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## Diversification in Dairy Plants

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Among the fundamental changes occurring in the Minnesota creamery industry is the increased diversification of business. This change is developing along two lines. First, there is a trend toward the flexible dairy plant, equipped to manufacture more than one dairy product. This development has been accelerated by wartime demands for dairy products and promises to increase in importance. Second, there is a trend toward the addition of other types of business, or sideline services for patrons. Although this trend has assumed considerable importance, it has received relatively little attention in the discussion of creamