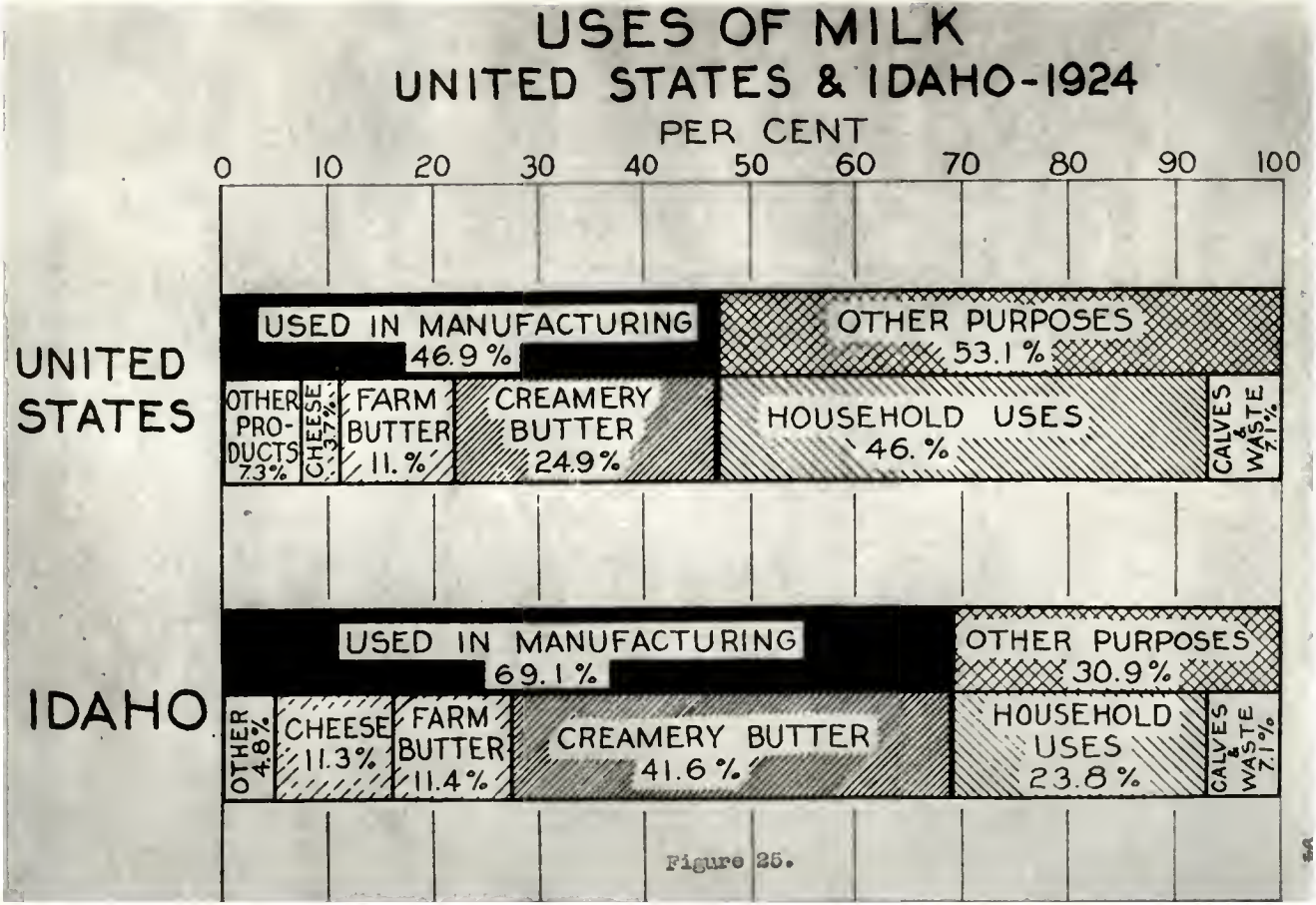

USES OF MILK
UNITED STATES & IDAHO-1924
PER CENT
0
10
20
30
40
50
60
70
80
90
100
UNITED STATES
USED IN MANUFACTURING 46.9%
OTHER PURPOSES 53.1%
OTHER PRODUCTS 7.3%
CHEESE 3.7%
FARM BUTTER 11.%
CREAMERY BUTTER 24.9%
HOUSEHOLD USES 46.%
CALVES & WASTE 7.1%
IDAHO
USED IN MANUFACTURING 69.1%
OTHER PURPOSES 30.9%
OTHER 4.8%
CHEESE 11.3%
FARM BUTTER 11.4%
CREAMERY BUTTER 41.6%
HOUSEHOLD USES 23.8%
CALVES & WASTE 7.1%

Figure 25.

TABLE XXVII. PERCENTAGES OF MILK USED FOR SPECIFIC PURPOSES IN UNITED STATES AND IDAHO, 1924

Milk Used for Manufacturing:	United States: Per Cent	Idaho Per Cent
Creamery butter	24.9	41.6
Farm butter	11.0	11.4
Total butter	35.9	53.0
Cheese (all kinds)	3.7	11.3
Condensed milk	3.7	4.2
Ice cream	3.4	.6
Other products	.2	---
Total for manufacturing	46.9	69.1
Milk Used for		
Household purposes	46.0	23.8**
Feeding calves	4.1	4.1*
Wasts	3.0	3.0*
Total	53.1	30.9
All Uses	100.0	100.0

*Same estimates used as for United States.
**Obtained by deduction from other figures.

Almost one-half of the total milk produced in the United States in 1924 was used for manufacturing while more than two-thirds of the total milk produced in Idaho the same year was used for that purpose. This is to be expected, since Idaho produced a large surplus. The small percentage, compared to the United States figures used for household purposes is due to large surplus exported in the form of butter and cheese. Based on the figures used for

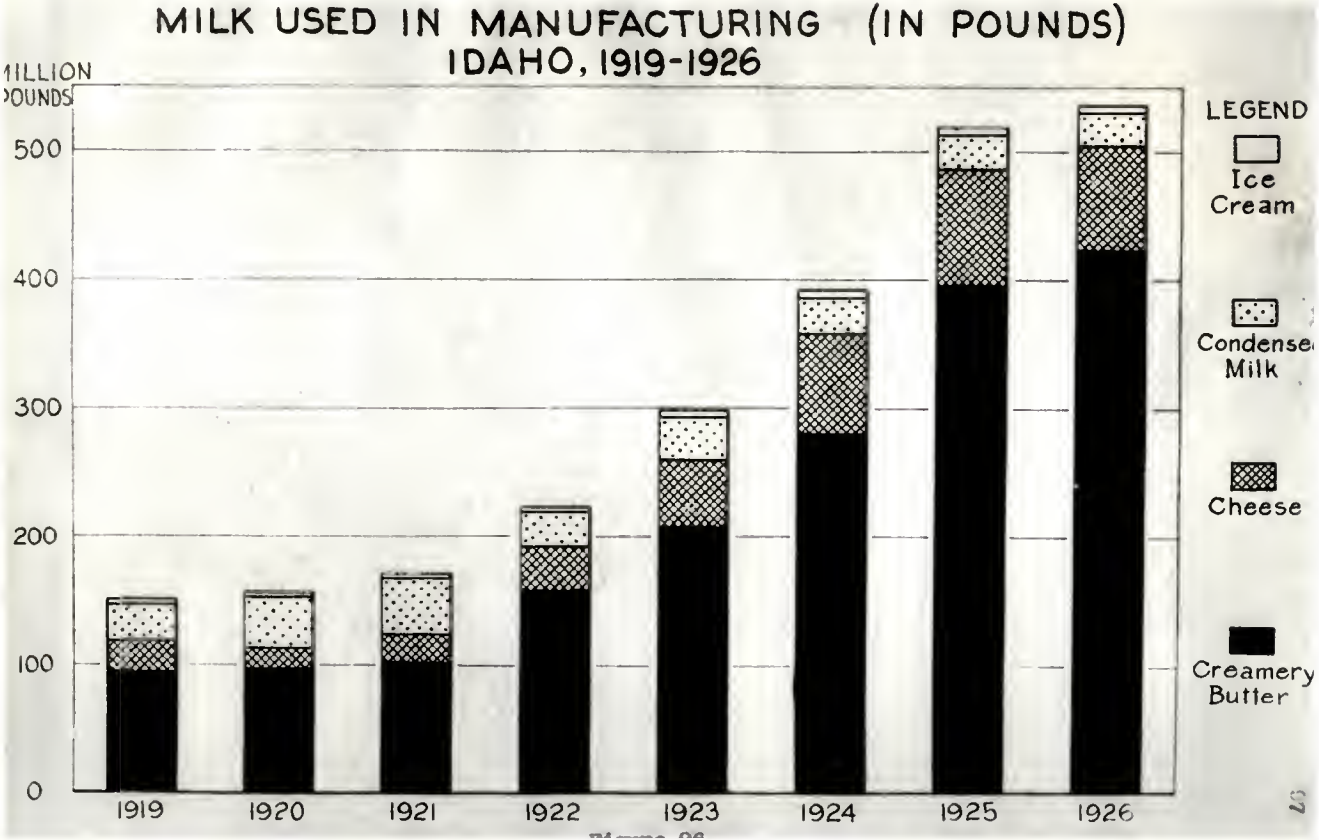
household purposes we find the per capita consumption to be practically the same in Idaho as it is in the United States.

Relative Amounts of Milk Converted into Each Manufactured Product

Figures 26 and 27 and Table XXVIII give the quantities and per cent of the total milk used for manufacturing that was converted into the various products, by years, 1919 to 1925.

Creamery butter represented 67.8 per cent of all milk used for dairy manufacturing (exclusive of farm butter) in the United States and 76.0 per cent in Idaho. Cheese was manufactured from 10.5 per cent of the milk in United States and 17.4 per cent in Idaho. Of the milk used for manufacturing in the United States 10.5 per cent was converted into ice cream and 10.5 per cent into condensed milk while in Idaho ice cream used 1.1 per cent and condensed milk 5.5 per cent of the milk.

The trends of the relative importance of manufactured products are shown in Table XXVIII. In 1919 butter represented 62.5 per cent of all milk used for manufacturing and in 1926 it represented 79.5 per cent, while cheese changed from 17.0 per cent in 1919 to 15.1 per cent in 1926. The milk used for ice cream was 2.4 per cent in 1919 and


MILK USED IN MANUFACTURING (IN POUNDS)
IDAHO, 1919-1926
MILLION POUNDS
500
400
300
200
100
0
1919
1920
1921
1922
1923
1924
1925
1926
LEGEND
Ice Cream
Condensed Milk
Cheese
Creamery Butter

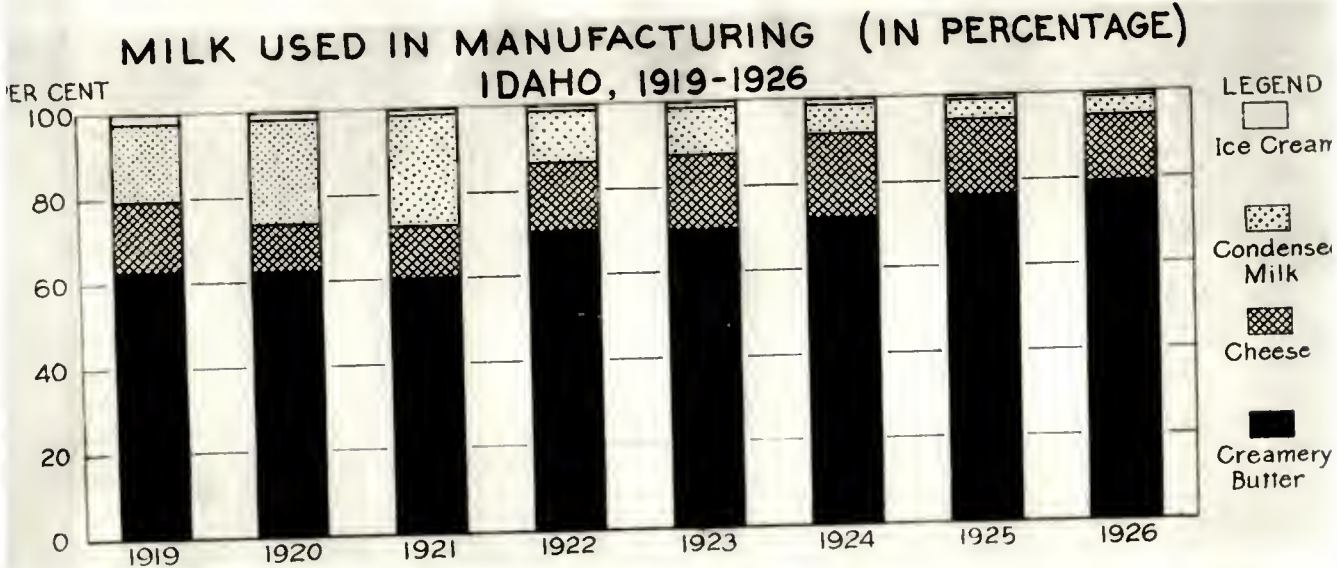

MILK USED IN MANUFACTURING (IN PERCENTAGE)
IDAHO, 1919-1926
ER CENT
100
80
60
40
20
0
1919
1920
1921
1922
1923
1924
1925
1926
LEGEND
Ice Cream
Condensed Milk
Cheese
Creamery Butter

Figure 27.

TABLE XXVIII. USE OF MILK FOR MANUFACTURING IN IDAHO (000 omitted)

Product	Pounds Milk Used Per Unit of Product	1919* Manufactured Product (Pounds)	1919* Milk Equivalent (Pounds)	1919* Per Cent	1920* Manufactured Product (Pounds)	1920* Milk Equivalent (Pounds)	1920* Per Cent	1921* Manufactured Product (Pounds)	1921* Milk Equivalent (Pounds)	1921* Per Cent	1922* Manufactured Product (Pounds)	1922* Milk Equivalent (Pounds)	1922* Per Cent
Creamery Butter	21.0	4,514	94,749	62.5	4,660	97,860	62.4	4,935	103,635	60.1	7,582	159,222	71.5
Cheese	10.0	2,582	25,820	17.0	1,727	17,270	11.0	2,161	21,610	12.5	3,368	33,680	15.1
Evap.Milk (Case Goods)	2.5	11,093	27,732	18.2	15,412	38,530	24.6	17,835	44,588	25.8	10,661	26,652	11.9
Ice Cream	13.75	254 Gals.	3,493	2.4	239 Gals.	3,286	2.0	189 Gals.	2,599	1.6	229 Gals.	3,148	1.5
Total			151,794	100		156,946	100		172,432	100		222,715	100

Product	1923* Manufactured Product (Pounds)	1923* Milk Equivalent (Pounds)	1923* Per Cent	1924* Manufactured Product (Pounds)	1924* Milk Equivalent (Pounds)	1924* Per Cent	1925* Manufactured Product (Pounds)	1925* Milk Equivalent (Pounds)	1925* Per Cent	1925** Manufactured Product (Pounds)	1925** Milk Equivalent (Pounds)	1925** Per Cent
Creamery Butter	9,883	207,543	69.7	13,431	282,051	71.9	15,101	317,121	76.0	18,841	395,661	76.5
Cheese	5,316	53,160	17.8	7,670	76,700	19.5	7,243	72,430	17.4	9,172	91,720	17.7
Evap.Milk (Case Goods)	13,668	33,270	11.1	11,365	28,412	7.2	8,956	22,440	5.5	10,040	25,100	4.8
Ice Cream	271 Gals.	3,726	1.4	341 Gals.	4,688	1.4	360 Gals.	4,950	1.1	382 Gals.	5,253	1.0
Total		297,699	100		391,851	100		416,945	100		517,734	100

Product	1926** Manufactured Product (Pounds)	1926** Milk Equivalent (Pounds)	1926** Per Cent
Creamery Butter	20,238	424,998	79.5
Cheese	8,103	81,030	15.1
Evap.Milk (Case Goods)	9,367	23,418	4.4
Ice Cream	374 Gals.	5,143	1.0
Total		534,589	100

NOTE - The data representing the years 1919 to 1925, inclusive, were obtained from the reports of the Bur. of Agric. Econ., U.S.D.A. Data for 1926 and additional data for 1925 were obtained from the Bur. of Dairying, Idaho State Dept. of Agric. The latter are the result of reports from all licensed manufacturing plants and should be more accurate than the Bur. of Agric. Econ. data as these were obtained by voluntary reports and some estimations. As might be expected the two sets of figures for 1925 show the State Dept. of Agric. figures to be higher and this should be considered in studying Table XXVI. The Idaho Bureau of Dairying was created in 1925.

*As reported by the Bureau of Agricultural Economics, U.S.D.A.

**As reported by the Bureau of Dairying, Idaho State Department of Agriculture.

1.1 per cent in 1926. Condensed milk represented 16.2 per cent in 1919 and 4.4 in 1926. During this period the total milk production increased.

Data presented on the following pages show that all of the manufactured products, with the exception of condensed milk, increased in volume of production from 1919 to 1925. Therefore, it may be concluded that some of the products are increasing more rapidly than others, which accounts for the change in their relative importance.

Estimated Value of Idaho Dairy Products, 1926

In 1926 there was produced in Idaho 23,633,341 pounds of butterfat sold for manufacturing purposes. This is a gain of 17.7 per cent over the 1925 figure, 20,110,015 pounds. These figures are reported by the Bureau of Dairying, State Department of Agriculture. Figures for the census year 1924 is the latest available on total milk production. In 1924 57.7 per cent of the milk was used for manufacturing, other than farm butter. By allowing for increased production the past two years, the butterfat used for manufacturing may conservatively be estimated at 60 per cent of the total production.

Based on this estimate the total production in 1926 would be about 39 million pounds of butterfat, equivalent to 975 million pounds of milk or 92 million gallons of milk.

Figuring the butterfat at 35 cents per pound, the value of the total milk production in Idaho for the year 1926 was between 13½ and 14 million dollars, which figure does not include the value of by-products. This may be compared to the value of 9 million dollars as reported by the Census Bureau for the year 1924.

BUTTER

Idaho manufactured 20,230,018 pounds of creamery butter in 1926, according to the reports from the Idaho Bureau of Dairying. In 1925 the reports show a total of 16,729,120 pounds made in Idaho and 2,111,460 pounds made outside of the state from butterfat produced in Idaho.

Idaho ranked nineteenth among the states in creamery butter production during the year 1925 with a total of 15,101,000 pounds, according to estimates of the Bureau of Agricultural Economics, United States Department of Agriculture. In 1920 the state ranked twenty-fifth. In 1925 Idaho manufactured 1.1 per cent of the total creamery butter of the United States. During the six-year period from 1920 to 1925, creamery butter production in Idaho increased about five times.

From Table XXVIII we find that 79.5 per cent of all milk used for manufacturing purposes in Idaho during 1925

was made into butter. The importance of butter as a means of marketing milk in Idaho is shown by the fact that of the milk used for manufacturing purposes the amount marketed as butter has increased from 62.5 per cent in 1919 to 79.5 per cent in 1926.

Creamery Butter Production

The rate of increase in creamery butter production in Idaho, compared with the rate of increase in the United States, Pacific States, and Mountain States is shown in Figure 28 and Table XXIX. The percentage of the total United States production for 1925, produced in the Pacific States, Mountain States, and Idaho as shown in Figure 29.

The eleven western states produced 15 per cent of the total creamery butter in the United States in 1920 and 14 per cent in 1926. Although creamery butter production increased 40 per cent in these western states during the seven year period the rate of increase was not as great as the average for the United States. The Pacific states, with a faster growing population, made less increase than the mountain states.

In 1920 the eleven western states represented 8.4 per cent of the population of the United States and in 1925 this had been increased slightly to 8.9.

TABLE XXIX. CREAMERY BUTTER: ESTIMATED PRODUCTION IN THE UNITED STATES, SPECIFIED DISTRICTS AND IDAHO, 1920-1926 (000 omitted)*

Year	United States		Pacific States		Mountain States		Idaho	
	Pounds	%	Pounds	%	Pounds	%	Pounds	%
1920	863,577	100	99,909	100	30,101	100	4,660	100
1921	1,054,938	122	107,327	107	37,265	124	4,935	106
1922	1,153,515	134	111,333	111	42,415	141	7,582	163
1923	1,242,214	145	126,757	127	51,715	172	9,883	212
1924	1,356,080	157	125,333	126	60,959	203	13,431	288
1925	As reported by State Bureau of Dairying						16,729	
1926	1,451,766	168	123,185	123	66,962	223	18,456	396

*As reported by Bureau of Agricultural Economics, United States Department of Agriculture, except when otherwise specified. Comparisons are made on United States Department of Agriculture figures as all are on comparative basis.

CREAMERY BUTTER PRODUCTION IN THE UNITED STATES BY SPECIFIED DISTRICTS AND IDAHO

1920-1925

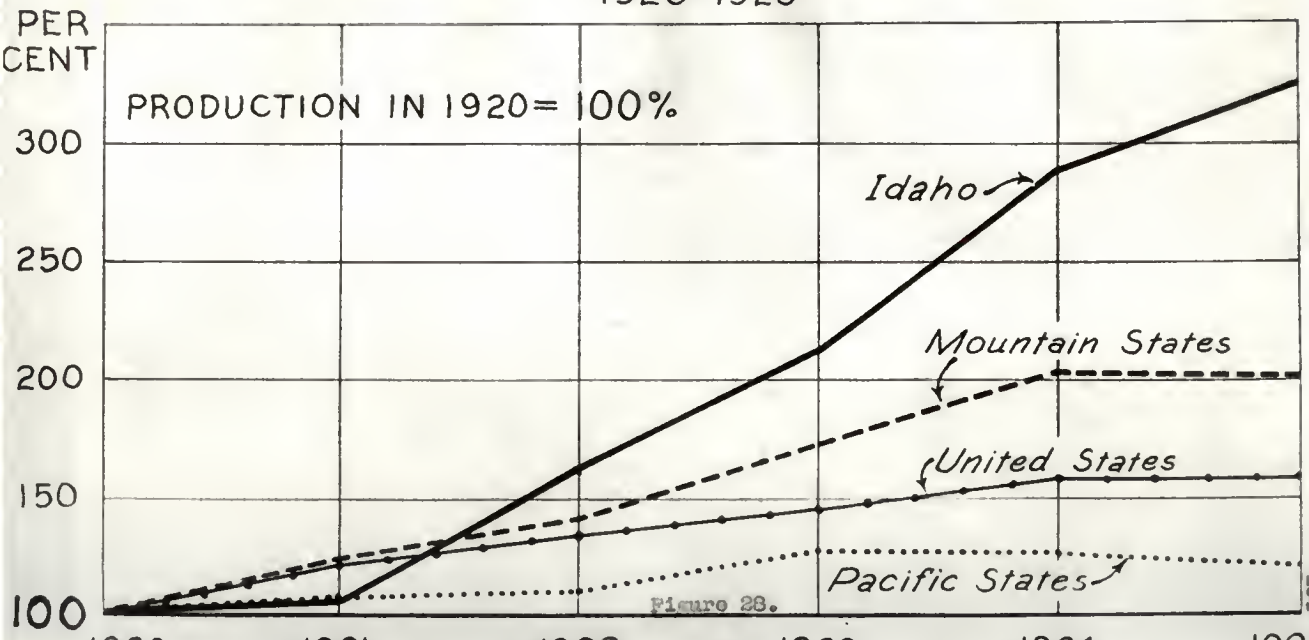


Figure 28.

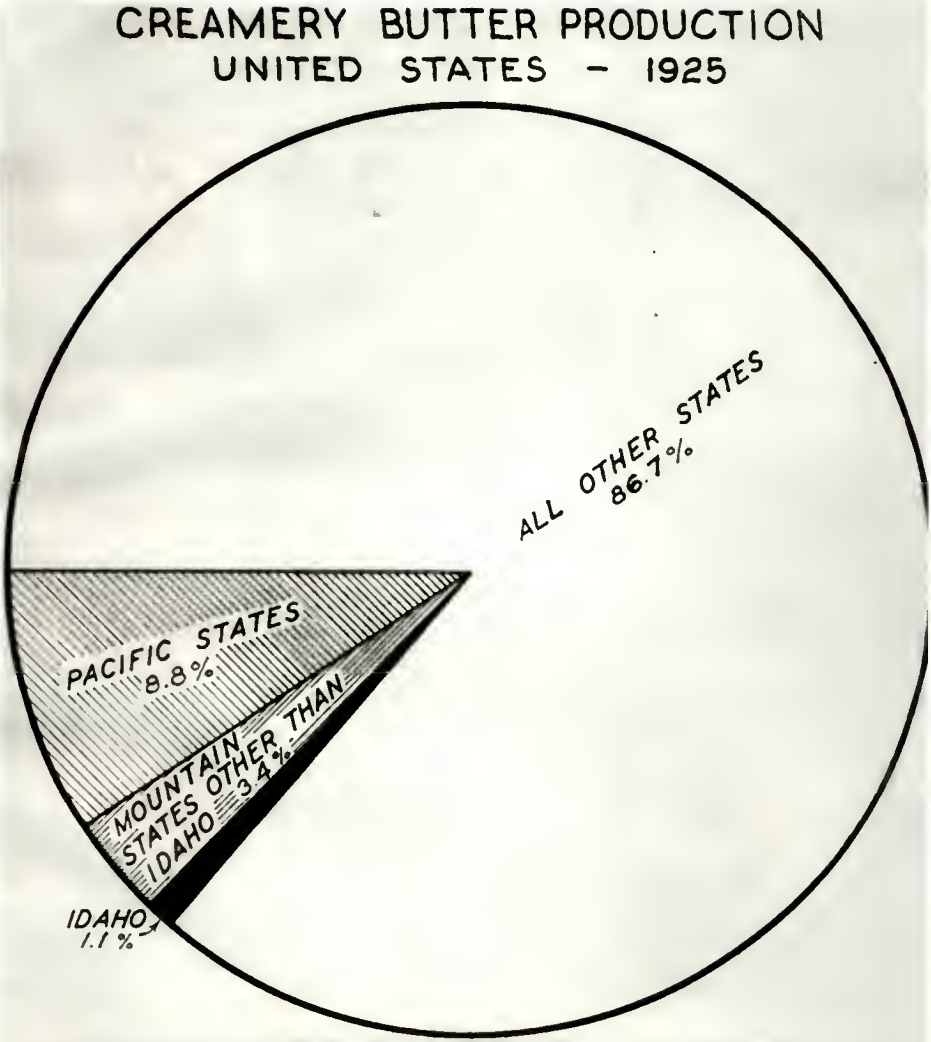

CREAMERY BUTTER PRODUCTION
UNITED STATES - 1925
ALL OTHER STATES
86.7%
PACIFIC STATES
8.8%
MOUNTAIN STATES OTHER THAN IDAHO
3.4%
IDAHO
1.1%

Figure 29.

Total Butter Production (Factory and Farm)

Farm butter is of sufficient volume to be quite a factor in considering the butter situation in any section. Data on farm butter production are available only by census years. Table XXX shows the amount of farm and factory butter produced in the United States and the western states for the census years 1919 and 1924. Figure 32 shows the percentage of the total butter produced in the United States in 1924, that was produced in the Pacific States, Mountain States, and Idaho. Figures 30 and 31 show the percentage of the total butter produced in the eleven western states produced in each state for the years 1919 and 1924.

Of the total butter produced in the United States, the eleven western states produced 10.7 per cent in 1919 and 11.3 per cent in 1924. The Pacific states produced 7.1 per cent in both 1919 and 1924. The mountain states produced 3.6 per cent of the total in 1919 and 4.2 per cent in 1924. Idaho produced 0.63 of one per cent of the United States total in 1919 and 0.87 of one per cent in 1924.

The eleven western states represented 8.8 per cent of the total population of the United States in 1919 and 8.9 per cent in 1924. The Pacific states represented 5.5 per cent in 1919 and 5.6 per cent in 1924, the mountain states

TOTAL BUTTER PRODUCTION (FACTORY AND FARM) THE ELEVEN WESTERN STATES - 1919

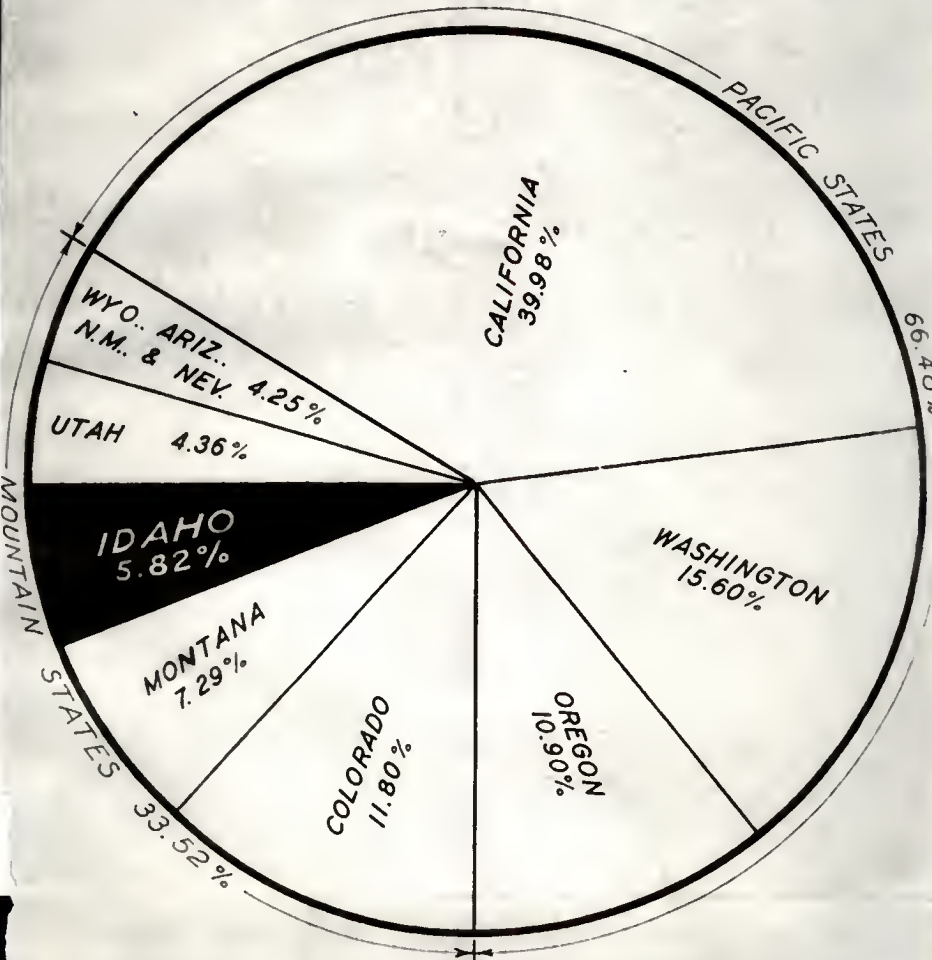


Figure 30.

TOTAL BUTTER PRODUCTION (FACTORY AND FARM) THE ELEVEN WESTERN STATES — 1924

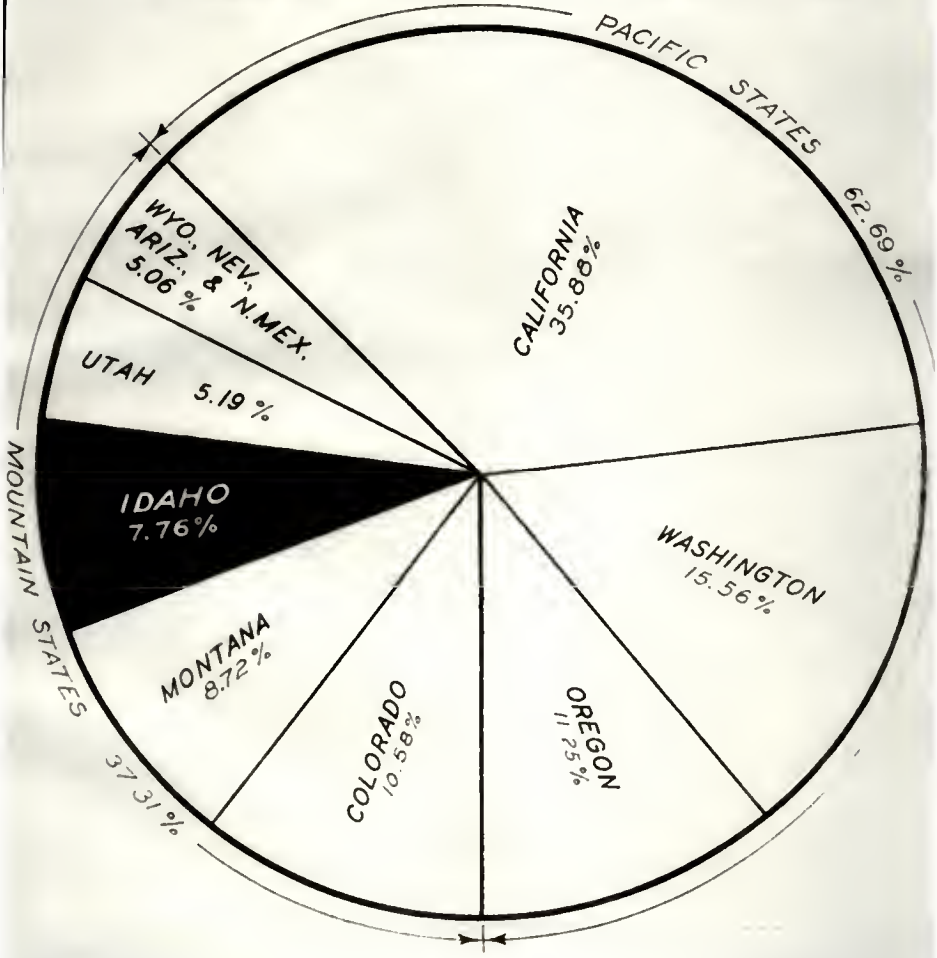


Figure 31.

TABLE XXX. TOTAL BUTTER PRODUCTION (FACTORY AND FARM), 1919 and 1924. (000 omitted)

Region	1919 Factory* Pounds	1919 Factory* % of Total Butter	1919 Farm** Pounds	1919 Farm** % of Total Butter	1919 Total Butter Pounds	1919 % of U.S. Total by Regions	1924 Factory* Pounds	1924 Factory* % of Total Butter	1924 Farm** Pounds	1924 Farm** % of Total Butter	1924 Total Butter Pounds	1924 % of U. S. Total by Regions
United States	849,994	54.5	707,666	45.5	1,557,660	100.0	1,356,080	69.4	600,000	30.7	1,956,080	100.1
Mountain States	33,220	59.2	22,840	40.8	56,060	3.6	60,959	73.7	21,709	26.3	82,468	4.2
Pacific States	95,362	85.7	15,835	14.3	111,197	7.1	125,833	90.7	12,827	9.3	138,658	7.1
Eleven Western States						% of Western Total by States						% of Western Total by States
California	61,140	91.4	5,758	8.6	66,898	39.98	75,509	95.2	3,836	4.8	79,345	35.88
Washington	20,238	77.4	5,900	22.6	26,137	15.60	29,331	85.1	5,090	14.9	34,421	15.56
Oregon	13,984	76.9	4,178	23.1	18,162	10.90	20,993	84.3	3,901	15.7	24,892	11.25
Colorado	13,983	70.8	5,776	29.2	19,758	11.80	18,130	78.1	5,245	21.9	23,375	10.58
Idaho	5,273	53.8	4,540	46.2	9,813	5.82	13,431	78.5	3,662	21.5	17,093	7.76
Montana	6,094	50.5	5,961	49.5	12,056	7.29	13,874	71.9	5,416	28.1	19,290	8.72
Utah	4,411	60.4	2,877	39.6	7,287	4.36	8,585	74.6	2,913	25.4	11,498	5.10
Wyoming	1,325	48.2	1,423	51.8	2,748	1.64	1,941	52.5	1,760	47.5	3,701	1.67
Arizona	1,040	63.6	593	36.4	1,634	.97	2,107	73.4	761	26.6	2,868	1.29
New Mexico	6	.4	1,404	99.6	1,410	.84	251	12.9	1,707	87.1	1,758	.79
Nevada	1,088	80.5	266	19.5	1,354	.80	2,640	92.4	244	7.8	2,884	1.31
Total	128,562	76.9	38,675	23.1	167,257	100.00	186,792	84.4	34,535	15.6	221,125	100.00

*Bureau of Agricultural Economics, United States Department of Agriculture reports.

**United States Census reports.

3.3 per cent in 1919 and the same in 1924. The population of Idaho was 0.44 per cent of the United States total in 1919 and 0.43 of one per cent in 1924.

These figures indicate that the eleven western states produce a surplus of butter (assuming per capita consumption to be about the same in the West and East) and that butter production is increasing more rapidly than population.

A study of the individual western states shows that although California increased in butter production the gain was not sufficient to maintain her percentage production of the total in the western states. In 1919 California produced 40 per cent and in 1924 about 36 per cent of the total butter produced in the western states. Washington, the next largest producer, made less than half as much as California in the year 1924. California produced as much as the total of her three nearest competitors, Washington, Oregon and Colorado. California produced about one-third, Washington, Oregon and Colorado combined about one-third, and the other seven inland states about one-third of the butter made in the western states.

Thus California is the key state of the West in butter production. Some people believe that the growing population in California will cause some of the milk now being converted into butter to be directed into the whole milk

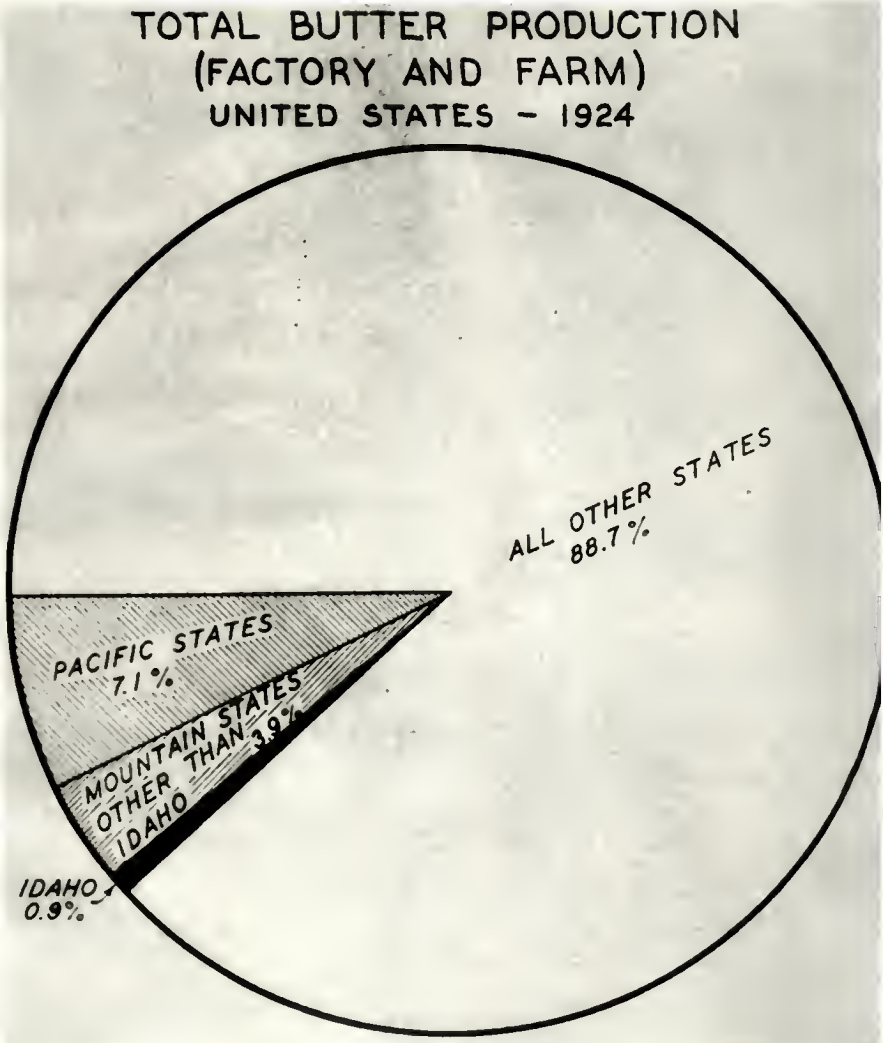

TOTAL BUTTER PRODUCTION
(FACTORY AND FARM)
UNITED STATES - 1924
ALL OTHER STATES
88.7 %
PACIFIC STATES
7.1 %
MOUNTAIN STATES
OTHER THAN
IDAHO 3.9%
IDAHO
0.9%

Figure 32.

markets. Any change of this kind in the future will have a very important bearing on the butter situation in all the western states.

Farm and Factory Butter

A study of Table XXX show that the percentage of farm butter production is becoming smaller in all sections. It is interesting to note that the percentage of factory butter in the United States in 1924 was 69.4 while the percentage in the Pacific states was 90.7 and the mountain states 73.7. This would indicate that butter manufacturing is on a better basis than the average for the United States. A great variation is found in the percentage of farm butter made in each of the western states. The states with the largest production have the largest percentage of their total butter made in factories.

In Idaho the farm butter represented 21.4 per cent of the total butter production in 1924. The change in the relative amounts of creamery and farm butter produced in Idaho is shown in Figure 33 and Table XXXI.

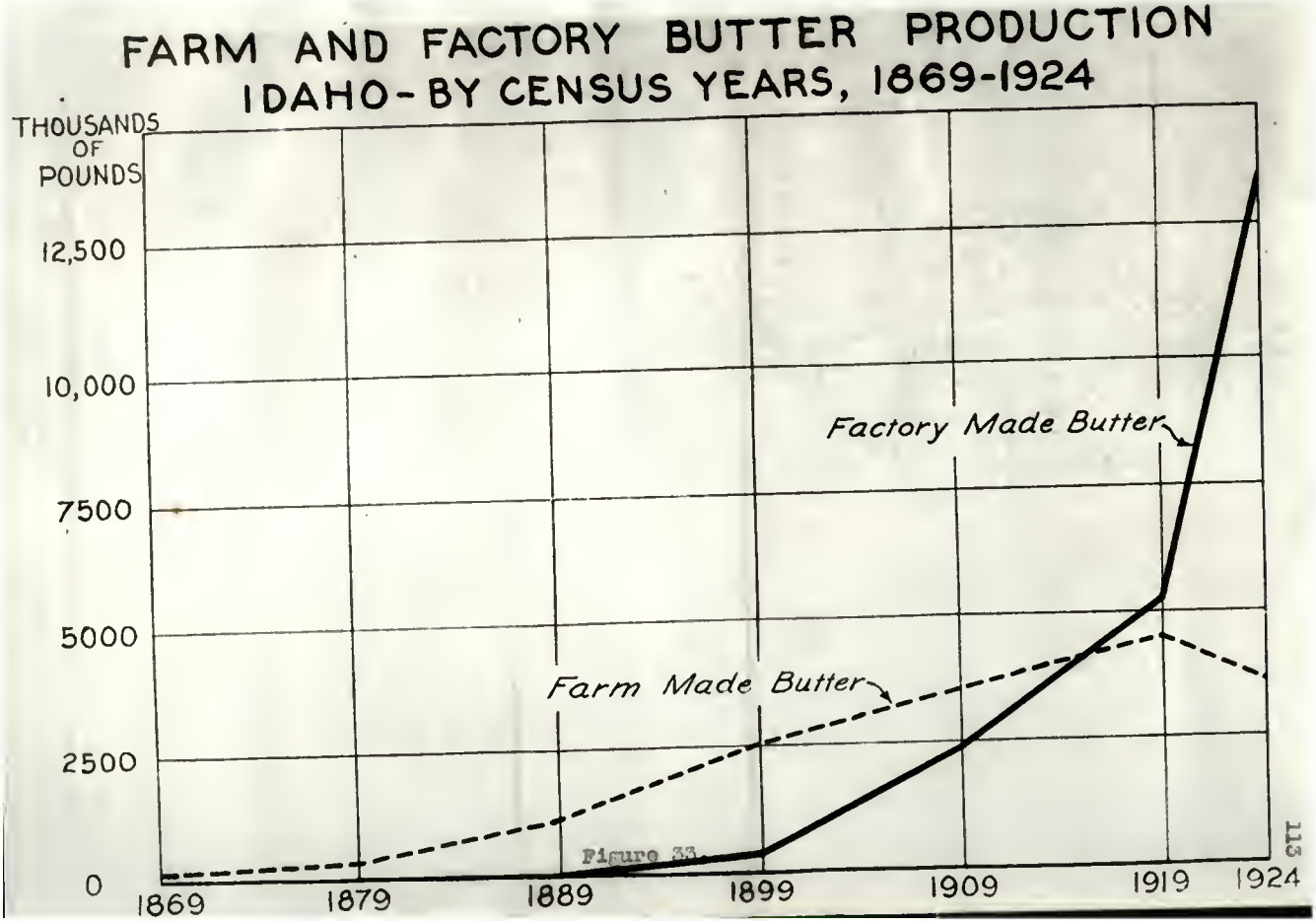

FARM AND FACTORY BUTTER PRODUCTION
IDAHO - BY CENSUS YEARS, 1869-1924
THOUSANDS OF POUNDS
12,500
10,000
7500
5000
2500
0
1869
1879
1889
1899
1909
1919
1924
Factory Made Butter
Farm Made Butter

Figure 33.

TABLE XXXI. COMPARISON OF FARM AND FACTORY BUTTER PRODUCTION IN IDAHO, CENSUS YEARS 1869-1919*

Year	Farm Made		Factory Made		Total Farm and Factory Production
	Pounds*	% Total	Pounds**	% Total	
1924	3,661,728	21.4	13,431,000	78.6	17,092,726
1919	4,540,364	46.2	5,272,857	58.8	9,813,221
1909	3,542,125	60.1	2,357,386	59.9	5,899,521
1899	2,520,316	85.3	432,570	14.77	2,952,886
1889	1,078,103	98.7	13,650	1.3	1,091,753
1879	310,644	98.8	3,600	1.2	314,244
1869	111,480	100.0	--	--	111,480

*As reported by Bureau of Census.
**As reported by Bureau of Agricultural Economics.

It has only been since 1900 that much factory butter has been produced but since then the percentage has increased from 14.7 to 78.6. This fact together with the very rapid increase in the volume of production, has been responsible for the development of efficient creameries.

Creameries in Idaho

Figure 34 shows a map of the state with the location of the licensed creameries in 1927. (See appendix for list.) Not only the greatest number but the largest units located in districts producing the greatest volume of butterfat. Of the 36 creameries in Idaho 22 are rather small, privately owned plants; seven are cooperative; and seven owned by large corporations and operate along what is known


IDAHO
SCALE STATUTE MILES
LOCATION OF CREAMERIES
Note:
Each dot represents one creamery.
BOUNDARY
BONNER
KOOTENAI
SHOSHONE
BENEWAH
LATAH
CLEARWATER
NEZ PERCE
LEWIS
IDAHO
LEMHI
ADAMS
VALLEY
WASHINGTON
PAYETTE
BOISE
GEM
CANYON
ADA
ONYHEE
ELMORE
CAMAS
BLAINE
CUSTER
BUTTE
CLARK
FREM.
JEFFERSON
MADISON
TET.
BONNEVILLE
BINGHAM
GOODING
LINCOLN
MINIDOKA
POWER
BANNOCK
CARIBOU
JEROME
TWIN FALLS
CASSIA
BEAR LAKE
ONEIDA
FRANKLIN

Figure 34.

as the centralizing plan.

Forty per cent of the butterfat produced in Idaho was manufactured into butter outside of the state in 1920, but in 1925 only 11 per cent of the production was manufactured outside the state. This change is advantageous to the producer because formerly much of the cream was handled through cream buying stations and shipped long distances to market. Producers necessarily must pay the expenses of operating the stations and transportation to distant manufacturing plants. There are now sufficient manufacturing plants within the state and some of the transportation expense, at least, has been eliminated and saved to producers. Returns to the producer should be greater and probably the change has been an impetus in the expansion of dairying. Cream stations are still necessary in communities remote from manufacturing plants and in small dairy districts. They pioneer the way for manufacturing plants.

The cooperative creameries deduct only actual costs, returning all the remainder to the producer, and may give him a higher return. Private agencies must have a profit. In districts where cooperative creameries have been successful, farmers feel that the prices for butterfat have ranged higher than in districts where no such competition exists.

Marketing Idaho Butter

Pacific Coast cities in the past few years have had a very large increase in population. California's creamery butter production increased 11 per cent in the seven-year period 1920-1926. Washington's increase was 22 per cent. The increase in production has not kept pace with the increase in population, and Pacific Coast cities are forced to import butter from the most available source. Utah has increased creamery butter production 125 per cent, and Idaho 296 per cent in the seven-year period. The population of Utah and Idaho have not increased greatly, and nearly all of the increase in production is available for export. Due to the deficit on the coast, markets have been strong the past few years and prices attractive, and the surpluses have gone West. Fifteen small creameries of Idaho report no export of butter outside the state. Carlot shipments of butter from Idaho for 1923, 1924, 1925 and 1926, according to Oregon Short Line Railroad reports, were:

1923	-	188 cars
1924	-	333 cars
1925	-	454 cars
1926	-	469 cars

Replies to a questionnaire sent to all of the creameries of the state indicate that there has been a definite change in the direction of shipments. The replies indicate

that in 1923 considerable butter was shipped east of the Rocky Mountains and that this percentage gradually decreased. In 1925 probably less than 5 per cent went east of the Rocky Mountains.

Receipts of Idaho butter at the six leading markets (New York, Boston, Chicago, Philadelphia, San Francisco, and Los Angeles) of the United States during the past five years is shown in Table XXXII.

TABLE XXXII. RECEIPTS OF IDAHO BUTTER AT VARIOUS MARKETS, 1921-1926*. (Thousand pounds, l.c., 000 omitted)

Market	1921	1922	1923	1924	1925	1926**
Chicago	4	34	233	202	None	64
San Francisco	246	402	502	490	1,043	1,191
Los Angeles		Not reported			8,555	13,101
Other Markets	None	None	None	None	None	None

*1925 Agricultural Yearbook, U.S. Department of Agriculture.
**Market News Service, Bureau of Agricultural Economics.

The reports on the Los Angeles market are not available earlier than August, 1924, as this is a newly organized market.

The above table shows that most of the butter exported from Idaho goes to California markets. In 1925 Idaho furnished 3.6 per cent of all the butter received on the San Francisco market while in 1926 Idaho furnished 4.3 per cent of the total butter at this market. Idaho butter repro-

sented 21.4 per cent of the total receipts on the Los Angeles market in 1925 and 29.8 per cent in 1926. California produced 75 per cent of the butter received at the San Francisco market in 1926 and 50 per cent of the butter at the Los Angeles market that year. Of the butter imported from outside California, Idaho produced 17 per cent of that reaching the San Francisco market and 59 per cent of the supply arriving at the Los Angeles market. Inasmuch as so much of the Idaho butter goes to California, a study of the sources of supply of the Los Angeles and San Francisco markets is of interest. Table XXXIII gives the states competing with Idaho in these markets.

Most of the butter arriving at these markets comes from the Western States. Idaho shipped nearly eleven times as much butter to the Los Angeles market as was sent to the San Francisco market. Idaho seems to have no one particular state, other than California, as a chief competitor at Los Angeles although Utah, Montana, Oregon, and Washington ship considerable butter to this market. It seems fortunate that Idaho ships largely to this market, both from the standpoint of competition and from the fact that this is a larger and faster growing market than San Francisco. San Francisco apparently does not offer as much opportunity for imported butter, and Oregon and Montana seem to be diverting the majority of their export butter to this market.

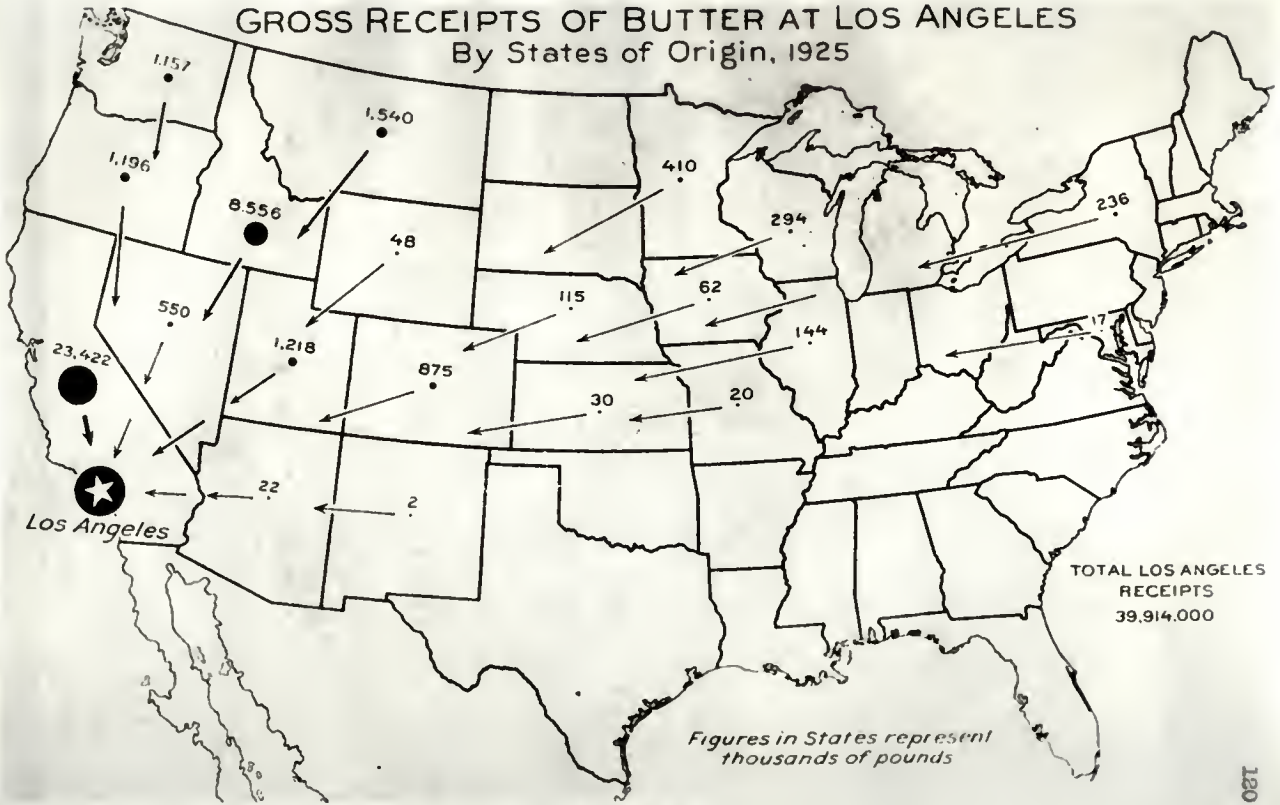

GROSS RECEIPTS OF BUTTER AT LOS ANGELES
By States of Origin, 1925
1,157
1,540
1,196
410
8,556
294
236
48
550
115
62
23,422
1,218
144
17
875
30
20
22
2
Los Angeles
TOTAL LOS ANGELES
RECEIPTS
39,914,000
Figures in States represent
thousands of pounds

Figure 35.

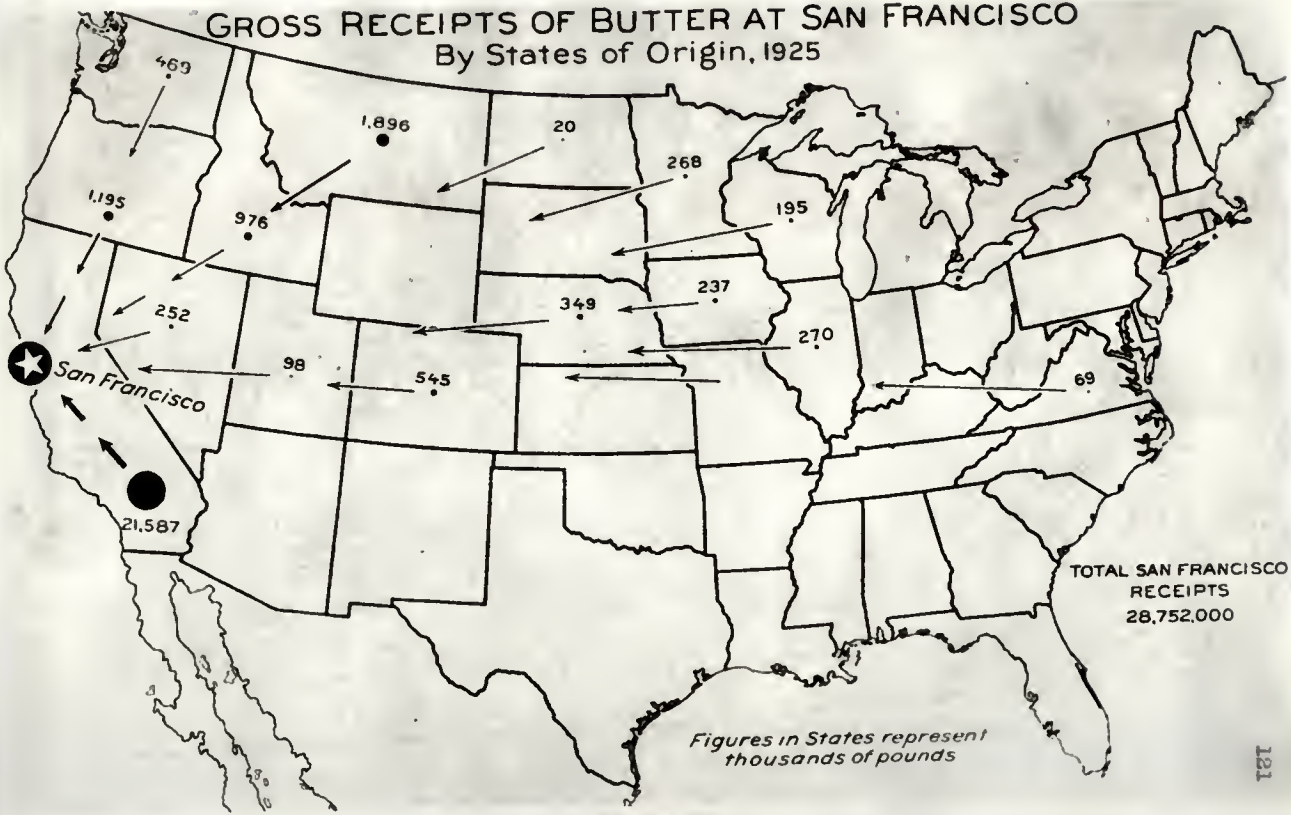

GROSS RECEIPTS OF BUTTER AT SAN FRANCISCO
By States of Origin, 1925
469
1,896
20
268
1,195
976
195
237
252
349
270
98
545
69
San Francisco
21,587
TOTAL SAN FRANCISCO RECEIPTS
28,752,000
Figures in States represent thousands of pounds

Figure 36.

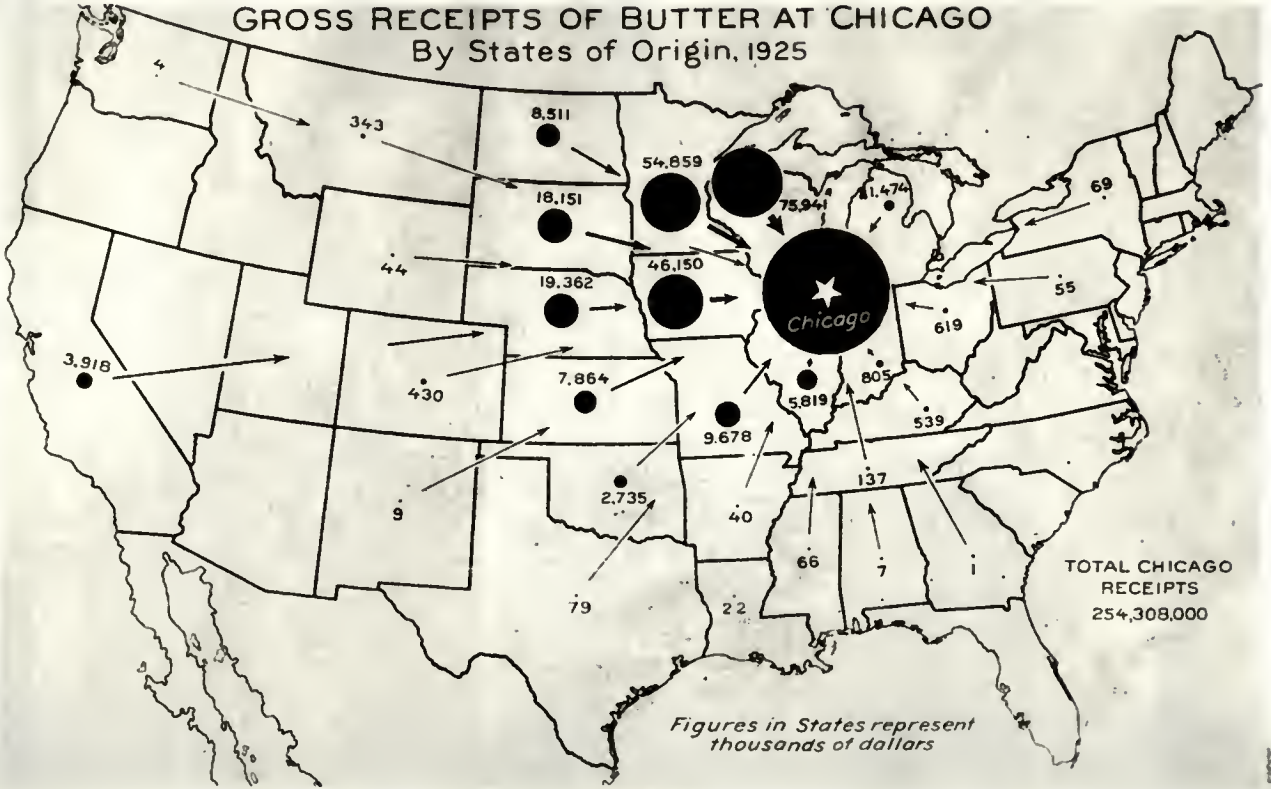

GROSS RECEIPTS OF BUTTER AT CHICAGO
By States of Origin, 1925
4
343
8,511
54,859
75,941
1,474
69
18,151
44
46,150
19,362
Chicago
55
619
3,918
430
7,864
5,819
805
539
9,678
137
9
2,735
40
66
7
1
79
22
TOTAL CHICAGO RECEIPTS
254,308,000
Figures in States represent thousands of dollars

Figure 37.

TABLE XXXIII. GROSS RECEIPTS OF BUTTER AT SAN FRANCISCO AND LOS ANGELES MARKETS, BY STATES OF ORIGIN (Thousand pounds, i.e., 000 omitted)

State	San Francisco						Los Angeles	
	1921	1922	1923	1924	1925	1926	1925	1926
California	23,318	23,358	21,805	22,984	21,587	20,701	23,422	22,011
Oregon	647	585	1,177	848	1,195	2,306	1,196	1,922
Washington	573	332	682	606	469	327	1,157	1,620
Nevada	412	388	293	258	252	63	550	589
Idaho	346	402	502	490	1,043	1,191	8,555	13,101
Montana	160	155	381	700	1,895	2,331	1,541	1,935
North Dakota	49	145	76	--	20	--	--	--
Utah	38	136	139	158	98	95	1,219	1,952
Illinois	34	118	--	1	204	--	144	--
Colorado	27	120	30	21	545	192	875	748
Nebraska	25	46	25	47	349	55	115	16
Minnesota	--	74	--	172	268	339	410	--
Iowa	--	51	24	--	257	--	--	19
Wyoming	--	8	--	24	--	--	--	24
Missouri	--	4	26	--	--	--	--	1
New York	--	--	15	--	--	--	336	6
Wisconsin	--	--	--	1	195	--	294	45
Arizona	--	--	--	1	--	1	--	14
Other States	201	--	--	--	69	--	210	--
Canada	--	--	316	--	326	--	--	--
Texas	--	--	--	--	--	3	--	--
Kansas	--	--	--	--	--	--	--	26
Pennsylvania	--	--	--	--	--	--	--	1
Total	25,730	25,916	25,511	26,411	28,752	27,604	39,924	44,030

Idaho has been able to make such rapid progress at Los Angeles because all the cooperative creameries sell their entire output, other than that required for local demand, at this market.

Idaho has made rapid strides in improving the quality of its butter. In several sections where dairying is intensified some cooperative creameries report receiving from two-thirds to three-fourths of their cream "sweet", from which they make a superior quality of butter. This is a very important reason why Idaho butter has met with favor in Los Angeles. The quality of butter manufactured in the future also will govern to what extent competition can be met.

Pacific Coast markets are now drawing nearly all of their supply from the Pacific slope states. When supplies of butter in the western states exceed the local requirements the coast markets will weaken, prices will drop to a level of the middle western and eastern markets, transportation considered, or the reverse may happen and eastern markets strengthen to correspond with the coast. In other words, prices in eastern and western markets will tend to equalize.

It costs only 1.4 cents more per pound to ship butter from Caldwell to Chicago or New York than it does to ship to Los Angeles. If the western coast market weakens, due

to increased production, or the eastern market strengthens because of decreased production in the east, Idaho can ship east without a very severe handicap to the industry.

Seasonal Shipments

Figure 38 and Table XXXIV show the seasonal movement of butter from Idaho as computed from the average monthly carlot shipments reported by the Pacific Fruit Express Company. The figure indicates that there is considerable variation as the average monthly shipments have ranged between 20 and 32 cars. There is heavier movement during the flush pasture season.

Cheese

In 1926 8,103,490 pounds of cheese were manufactured in Idaho according to reports from the Idaho Bureau of Dairying. Similar reports for 1925 showed 9,171,500 pounds of cheese made in this state, the 1926 production decreasing 12 per cent as compared with the 1925 total.

Idaho ranked fifth among the states in cheese production in 1925 according to estimates of the Bureau of Agricultural Economics, United States Department of Agriculture. Wisconsin ranked first with a production of 319,871,000 pounds, followed by New York with 55,642,000 pounds, Oregon with 10,030,000 pounds, Minnesota with 9,030,000 pounds,

MONTHLY SHIPMENTS OF BUTTER FROM IDAHO

Average, 1923-1925

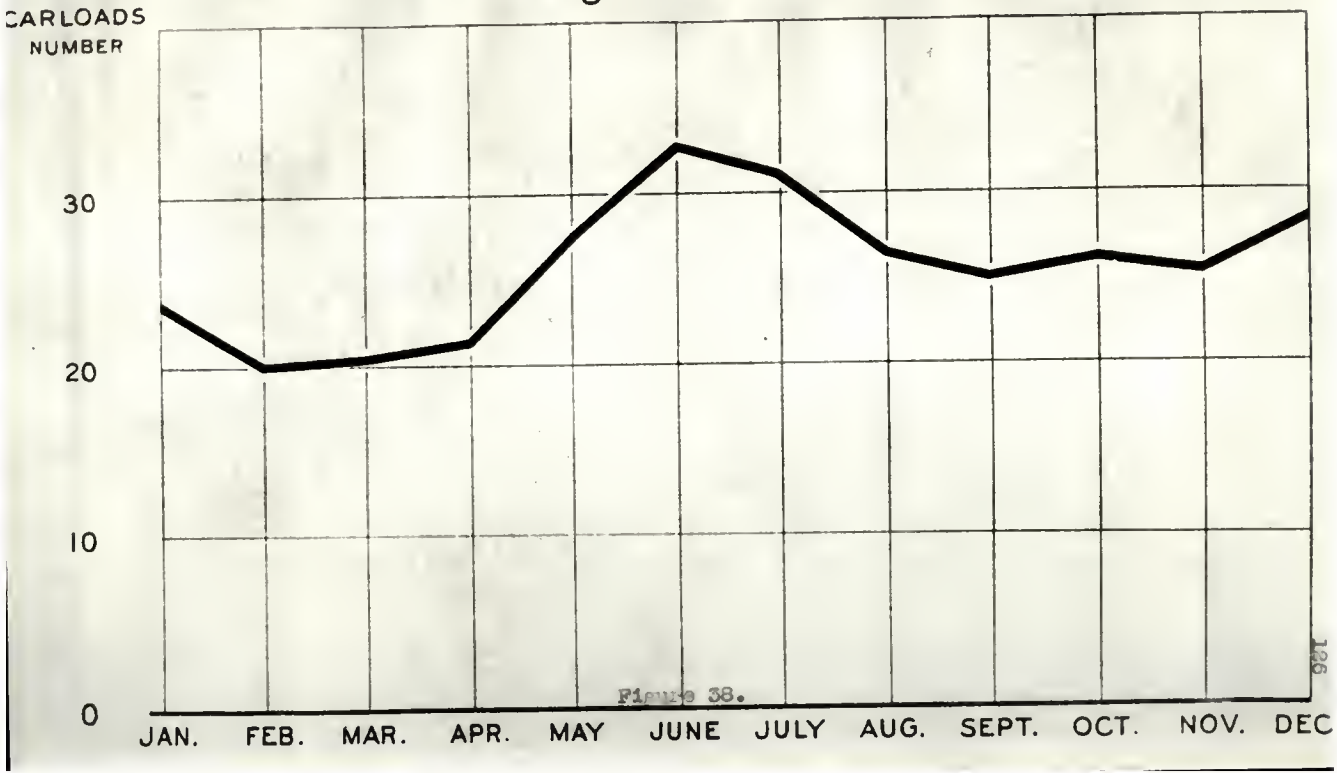


Figure 38.

TABLE XXXIV. CAR-LOT SHIPMENTS OF BUTTER FROM IDAHO, 1920-1926*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1920	5	2	2	1	0	5	1	4	4	5	7	4	40
1921	7	5	2	1	4	7	9	9	4	3	10	12	73
1922	12	10	12	7	7	17	23	12	13	10	10	20	163
1923	14	10	14	6	11	23	18	19	15	18	15	17	180
1924	24	24	23	27	32	32	32	26	22	30	28	31	331
1925	33	26	24	31	39	43	43	34	38	30	33	37	411
1923-1925 Aver.	23 2/3	20	20 1/3	21 1/3	27 1/3	32 2/3	31	26 1/3	25	26	25 1/3	28 1/3	
1926	42	33	38	43	51	51	48	46	46	44	46	47	535

*Data from special reports of Pacific Fruit Express.

Data do not include shipments from North Idaho. The latter, however, is not an important factor in the state total.

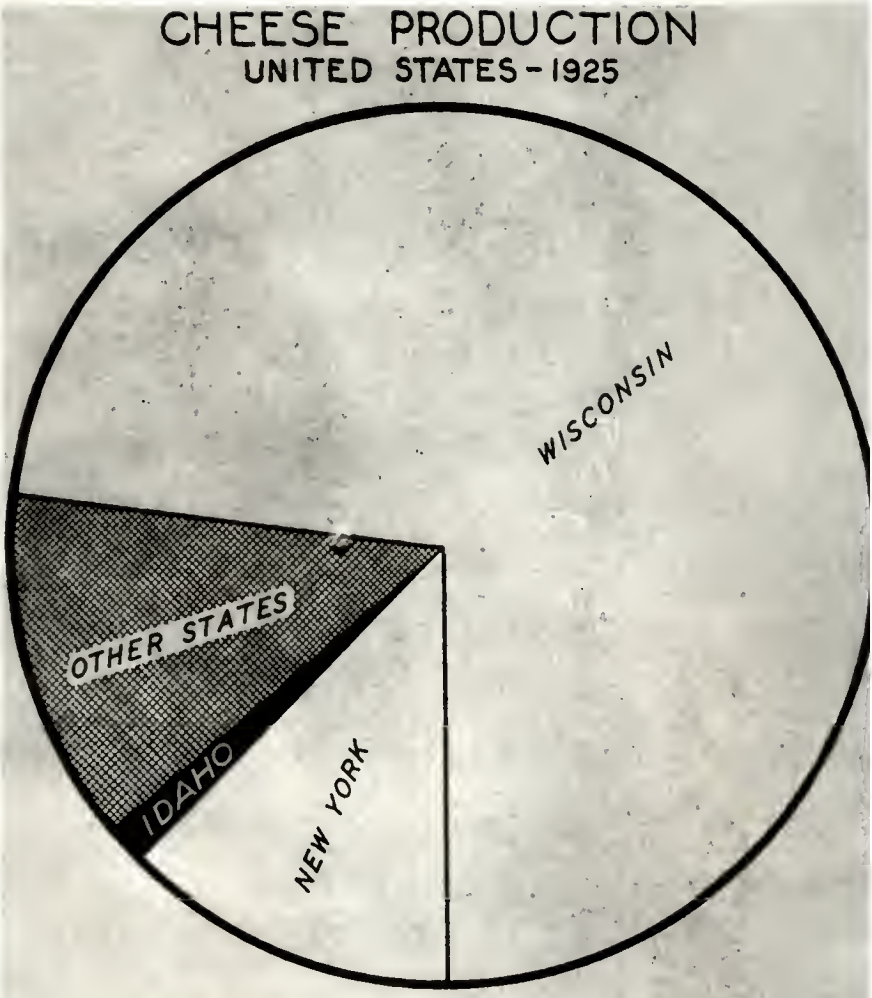

CHEESE PRODUCTION
UNITED STATES - 1925
WISCONSIN
OTHER STATES
IDAHO
NEW YORK

Figure 39.

and Idaho with 7,423,000 pounds. (U. S. estimates are lower than Idaho figures, but are satisfactory for comparison with other states.) Wisconsin produced 72.1 per cent of all the cheese in the United States and New York produced 12.4 per cent, making approximately 85 per cent of the cheese produced in these two states. Although ranking fifth in production, Idaho only produced 1.6 per cent of the cheese in the United States. This situation is shown graphically in Figure 37.

The cheese industry has made a rather phenomenal growth in Idaho in the last few years. Cheese is the second most important manufactured dairy product in the state. Of the milk used for manufacturing dairy products 15.1 per cent was converted into cheese. In 1926 the milk used for cheese making was 81,030,000 pounds or 9,422,000 gallons.

Cheese Production in Idaho, Mountain States, Pacific States and United States

Figure 40 and Table XXXV indicate the increase in cheese production in the United States, Pacific States, Mountain States, and Idaho during the years 1920 to 1925.

CHEESE PRODUCTION IN THE UNITED STATES BY SPECIFIED DISTRICTS AND IDAHO

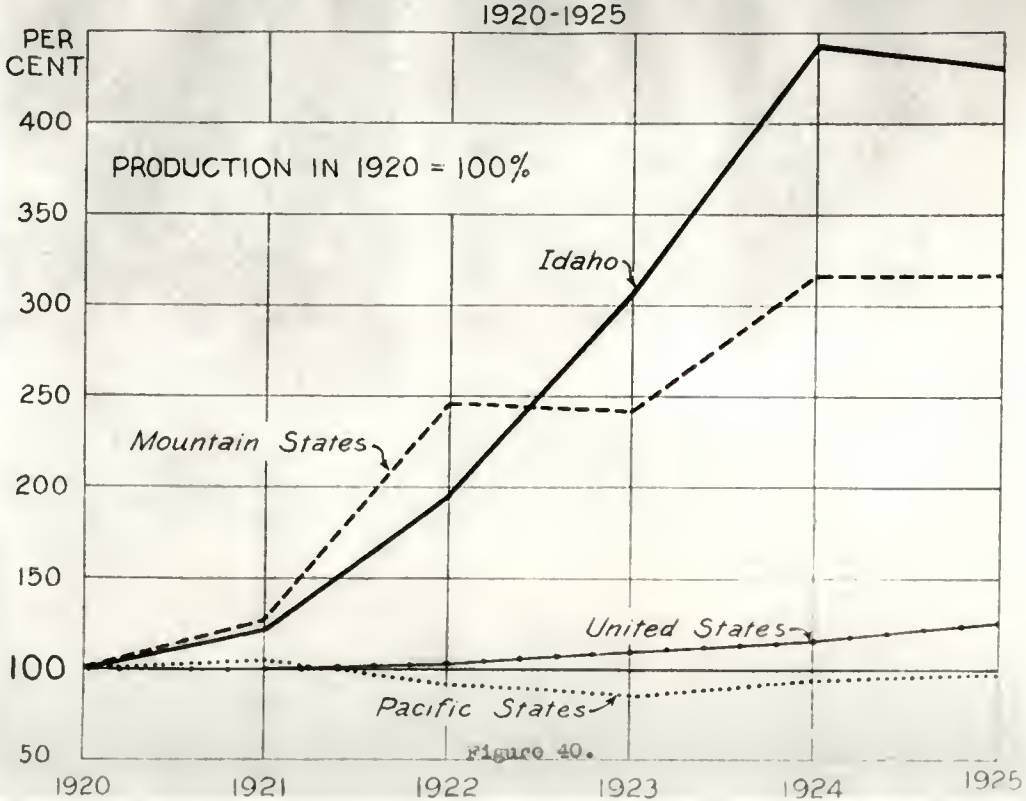


Figure 40.

TABLE XXXV. CHEESE: ESTIMATED PRODUCTION IN THE UNITED STATES, SPECIFIED DISTRICTS, AND IDAHO, 1920-1925* (000 pounds omitted)

Year	United States		Pacific States		Mountain States		Idaho	
	Pounds	Per Cent	Pounds	Per Cent	Pounds	Per Cent	Pounds	Per Cent
1920	362,431	100	18,463	100	838	100	1,727	100
1921	355,838	98.2	18,686	101.2	6,248	129.1	2,161	122.5
1922	369,980	102.1	16,448	89.1	11,391	235.4	3,368	195.0
1923	394,697	108.9	15,396	83.4	11,449	236.6	5,316	307.8
1924	413,940	114.2	17,033	92.3	15,017	310.4	7,670	444.0
1925	443,514	122.4	17,242	93.4	14,417	298.0	7,423	430.0
1925	As reported by Idaho Bureau of Dairying						9,172	
1926	As reported by Idaho Bureau of Dairying						8,103	
1926	427,416	117.9	19,123	103.6	16,118	333.2	8,289	480.0

*Total cheese not including cottage, pot, and baker's cheese.

U. S. Bureau of Agricultural Economics reports except where otherwise specified. Comparisons of states are made on United States Department of Agriculture figures as all on same basis.

The percentage increase in cheese production in Idaho since 1920 has been greater than the increase in butter or number of dairy cattle. This is probably explained by the impetus given to the cheese industry in 1922 and 1923 when the Kraft Cheese Company was influential in starting several cheese factories and installed a processing plant at Pocatello. Cheese production in this state increased 380 per cent from 1920 to 1926. During the same period the increase in the Mountain States was 233 per cent and there was an increase in the United States of 18 per cent. The eleven western states produced six per cent of the cheese of the United States in 1920 and although cheese production increased 51 per cent in those states this increase was only enough to raise the percentage of the total in 1926 to 7 per cent. The great increase in the mountain states was enough to offset the slight reduction in the Pacific states and to equalize the increase made in the entire United States.

Figure 41 and Table XXXVI show the change in cheese production among the eleven western states.

California produced less than one-half as much cheese in 1925 as in 1920, production dropping from 35.2 per cent of the total for the eleven western states in 1920 to 12.1 per cent in 1925. Oregon increased production but dropped from 38.7 per cent of the total in 1920 to 31.7 per cent

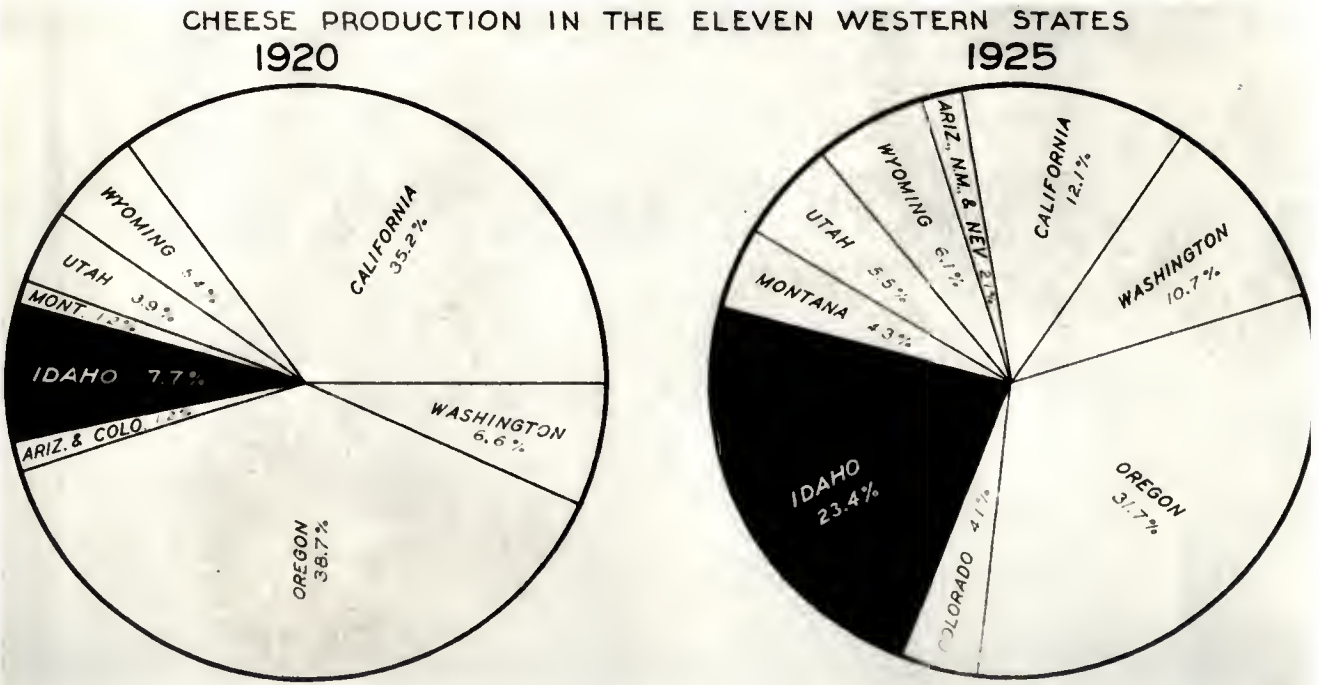

CHEESE PRODUCTION IN THE ELEVEN WESTERN STATES
1920
CALIFORNIA 35.2%
WYOMING 5.4%
UTAH 3.9%
MONT. 1.3%
IDAHO 7.7%
ARIZ. & COLO. 1.2%
WASHINGTON 6.6%
OREGON 38.7%
1925
ARIZ., N.M. & NEV. 2.7%
WYOMING 6.1%
UTAH 5.5%
MONTANA 4.3%
CALIFORNIA 12.1%
WASHINGTON 10.7%
IDAHO 23.4%
COLORADO 4.1%
OREGON 31.7%

Figure 41.

TABLE XXXVI. CHEESE PRODUCTION IN THE ELEVEN WESTERN STATES.

States	1920 Pounds Produced	Per Cent Produced	1925 Pounds Produced	Per Cent Produced
California	7,719,000	35.2	3,823,000	12.1
Washington	1,444,000	6.6	3,389,000	10.7
Oregon	8,482,000	38.7	10,030,000	31.7
Colorado	106,000	.5	1,288,000	4.1
Idaho	1,727,000	7.7	7,423,000	23.4
Montana	266,000	1.2	1,365,000	4.3
Utah	849,000	3.9	1,753,000	5.5
Wyoming	1,180,000	5.4	1,923,000	6.1
Arizona	150,000	.7	543,000	1.7
New Mexico			56,000	.2
Nevada			66,000	.2
Total Production	21,923,000	100.0	31,659,000	100.0

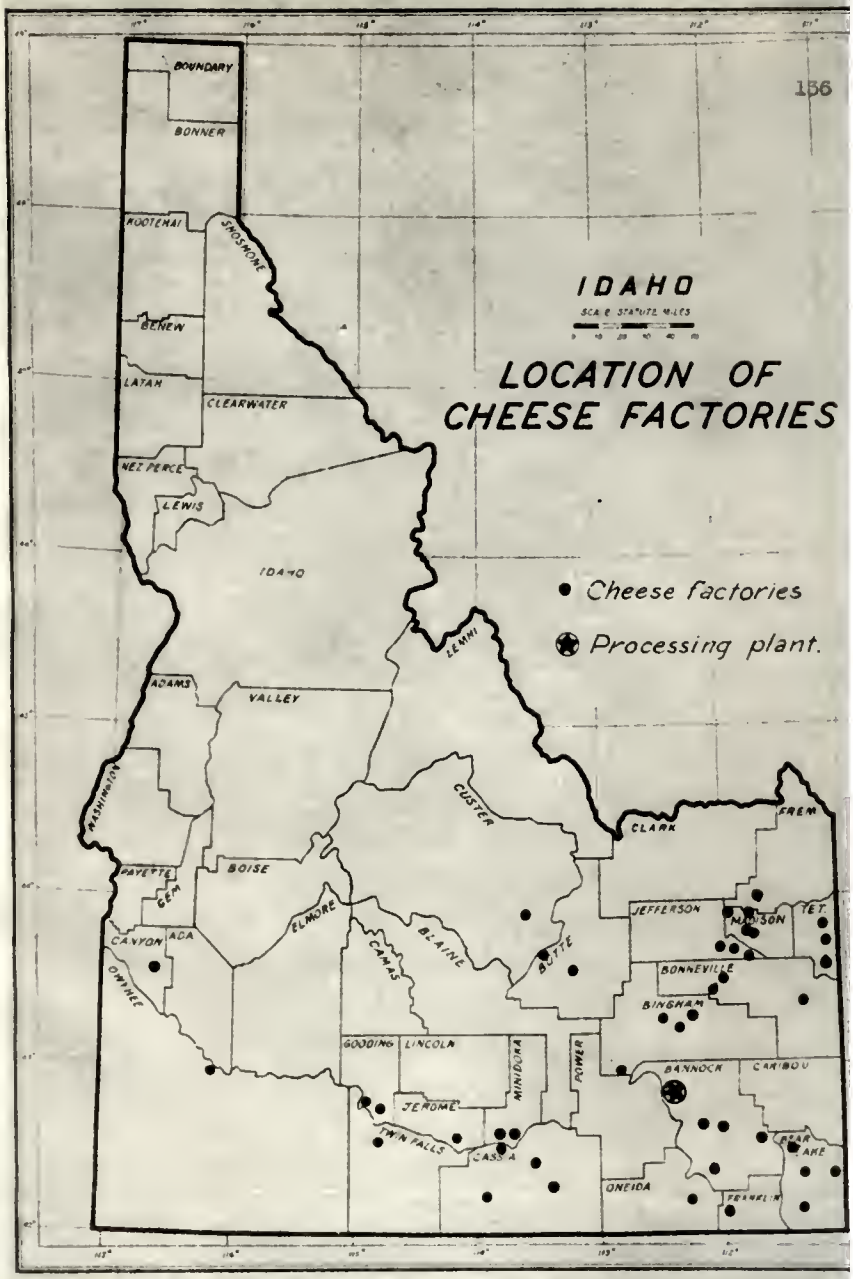
*Includes Cheddar, Swiss, Brick and Italian. Does not include Cottate, Bakers, Cream, and Neufchatel.
(See appendix for increase in cheese production on each section of U. S.)

In 1925. The mountain states made very large increases, especially Idaho, the latter changing from 7.9 per cent of the total production in the eleven western states in 1920 to 23.4 per cent in 1925, thereby ranking next to Oregon in production.

Cheese Factories in Idaho

The map represented in Figure 42 shows the location of the licensed cheese factories in Idaho in 1927. The number has increased from 17 factories in 1920 to 43 in 1927. A list of the factories is given in the appendix. Of the 43 factories, 17 are owned by the H. F. Laabs Cheese Company, seven by the Nelson-Ricks Creamery Company, and four by the Mutual Creamery Company. Four of the plants are cooperative and the remaining 13 each represent private ownership by different parties. All of the plants are manufacturing Cheddar cheese except the West Point factory at Wendell and the Teton Valley factory at Tetonia. The latter two are making Swiss cheese.

As is indicated by the location of the factories the Idaho cheese industry has developed most rapidly in the eastern part of the irrigated section of the state. This is the region of rather recent development in dairying. The increased interest in dairying together with the lack of close proximity to well-developed creameries may be



JAN. - 1920

Figure 42.

considered partially the reason for this regional development. The fact that fewer cows are necessary to support a cheese factory than a creamery and the fact that a number of communities were somewhat isolated also contributed to this expansion. The location of the processing plant of the Kraft Cheese Company at Pocatello undoubtedly influenced development, as this furnished a ready outlet for much of the cheese produced.

Marketing Idaho Cheese

Reports of the Oregon Short Line Railroad Company show carlot shipments of cheese from Idaho as follows:

1923	-	177 cars
1924	-	361 cars
1925	-	455 cars
1926	-	471 cars

The Kraft Cheese Company started operating in Idaho in 1923 and part of the increase in carlot shipments from 1923 on may be cheese shipped in from other states, processed and shipped out of Idaho after processing.

Destinations of Idaho cheese are not available, but Pacific Fruit Express Company reports on the destinations of all dairy products indicate that only a very small percentage of all dairy products went east in 1925. The Mountain and Pacific States absorbed the largest part of Idaho cheese.

In a study of six large markets (New York, Boston, Chicago, Philadelphia, San Francisco and Los Angeles), it was found that during the six years, 1921 to 1926, inclusive, Idaho cheese is reported at only three markets. The following table lists the Idaho cheese shipped to these markets.

TABLE XXXVII. RECEIPTS OF IDAHO CHEESE AT VARIOUS MARKETS*
(Thousand pounds, i.e., 000 omitted)

Market	1921	1922	1923	1924	1925	1926**
Chicago	--	19	168	675	337	534
San Francisco	139	222	1,039	2,262	2,835	2,858
Los Angeles	Not reported				3,922	4,441

*1925 Agricultural Yearbook, U.S. Dept. of Agri.
**Market News Service, Bureau of Agricultural Economics, U. S. Dept. of Agri.

The above table indicates that Idaho cheese goes to the same markets as Idaho butter although a larger proportion goes to San Francisco than in the case of butter. In 1926 Idaho furnished 29.5 per cent of the cheese received on the Los Angeles market and 22.8 per cent of that arriving at San Francisco. California produced 17 per cent of the cheese marketed at Los Angeles and 17 per cent of that sold at San Francisco. Of the cheese imported into California, the Los Angeles market showed 35.6 per cent and the

San Francisco market 27.4 per cent coming from Idaho. The amount of Idaho cheese that went to Chicago was only 6.8 per cent of the total shipped to the three markets in 1926. Wisconsin furnishes 87 per cent of the cheese found on the Chicago market in 1926 and Idaho cheese represented only 0.46 of one per cent. Therefore, it is apparent that the important markets for Idaho cheese are the two California markets.

Table XXXVIII shows the source of all cheese received at the California markets during the past six years.

This shows that both California markets are increasing in annual receipts. This is probably a result of the demand resulting from increased population. Production in California is decreasing, the 1926 production being 3,466,000 pounds compared to 5,904,000 pounds in 1921. This is a reduction of nearly fifty per cent. The eleven western states, including California, have increased production but apparently cheese furnished by the Western States for the California markets have increased enough to about maintain the same percentage of the total received as in previous years.

The main competing states with Idaho at these markets are Oregon, Wisconsin, and California. These four states combined produced in 1926 85 per cent of the cheese received at Los Angeles and San Francisco. Oregon and

TABLE XXXVIII. GROSS RECEIPTS OF CHEESE AT SAN FRANCISCO AND LOS ANGELES MARKETS, BY STATES OF ORIGIN (Thousand pounds, i.e., 000 omitted)

State	San Francisco						Los Angeles	
	1921	1922	1923	1924	1925	1926	1925	1926
California	4,800:	3,416:	3,650:	2,603:	2,316:	2,123:	2,183:	2,570
Per Cent Produced in California	47.8:	37.3:	31.2:	22.7:	18.4:	16.9:	18.3:	17.1
Other Western States								
Oregon	2,345:	2,448:	2,557:	2,710:	3,039:	3,148:	2,395:	3,124
Idaho	139:	222:	1,039:	2,262:	2,835:	2,858:	3,922:	4,441
Utah	24:	10:	17:	76:	164:	387:	364:	536
Colorado	176:	322:	282:	256:	323:	294:	343:	672
Montana	--:	56:	338:	5:	64:	79:	--:	119
Washington	145:	108:	112:	58:	120:	50:	106:	199
Total Western States	7,529:	6,582:	7,935:	7,970:	8,851:	8,939:	9,303:	11,661
Per Cent from Western States	78.2:	71.9:	67.9:	69.4:	74.7:	71.3:	78.2:	77.4
Eastern States								
Wisconsin	1,064:	1,353:	1,979:	2,216:	1,987:	2,694:	2,017:	2,579
New York	388:	314:	249:	310:	307:	529:	48:	289
Illinois	505:	855:	1,441:	821:	463:	222:	253:	264
Minnesota	--:	--:	63:	152:	154:	94:	132:	24
Total Eastern States	1,957:	2,522:	3,732:	3,499:	2,911:	3,539:	2,430:	3,156
Per Cent from Eastern States	20.3:	27.6:	31.9:	30.5:	24.6:	28.2:	20.4:	20.6
Other States	140:	53:	23:	13:	93:	52:	167:	243
Per Cent Other States:	1.5:	.6:	.2:	.1:	.8:	.4:	1.4:	1.6
Total	9,632:	9,157:	11,690:	11,482:	11,855:	12,530:	11,900:	15,060

Wisconsin are increasing in shipments to these markets while California is decreasing. Idaho has made an enormous increase in shipments.

These markets are growing rapidly in receipts and whether Idaho will be able to compete with Oregon and Wisconsin in the future will depend on the quality of Idaho cheese and the differential in cheese prices on the coast and in the middle west.

Figures 43 and 44 show the origin of the gross receipts of cheese at the Chicago and San Francisco markets in 1925.

Condensed Milk

The only milk condensary in Idaho is located in the Boise Valley at Nampa. A condensary was formerly in operation at Franklin, but it closed in December, 1921. Much of the milk formerly marketed at the Franklin plant has been diverted to a condensary at Richmond, Utah.

The condensed milk manufactured in Idaho in 1926 totaled 9,366,959 pounds, according to reports of the Idaho Bureau of Dairying. In 1925 reports from the same source show a total production of 10,040,000 pounds.

Idaho ranked nineteenth among the states in condensed milk production in 1925. During that year 8,956,000 pounds of condensed milk was manufactured from 22,400,000 pounds of milk. The enterprise ranks third in the amount of milk used


GROSS RECEIPTS OF CHEESE AT CHICAGO
By States of Origin, 1925
81
3
3,108
119,244
118
1,283
13
4
337
2
115
32
19
606
Chicago
745
9
8
192
49
45
4,592
21
65
1
7
5
2
1
2
38
2
Figures in States represent thousands of pounds
TOTAL CHICAGO RECEIPTS 131,129,000

Figure 43.

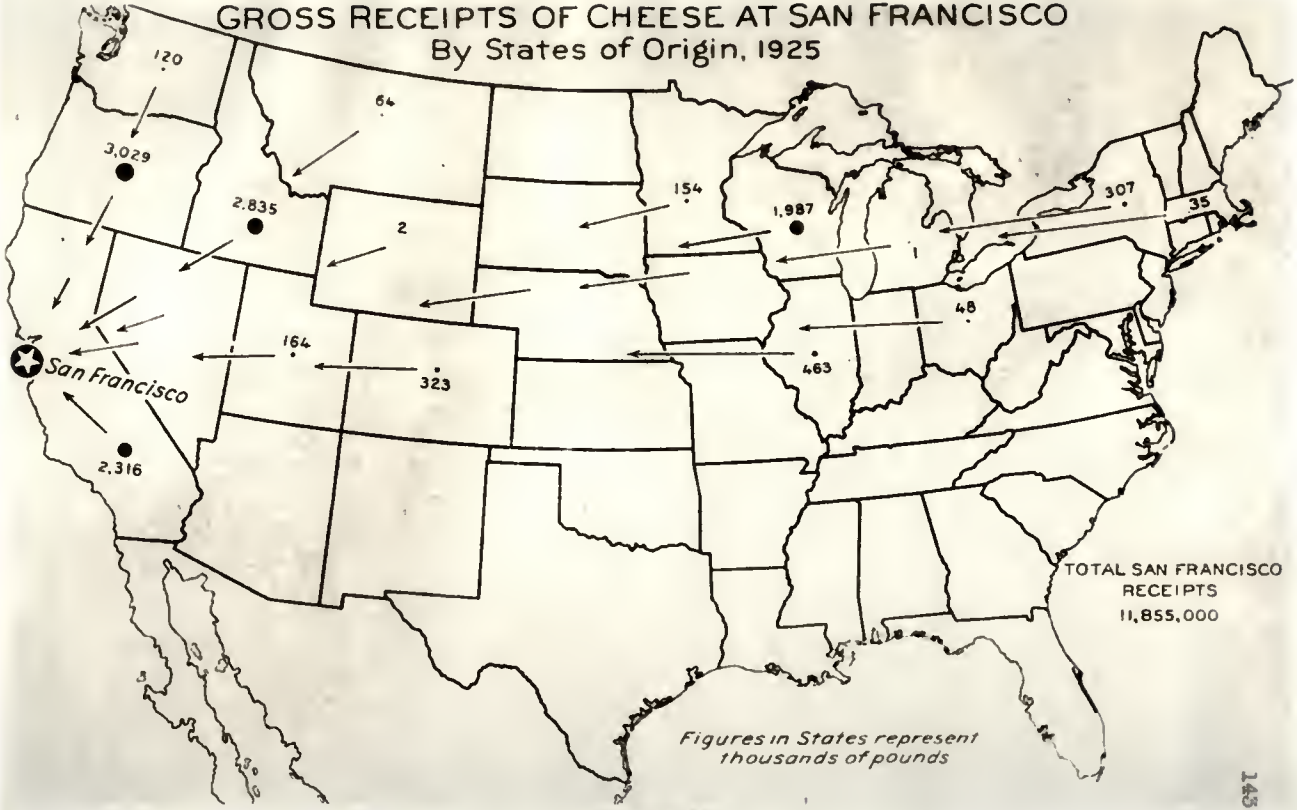

GROSS RECEIPTS OF CHEESE AT SAN FRANCISCO
By States of Origin, 1925
120
64
3,029
2,835
2
154
1,987
307
35
1
48
164
323
463
San Francisco
2,316
TOTAL SAN FRANCISCO
RECEIPTS
11,855,000
Figures in States represent
thousands of pounds

Figure 44.

in manufacturing in Idaho. Of all milk used for manufacturing dairy products during 1926 in Idaho, 4.4 per cent was converted into condensed milk. For a number of years all the milk condensed has been made into unsweetened evaporated milk and put up into case goods. The amount manufactured has been diminishing the past few years, as shown by the following figures:

Year	Evaporated Milk Manufactured (In pounds)*
1918	5,677,000
1919	11,093,000
1920	15,412,000
1921	17,835,000
1922	10,661,000
1923	13,668,000
1924	11,365,000
1925	8,956,000
1925**	10,040,000
1926**	9,367,000
1926	9,265,000

*As reported by Bureau of Agricultural Economics, U.S.D.A. These estimates are lower than state reports but they show the trend of production.

**Idaho Bureau of Dairying Reports.

Ice Cream

Of the milk manufactured into dairy products in Idaho in 1926 only 1.0 per cent was used for ice cream making. During that year 373,781 gallons of ice cream was manufactured, according to reports of the Idaho Bureau of

Dairying. Idaho ranked forty-sixth among the states of the Union in total ice cream production in 1925.

Twenty-seven ice cream plants are operating in the state in 1926, but many of them are very small and do not do a very large volume of business. Due to the nature of the product each manufacturer is restricted to local trade and a limited surrounding territory. Expansion of the ice cream industry can only come with increased population within the state and particularly within the cities. The following figures give the production of ice cream in Idaho during the years 1918 to 1926:

Year	Ice Cream Manufactured (Gallons)*	Ice Cream Mix (Pounds)	Total Ice Cream Equivalent (Gals)
1918	207,000		
1919	254,000		
1920	239,000		
1921	189,000		
1922	229,000		
1923	271,000		
1924	320,000	95,000	341,000
1925	322,000	176,000	360,000
1925 - Idaho Bureau of Dairying Reports			381,580
1926 - Idaho Bureau of Dairying Reports			373,781
1926	389,000		389,000

*Bureau of Agricultural Economics, U.S.D.A. reports except where otherwise specified.

Dairy By-Products

The only dairy by-products that have been manufactured in Idaho previous to 1927 have been casein, manufactured from skimmed milk, and a limited amoung of milk curd, manufactured from buttermilk. The latter commodity has a consistency and composition similar to semi-solid buttermilk but lacks the same uniformity and usually is not as concentrated. Three plants are manufacturing casein. They are located at Buhl, Meridian and Boise. The plant at Buhl started operation in January, 1927. Production figures on this by-product in Idaho by years, is as follows:

Year	Casein Manufactured (In Pounds)*
1919	21,000
1920	102,000
1921	16,000
1922	26,000
1923	102,000
1924	129,000
1925	217,000

*Bureau of Agricultural Economics, U.S.D.A. reports.

Much interest has been exhibited in development of the by-product end of the dairy manufacturing business during recent years. Early in 1927 one creamery at Nampa installed a milk drying plant for handling either skim milk or buttermilk. Another plant at Payette installed equipment

for making condensed buttermilk. In the past creameries have been selling buttermilk by the gallon to their patrons. Many plants have not attained sufficient volume of business to warrant consideration of some better method of marketing this by-product. Dried buttermilk or semi-solid buttermilk would seem to be logical forms in which to dispose of this product since both keep well and a ready market could be found among the farmers for poultry, hogs, and calf feeding. Some thought has been given to dried skimmilk as a form in which to market the surplus skimmilk. In certain sections, at least, the skimmilk can be used to advantage by keeping it on the farms for feeding poultry, hogs, and raising calves. The extent to which this commidity is manufactured will depend on the farming practices of the region, trends in creamery management, and profit derived from the business.

SUMMARY

Dairying affords an effective method of marketing Idaho's large surplus of cheap feeds in a condensed form having high unit value. The other usual advantages such as more complete utilization of labor throughout the year, a constant source of income, the maintenance of soil fertility, etc., also apply to dairying in Idaho.

The importance of the industry is shown by the fact that in 1925 dairy cows represented 17.5 per cent of all animal units in Idaho. Census reports show that in 1924 the value of all dairy products produced in the state was more than $9,000,000, which amounted to one-sixth of the value of all agricultural products except hay.

Something of the national situation is indicated by the fact that per capita consumption of dairy products increased between 25 and 35 per cent while the population of the United States increased 17 per cent.

The number of dairy cows in Idaho increased from 118,000 in 1920 to 163,000 in 1926, an increase of 38 per cent. During the same period the number in the United States increased 4 per cent, the number in the Pacific States 14 per cent and the number in the Mountain States 21 per cent. The United States, Pacific States, Mountain

States, and Idaho, in 1926, had the following respective numbers of dairy cows per thousand people: 192, 165, 219 and 316. Idaho had 34.7 per cent more cows per thousand people than in the United States average in 1920, while in 1926 Idaho had 64.6 per cent more than the United States.

Total milk production in Idaho advanced from approximately 52 million gallons in 1919 to about 79 million gallons in 1924, an increase of about 50 per cent.

Average production per cow increased from 153 pounds of fat per year in 1919 to 178 pounds in 1924.

In 1925 the southwest district had about one-third of all dairy cows in the state, the south central district about 25 per cent, the Upper Snake River district about 17 per cent, southeast Idaho 13 per cent, northern Idaho, Lemhi County district, 7 per cent; and the Palouse district 6 per cent. District expansion in the dairy industry since 1920 has been in about the same relative order and the number of heifers being kept for milk indicates that the near future expansion will be in about the same order.

The large production of alfalfa hay in the irrigated sections of Idaho together with no export trade due to the quarantine against the alfalfa weevil, caused a great surplus of hay with low market value. This situation together with the favorable prices of dairy products compared to other agricultural products and the depression in agricul-

ture, has been largely responsible for the great expansion in dairying in Idaho since 1920.

Idaho produces a large surplus of dairy products. Of the total butterfat produced, 69 per cent is used for manufacturing while only 47 per cent of the butterfat produced in the United States is used for manufacturing purposes (farm butter included in manufactured products). Of the milk converted into commercially manufactured products (not including farm butter) in 1926, 80 per cent in Idaho was made into butter, 15 per cent into cheese, 4 per cent into condensed milk and 1 per cent into ice cream. The volume of each of the above mentioned products with the exception of condensed milk has increased each year during the past six years. Butter production is requiring a larger proportion of the total milk, and cheese is maintaining about the same proportion of the total.

The percentage of farm butter is being reduced rapidly. In 1924 only 21.4 per cent of the butter was made on the farm. Nearly all butter exported goes to California markets, and Los Angeles gets the bulk of it.

Cheese production has increased very rapidly in recent years, more than four times as much cheese being produced in 1926 as in 1920. Most of the cheese exported goes to California markets.

The rapid growth in population of the Pacific Coast States, especially California, together with the trends of production of the various dairy products in each of the western states indicates that an increasingly large percentage of California's milk production is being diverted into market milk channels and that the adjoining mountain states are furnishing an increasing amount of the butter and cheese. The mountain states have the advantage of differential in freight rates over eastern producing areas. However, should the movement of butter and cheese become eastward instead of westward due to a change in market conditions, Idaho would not be severely handicapped since shipping cost per pound of butter is only 1.4 cents higher from Caldwell, Idaho, to Chicago than to Los Angeles. It is evident that all development of dairying in the mountain states centers largely around population and production trends in California.

ACKNOWLEDGMENTS

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The writer also wishes to express his appreciation to Professor J. B. Fitch, head of the department of dairy husbandry, and Dr. W. E. Grimes, head of the department of agricultural economics, for reading the manuscript and making suggestions in method of presentation of material.

APPENDIX

APPENDIX TABLE I. DAIRY COWS MILKED, IDAHO, ON JANUARY 1, OF CENSUS YEARS 1910, 1920, AND 1925; AND DAIRY HEIFERS AS OF JANUARY 1, CENSUS YEARS 1920 AND 1925, BY COUNTIES*

County	Dairy Cows Milked as of Jan. 1			Dairy Heifers as of Jan.1	
	1910	1920	1925	1920	1925
Ada	1,663	10,307	12,580	2,831	3,336
Adams		1,030	1,330	500	219
Bannock	5,035	6,344	6,182	1,351	1,094
Bear Lake	4,329	2,585	2,574	586	810
Benewah		1,548	812	228	208
Bingham	4,034	5,537	6,103	1,438	1,577
Blaine	1,794	1,342	957	233	222
Boise	2,006	216	308	78	59
Bonner	1,513	2,619	2,615	614	679
Bonneville		3,824	3,297	943	759
Boundary		603	869	148	241
Butte		990	781	261	240
Camas		491	757	134	166
Canyon	4,305	9,295	14,216	2,365	3,810
Caribou		919	790	219	252
Cassia	2,299	3,728	4,978	702	975
Clark		496	293	120	64
Clearwater		422	700	92	126
Custer	250	983	811	86	190
Elmore	612	720	637	187	116
Franklin		4,217	4,759	1,136	1,335
Fremont	7,714	2,824	2,744	637	657
Gem	2,974	2,127	2,400	541	602
Gooding		3,056	5,162	759	1,269
Idaho		3,010	1,894	496	359
Jefferson	1,943	2,665	3,118	716	899
Jerome		I,560	3,747	378	1,071
Kootenai		3,444	3,100	869	701
Latah	4,132	3,971	2,112	965	465
Lemhi	618	1,537	1,567	327	266
Lewis		729	1,294	119	224
Lincoln	1,210	1,243	2,038	451	456
Madison		2,295	2,694	534	663
Minidoka		2,427	3,612	567	881
Nez Perce	3,326	3,011	2,191	650	440
Oneida	3,216	2,111	1,208	304	312
Owyhee	237	1,124	1,888	191	421
Payette		3,133	3,100	787	745
Power		1,463	2,022	337	337
Shoshone	576	595	481	135	76
Teton		3,089	2,700	731	639
Twin Falls	1,614	6,962	9,809	1,775	3,005
Valley		1,163	1,968	277	529
Washington	2,643	5,581	4,088	818	923
State	58,093	115,336	131,295	27,616	32,418

*U. S. Census Reports.

APPENDIX TABLE II. MILK PRODUCTION: IDAHO, 1909, 1919, AND 1924, CENSUS YEARS, BY COUNTIES (GALLONS)*

County	1924	1919	1909
Ada	7,582,296	5,065,218	1,027,199
Adams	906,626	603,266	
Bannock	3,380,460	2,481,872	1,845,625
Bear Lake	1,603,756	1,317,412	1,078,053
Benewah	620,065	651,405	
Bingham	2,963,601	2,283,112	1,324,380
Blaine	691,544	530,191	465,112
Boise	263,952	277,848	639,333
Bonner	1,539,564	1,398,818	565,225
Bonneville	2,123,559	1,370,220	
Boundary	423,632	302,927	
Butte	728,028	453,784	
Camas	582,263	429,585	
Canyon	8,591,022	4,141,711	2,071,969
Caribou	514,352	441,271	
Cassia	2,675,215	1,668,762	595,475
Clark	399,000	239,831	
Clearwater	433,263	242,296	
Custer	867,216	506,028	93,180
Elmore	527,395	356,721	232,674
Franklin	2,807,346	2,044,794	
Fremont	1,485,855	988,760	2,383,772
Gem	1,550,745	1,063,537	
Gooding	3,085,182	1,518,235	
Idaho	1,443,458	1,455,882	881,496
Jefferson	1,612,300	985,507	
Jerome	2,220,530	902,220	
Kootenai	1,745,575	1,617,871	828,436
Latah	1,919,808	1,603,007	1,638,731
Lemhi	861,441	623,696	197,335
Lewis	856,080	505,682	
Lincoln	1,122,920	470,450	440,323
Madison	1,606,468	1,168,678	
Minidoka	1,944,608	1,276,616	
Nez Perce	1,309,710	1,152,123	1,196,420
Oneida	987,885	742,282	1,340,161
Owyhee	1,182,852	533,715	81,371
Payette	1,727,703	1,424,405	
Power	881,496	644,766	
Shoshone	313,745	328,935	273,585
Teton	1,196,688	1,000,098	
Twin Falls	5,397,138	3,426,081	744,705
Valley	1,180,872	532,075	
Washington	2,647,789	1,593,805	916,872
State	78,505,003	52,365,498	20,861,072

*U. S. Census Reports.

APPENDIX TABLE III. AVERAGE PRODUCTION OF MILK PER DAIRY COW, GALLONS, 1909, 1919, AND 1924, CENSUS YEARS BY COUNTIES*

County	1924	1919	1909
Ada	582	480	617
Adams	434	454	
Bannock	515	363	366
Bear Lake	508	356	249
Benewah	535	382	
Bingham	477	399	324
Blaine	466	355	
Boise	376	509	318
Bonner	556	500	373
Bonneville	429	316	
Boundary	464	431	
Butte	567	422	
Camas	473	448	
Canyon	594	434	481
Caribou	527	382	
Cassia	479	382	259
Clark	420	314	
Clearwater	417	297	
Custer	534	436	372
Elmore	473	361	380
Franklin	570	433	
Fremont	477	324	309
Gem	547	451	357
Gooding	589	470	
Idaho	314	347	
Jefferson	460	359	
Jerome	589	571	
Kootenai	533	451	
Latah	528	385	396
Lemhi	381	369	319
Lewis	492	341	
Lincoln	536	366	364
Madison	558	464	
Minidoka	536	510	
Nez Perce	447	352	359
Oneida	435	338	416
Owyhee	522	438	343
Payette	549	447	
Power	424	383	
Shoshone	614	545	
Teton	428	308	
Twin Falls	534	475	
Valley	568	403	
Washington	563	418	346
State	517	414	365

*U. S. Census Reports.

RECORD OF TUBERCULIN TESTING
COOPERATIVE TUBERCULOSIS ERADICATION WORK
Fiscal Year, 1925

State	Herds Tested	Cattle Tested	Reactors Found	Per Cent Reactors	Reactors Slaughtered	Infected Premises
Alabama	2,857	37,763	216	.6	210	78
Arizona	1,478	31,278	1,632	5.2	1,366	445
Arkansas	2,158	9,385	51	.5	37	35
California	338	33,572	353	1.1	159	91
Colorado	114	3,398	82	2.4	76	15
Connecticut	2,530	53,257	3,092	5.8	2,977	691
Delaware	1,907	17,288	1,661	9.6	1,805	527
District of Columbia	26	553	1	.2	1	1
Florida	1,614	31,818	230	.7	240	62
Georgia	2,954	29,752	294	1.0	292	89
Idaho	6,674	76,979	533	.7	482	295
Illinois	62,362	610,503	29,753	4.9	30,056	9,663
Indiana	32,082	256,990	3,530	1.4	3,349	1,497
Iowa	67,937	1,141,963	28,195	2.5	27,371	11,467
Kansas	14,051	173,311	1,690	.9	1,744	1,026
Kentucky	15,711	83,401	615	.7	619	334
Louisiana	2,928	46,628	942	2.0	1,086	265
Maine	7,380	69,486	872	1.3	872	377
Maryland	9,367	92,344	9,016	9.8	8,476	2,307
Massachusetts	1,644	33,658	5,867	17.4	5,415	706
Michigan	47,912	404,573	8,164	2.0	9,258	4,895
Minnesota	18,438	399,037	10,595	2.7	8,844	3,756
Mississippi	642	12,052	66	.5	62	31
Missouri	10,016	109,894	839	.8	839	244
Montana	4,509	85,816	547	.6	540	196
Nebraska	19,987	268,469	3,001	1.1	2,890	1,479
Nevada	844	12,815	139	1.1	131	44
New Hampshire	3,060	40,065	1,545	3.9	1,809	562
New Jersey	3,054	44,205	3,279	7.4	3,627	810
New Mexico	1,171	13,681	70	.5	70	54
New York	40,906	551,801	53,405	9.7	51,465	12,319
North Carolina	58,072	145,190	458	.3	401	342
North Dakota	11,494	222,269	2,579	1.2	2,414	1,089
Ohio	30,974	236,097	9,238	3.9	9,247	3,064
Oklahoma	372	14,783	142	1.0	125	59
Oregon	14,948	126,570	1,253	1.0	1,666	623
Pennsylvania	24,686	220,164	8,198	3.7	8,500	2,412
Rhode Island	68	1,864	99	5.3	75	12
South Carolina	1,970	18,126	109	.6	105	34
South Dakota	1,406	42,830	914	2.1	928	325
Tennessee	2,247	35,967	323	.9	294	102
Texas	1,087	36,931	368	1.0	325	131
Utah	8,709	56,074	435	.8	553	332
Vermont	5,286	112,153	4,040	3.6	4,595	994
Virginia	6,509	70,951	2,411	3.4	2,509	445
Washington	9,326	99,937	1,938	1.9	1,815	486
West Virginia	4,318	40,422	569	1.4	433	216
Wisconsin	37,824	723,753	10,934	1.5	10,815	4,975
Wyoming	1,398	15,225	208	1.4	214	104
Total	507,345	7,000,028	214,491	3.1	210,782	70,204

NOTE - Above table includes records of tuberculin testing done under the area plan.

LICENSED CREAMERIES*
Now Operating in Idaho
1927

Armour Creameries	Pocatello
Blackfoot Creamery	Blackfoot
Boundary Creamery	Bonners Ferry
Clearwater Creamery	Lewiston
Coeur d'Alene Creamery	Coeur d'Alene
**Dairymen's Coop. Creamery	Caldwell
**Farmers Coop. Creamery	Fayette
**Farmers Coop. Creamery	Weiser
Gem Creamery Co.	Emmett
Gooding Coop. Creamery	Gooding
H. F. Laabs Co.	Blackfoot
Idaho Creamery Co.	Boise
Idaho Creamery	Rupert
Idahome Creamery	Preston
Idanhe Creamery	Blackfoot
Jensma Creamery	Nampa
**Jerome Coop. Creamery	Jerome
Lincoln Produce & Refrig. Co.	Twin Falls
L. J. Durant Creamery	Grace
**Malad Valley Creamery	Malad
Moscow Creamery	Moscow
Mutual Creamery	Boise
Mutual Creamery	Lewiston
Mutual Creamery	Pocatello
**Nampa Coop. Creamery	Nampa
New Purity Creamery	Moscow
Orofine Creamery	Orofine
Pond d'Oreille Creamery	Sandpoint
Salmon Creamery	Salmon
Smith's Creamery	Blackfoot
Smith's Creamery	Cottonwood
Smith's Creamery	St. Maries
Sunnyside Dairy Products Co.	Idaho Falls
Swift & Company	Caldwell
Swift & Company	Twin Falls
Swift & Company	Weiser

*As reported by Idaho State Department of Agric.
** Cooperative.

LICENSED CREAM BUYING STATIONS*

1927

Armour Creameries	Aberdeen
Armour Creameries	Almo
Armour Creameries	American Falls
Armour Creameries	Bancroft
Armour Creameries	Bone
Armour Creameries	Buhl
Armour Creameries	Castleford
Armour Creameries	Declo
Armour Creameries	Filer
Armour Creameries	Fish Haven
Armour Creameries	Goshen
Armour Creameries	Idaho Falls
Armour Creameries	Kimberly
Armour Creameries	Liberty
Armour Creameries	Malad
Armour Creameries	Menan
Armour Creameries	Minkcreek
Armour Creameries	Oakley
Armour Creameries	Paul
Armour Creameries	Poplar
Armour Creameries	Rexburg
Armour Creameries	Rigby
Armour Creameries	Rupert
Armour Creameries	St. Charles
Armour Creameries	Thornton
Armour Creameries	Twin Falls
Armour Creameries	Twin Falls
Armour Creameries	Ucon
Earl B. Balch	Norwood
A. I. Brooks	Caldwell
**Cambridge Cream Assn.	Cambridge
**Council Creamery	Council
DeSota Creamery	Weiser
Homer C. Dwight	Parma
Eagle Mercantile	Eagle
Ericson Produce	Twin Falls
**First Segregation Dairy Assn.	Eden
**Gem County Cream Assn.	Emmett
**Gooding Coop. Creamery	Carey
**Gooding Coop. Creamery	Dietrich
**Gooding Coop. Creamery	Fairfield
**Gooding Coop. Creamery	Hagerman
**Gooding Coop. Creamery	Picabe
**Gooding Coop. Creamery	Richfield

LICENSED CREAM BUYING STATIONS (Cont'd)
1927

**Gooding Coop. Creamery	Shoshone
**Gooding Coop. Creamery	Tuttle
J. E. Haynes	Wilder
Henningsen Co.	Aberdeen
Henningsen Co.	American Falls
Henningsen Co.	Arco
Henningsen Co.	Bancroft
Henningsen Co.	Blackfoot
Henningsen Co.	Buhl
Henningsen Co.	Burley
Henningsen Co.	Driggs
Henningsen Co.	Victor
Henningsen Co.	Idaho Falls
Henningsen Co.	Leadore
Henningsen Co.	Lorenzo
Henningsen Co.	Rexburg
Henningsen Co.	Rigby
Henningsen Co.	Rupert
Henningsen Co.	Small
Henningsen Co.	Squirrel
Henningson Co.	St. Anthony
Idaho Creamery	Elba
Idaho Creamery	Heyburn
Idaho Creamery	Malta
Lincoln Produce Co.	Twin Falls
Lincoln Produce Co.	Murtaugh
McCluskey Produce Co.	Caldwell
**Midvale Cream Assn.	Midvale
**Mini-Cassia Dairymen's Assn.	Burley
Mutual Creamery	Baker
Mutual Creamery	Leadore
Mutual Creamery	Salmon
Mutual Creamery	Tondoy
Mutual Creamery	Aberdeen
Mutual Creamery	Burley
Mutual Creamery	Driggs
Mutual Creamery	Preston
Mutual Creamery	Bancroft
Mutual Creamery	Blackfoot
Mutual Creamery	Rigby
Mutual Creamery	Shelley
Mutual Creamery	Montpelier
Mutual Creamery	Bruneau
Mutual Creamery Co.	Grangeville
Nelson Ricks Co.	Bellevue

LICENSED CREAM BUYING STATIONS (Cont'd)

1927

Nelson Ricks Co.	Buhl
Nelson Ricks Co.	Burley
Nelson Ricks Co.	Gooding
Nelson Ricks Co.	Idaho Falls
Nelson Ricks Co.	Jerome
Nelson Ricks Co.	Malad
Nelson Ricks Co.	Montpelier
Nelson Ricks Co.	Naf
Nelson Ricks Co.	Paris
Nelson Ricks Co.	Pingree
Nelson Ricks Co.	Preston
Nelson Ricks Co.	Richfield
Nelson Ricks Co.	Rigby
Nelson Ricks Co.	Ririe
Nelson Ricks Co.	Rupert
Nelson Ricks Co.	St. Anthony
Nelson Ricks Co.	Shelley
Nelson Ricks Co.	Stone
Nelson Ricks Co.	Victor
Mrs. Jessie E. Pea	Summitt
Howard Pennington	Notus
Pine Creek Dairy	Kamiah
Pine Creek Dairy	Peck
Pine Creek Dairy	Troy
Red Shield Creamery Co.	Sweet
Red Shield Creamery Co.	Melrose
Sego Milk Products Co.	Preston
Sego Milk Products Co.	Franklin
H. Sorensen Produce Co.	Jerome
Swift & Company	Fayette
Swift & Company	Nampa
Swift & Company	Meridian
Swift & Company	Acequia
Swift & Company	Buhl
Swift & Company	Carey
Swift & Company	Fairfield
Swift & Company	Heyburn
Swift & Company	Oakley
Swift & Company	Paul
Swift & Company	Rupert
Swift & Company	Shoshone
Swift & Company	Wendell
Swift & Company	Cambridge

LICENSED CREAM BUYING STATIONS (Concl'd)

Swift & Company	Cascade
Swift & Company	Donnelly
Swift & Company	McCall
Swift & Company	Midvale
W. E. Trinley	Burley
**Wendell Cream Assn.	Wendell

Licensed in 1926 but not yet licensed in 1927.

W. D. Clayville	Mountain Home
Hazelwood Co.	Genesee
Hazelwood Co.	Kooskia
Hazelwood Co.	Nez Perce
Hazelwood Co.	Stites
Red Shield Creamery	Montour

*As reported by the Idaho State Department of Agric.

** Cooperative.

LICENSED CHEESE FACTORIES*
Now Operating in Idaho
1927

**Cassia Cheese and Produce Co.	Oakley
Clifton Cheese Factory	Clifton
Downey Cheese Factory	Downey
Hazelton Cheese Factory	Hazelton
H. F. Laabs Cheese Co.	Aberdeen
H. F. Laabs Cheese Co.	Albion
H. F. Laabs Cheese Co.	Arco
H. F. Laabs Cheese Co.	Blackfoot
H. F. Laabs Cheese Co.	Burley
H. F. Laabs Cheese Co.	Firth
H. F. Laabs Cheese Co.	Grace
H. F. Laabs Cheese Co.	Darlington
H. F. Laabs Cheese Co.	Idaho Falls
H. F. Laabs Cheese Co.	Louisville
H. F. Laabs Cheese Co.	Malta
H. F. Laabs Cheese Co.	Moreland
H. F. Laabs Cheese Co.	Paul
H. F. Laabs Cheese Co.	Rigby
H. F. Laabs Cheese Co.	Ririe
H. F. Laabs Cheese Co.	Rockland
H. F. Laabs Cheese Co.	Rupert
Jensma Creamery	Nampa
Joss Brothers	Grandview
Lava Hot Springs Cheese Co.	Lava Hot Springs
Malad Valley Creamery (Cooperative)	Malad
McCammon Cheese Factory	McCammon
Mutual Creamery	Geneva
Mutual Creamery	Georgetown
Mutual Creamery	Irwin
Mutual Creamery	Paris
Nelson Ricks Creamery	Rexburg
Nelson Ricks Creamery	Driggs
Nelson Ricks Creamery	Hagerman
Nelson Ricks Creamery	Hibbard
Nelson Ricks Creamery	St. Anthony
Nelson Ricks Creamery	Sugar City
Nelson Ricks Creamery	Victor
Sego Milk Products Co.	Buhl
Snake River Dairy Products (Coop.)	Rexburg
Swauger Land & Livestock Co.	Mackay
**Teton Valley Swiss Cheese Co. (Coop.)	Tetonia
Three Star Dairy	Bern
**West Point Cheese Co. (Coop.)	Wendell

*As reported by Idaho State Department of Agriculture.

**Operating but not yet licensed.

LICENSED ICE CREAM FACTORIES*
Now Operating in Idaho
1927

Bluebird Confectionery	Montpelier
Boise Ice Cream Co.	Boise
Boise Valley Coop. Creamery	Boise
Boundary Creamery	Bonners Ferry
Burley Ice and Cold Storage	Burley
Clearwater Creamery Co.	Lewiston
Coeur d'Alene Creamery	Coeur d'Alene
Dairymen's Coop. Creamery	Caldwell
Farmers' Coop. Creamery	Fayette
Gem Creamery	Emmett
Idaho Creamery	Boise
Jensma Creamery	Nampa
Jerome Coop. Creamery	Jerome
Lincoln Produce Co.	Twin Falls
Moscow Creamery	Moscow
Mutual Creamery	Boise
Mutual Creamery	Lewiston
Mutual Creamery	Pocatello
Nampa Coop. Creamery	Nampa
New Purity Creamery	Moscow
Orofine Creamery	Orofine
Peerless Ice Cream Co.	Pocatello
Pend d'Oreille Creamery	Sandpoint
Salmon Creamery	Salmon
Smith's Creamery	St. Maries
Sunnyside Dairy Product Co.	Idaho Falls
Weiser Ice & Cold Storage	Weiser

*As reported by the Idaho State Department of Agriculture.

MILK: PRODUCTION AND USE IN THE UNITED STATES, 1920-1925

Products Manufactured	1920 Million pounds	1921 Million pounds	1922 Million pounds	1923 Million pounds	1924 Million pounds	1925 Million pounds	Per Cent 1925 is of 1920
Milk used for manufacturing -							
Creamery butter	18,135	22,154	24,224	26,296	28,578	28,592	158
Farm butter	14,175	13,650	13,125	12,810	12,600	12,390	87
Total for butter	32,310	35,804	37,349	39,106	41,178	40,982	127
Cheese (all kinds)	3,624	3,558	3,750	3,989	4,179	4,475	123
Condensed and evaporated milk	3,945	3,660	3,579	4,437	4,251	4,395	111
Powdered milk	83	34	45	53	63	71	86
Powdered cream	6	3	2	6	19	6	100
Malted milk	43	34	30	34	35	40	93
Sterilized milk (canned)	6	5			1	1	17
Milk chocolate	60	40	100	150	159	229	382
Ice cream	3,575	3,355	3,623	4,055	3,926	4,438	124
Total for manufacturing	43,652	46,493	48,478	51,830	53,811	54,637	125
Milk used for other purposes -							
Household use	39,090	45,143	46,672	50,440	52,772	54,326	139
Feeding calves	4,202	4,260	4,335	4,174	4,643	4,047	96
Waste (estimated)	2,713	2,966	3,077	3,292	3,440	3,495	129
Total Other Purposes	46,005	52,369	54,084	57,906	60,855	61,868	134
Total Milk Production	89,657	98,862	102,562	109,736	114,666	116,505	130

CREAMERY BUTTER: PRODUCTION BY DIVISIONS AND SPECIFIED STATES, 1920-1925*

Division and State	1920 1,000 pounds	1921 1,000 pounds	1922 1,000 pounds	1923 1,000 pounds	1924 1,000 pounds	1925 1,000 pounds	Percentage 1925 is of 1920
United States	863,577	1,054,938	1,153,515	1,252,214	1,356,080	1,361,526	158
North Atlantic	46,927	60,221	55,793	47,906	54,908	41,363	88
North Central	645,492	796,881	886,429	960,126	1,044,601	1,071,272	166
South Atlantic	5,225	6,333	7,532	9,275	9,786	9,098	174
South Central	35,923	46,911	50,008	56,455	59,993	59,325	165
Mountain	30,101	37,265	42,415	51,715	60,959	60,849	202
Pacific	99,909	107,327	111,338	126,737	125,833	119,619	120
Mountain States							
Montana	5,168	7,429	7,713	10,667	13,874	13,968	270
Idaho	4,660	4,935	7,582	9,883	15,431	15,101	324
Wyoming	875	1,277	1,403	1,894	1,941	1,999	228
Colorado	12,979	15,290	16,410	18,625	18,130	18,794	145
New Mexico	6	29	129	18	251	326	5,433
Arizona	828	1,358	623	600	2,107	1,034	125
Utah	3,567	4,549	5,913	7,500	8,585	7,034	197
Nevada	2,018	2,388	2,642	2,361	2,640	2,593	128
Pacific States							
Washington	23,751	23,228	24,239	26,666	29,331	25,673	108
Oregon	14,288	15,289	17,158	18,128	20,993	21,575	151
California	61,870	68,810	69,941	81,943	75,509	72,371	117

*Taken from Byron Hunter's report on "Statistics of the Dairy Industry with Special Reference to the Eleven Western States", published by the Bureau of Agricultural Economics, United States Department of Agriculture.

CHEESE: PRODUCTION BY DIVISIONS AND SPECIFIED STATES, 1920-1925.
(TOTAL CHEESE NOT INCLUDING COTTAGE, POT, AND BAKERS)*

Division and State	1920 1,000 pounds	1921 1,000 pounds	1922 1,000 pounds	1923 1,000 pounds	1924 1,000 pounds	1925 1,000 pounds	Per Cent 1925 is of 1920
United States	351,506	352,650	365,316	390,425	409,865	443,514	126
North Atlantic	59,561	64,305	72,538	59,823	63,010	64,631	109
North Central	269,624	263,911	265,474	304,350	315,671	346,702	129
South Atlantic	372	307	265	278	279	155	42
South Central	26	104	129	335	437	367	1,412
Mountain States	4,278	5,443	10,539	10,353	13,548	14,417	337
Pacific States	17,645	18,580	16,371	15,286	16,920	17,242	98
Mountain States							
Montana	266	196	322	726	972	1,365	513
Idaho	1,727	2,117	3,368	5,316	7,670	7,423	430
Wyoming	1,180	1,543	3,416	1,791	1,945	1,923	163
Colorado	106	85	69	162	469	1,288	1,215
New Mexico	---	---	74	135	92	56	---
Arizona	150	450	47	84	159	543	362
Utah	849	1,027	3,219	2,162	2,162	1,753	206
Nevada	---	25	24	---	79	66	---
Pacific States							
Washington	1,444	2,130	3,146	3,062	3,264	3,389	235
Oregon	8,482	8,900	8,852	7,816	10,073	10,030	118
California	7,719	7,550	4,373	4,408	3,583	3,823	50

This table includes:

American cheese
Whole milk
Part skim
Full skim
Swiss cheese (including block)
Brick and Munster cheese
Limburger cheese
Cream and Neufchatel cheese
All Italian varieties
All other varieties

*Taken from Byron Hunter's report on "Statistics of the Dairy Industry with Special Reference to the Eleven Western States", published by the Bureau of Agricultural Economics, United States Department of Agriculture.

FREIGHT RATES PER 100 POUNDS AND REFRIGERATION CHARGES PER CAR ON BUTTER AND CHEESE, MAY 1926*

From	To	Carlots		Less Than Carlot
		Freight Rate (cents)	Refrigeration Charge (dollars)	Freight rate (cents)
San Francisco	New York (import rate 1/)	230	90	480
San Francisco	New York	300	90	480
Portland	New York	300	90	480
Seattle	New York	300	90	480
Boise	New York	300	80	486½
Salt Lake City	New York	300	2/	459½
Denver	New York	261½	2/	345
San Francisco	Chicago (import rate 1/	230	75	443
San Francisco	Chicago	300	75	443
Portland	Chicago (import rate 1/	230	75	443
Portland	Chicago	300	75	443
Seattle	Chicago	300	75	443
Boise	Chicago	295½	65	362
Salt Lake City	Chicago	225	2/	335
Denver	Chicago	167	2/	220½
New York	San Francisco	300	2/	480
Chicago	San Francisco	300	2/	443
Denver	San Francisco	264½	2/	317
Salt Lake City	San Francisco	137½	2/	184½
Boise	San Francisco	164		284
Twin Falls	San Francisco	162		277
Portland	San Francisco	58		58
New York	Portland	300		480
Chicago	Portland	300		443
Boise	Portland	115		155

Statistical and Historical Research Division, Bureau of Agricultural Economics.
Note: No refrigeration rates are given for less than carlot shipments.

1/ There are no special rates on shipments of imported butter and cheese from New York to the Pacific Coast.

2/ No specific through refrigeration charge.

3/ The freight rate on carlot shipments of cheese from Denver to San Francisco is 230 cents per 100 pounds.

* Bryon Hunter's Report.

OCEAN FREIGHT RATES ON BUTTER, CHEESE AND CONDENSED MILK, MAY 1926*

From	To	Butter		Cheese		Condensed Milk	
		Dollars	Units	Dollars	Unit		
San Francisco 1/	England	1.50 2/	100 lbs.	.70	100 lbs.	.70	100 lbs.
	Hawaiian Islands	3.25 2/	100 lbs.	3.25	100 lbs.	5.75	2000 lbs. 3/
	Hana, Hawaiian Is.	3.50 2/	100 lbs.	--	--	6.25	2000 lbs. 3/
	Japan	30.00 2/	2000 lbs. 3/	14.00	2000 lbs. 3/	9.00	2000 lbs. 3/
	Japan	14.00 4/	2000 lbs. 3/	--	--	--	--
	China	30.00 2/	2000 lbs. 3/	14.00 5/	2000 lbs. 3/	9.00 5/	2000 lbs. 3/
	China	14.00 4/	2000 lbs. 3/	--	--	--	--
	New York (Carlot	1.30	100 lbs.	1.40	100 lbs.	.45	100 lbs.
	New York (Less than carlot)	1.30	100 lbs.	2.10	100 lbs.	.70	100 lbs.
New Zealand	England	1.95	100 lbs.	2.00	100 lbs.	--	--
	Hawaiian Islands	1.95	100 lbs.	2.00	100 lbs.	--	--
	New York	1.95	100 lbs.	2.00	100 lbs.	20.26	2000 lbs.
	San Francisco	1.95	100 lbs.	2.00	100 lbs.	20.26	2000 lbs.

Compiled from data furnished by the United States Shipping Board.

1/ San Francisco rates apply also to Portland and Seattle.

2/ Rate for refrigeration cargo.

3/ 2000 pounds or 40 cu. ft., whichever may yield the vessel the greater revenue.

4/ Ordinary storage.

5/ The rates to China vary from $14.00 to $14.50 per ton for cheese and from $9.00 to $9.50 per ton for condensed milk, according to the port of discharge.

NOTE - Rates quoted in British money have been converted on the basis of 24.33 cents to the shilling and 2 cents to the pence.

*Figures taken from Bryon Hunter's Report.

PRICES, BY MONTH, PAID FOR BUTTERFAT IN IDAHO DURING THE PAST ELEVEN YEARS - 1916-1926*

Month	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926
January	31	40	44	55	57	40	29-32	45-48	48-51	43-46	43-46
February	31	42	54	50	61	43	36-39	44-47	47-50	43-46	45-48
March	32	41	48	65	70	40	32-35	40-43	47-50	44-47	41-44
April	29	44	41	64	66	32	29-32	37-40	36-39	41-44	41-44
May	27	40	44	65	55	23	33-36	38-41	36-39	41-44	40-43
June	26	40	47	55	56	28	40-43	40-43	39-42	44-47	40-43
July	25	41	51	60	56	35	40-43	42-45	39-42	49-52	39-42
August	30	47	55	62	60	40	40-43	43-46	39-42	51-54	43-46
September	31	50	52	66	63	42	43-46	46-49	40-43	53-56	44-47
October	36	50	67	68	56	43	43-46	49-52	39-42	57-60	
November	38	50	67	70	51	40	43-46	47-50	38-41	57-60	
December	39	53	67	70	45	36	47-50	47-50	38-41	49-52	

							Sour	Sweet	Sour	Sweet	Sour	Sweet	Sour	Sweet	Sour	Sweet
Dividend								62		02		02		02		
Average	31½	44	55 3/4	63 1/3	58	39	43	3/10	48		45½		52 3/4		44	7/9

*Data obtained from Farmers' Cooperative Creamery, Payette, and Dairymen's Cooperative Creamery, Caldwell.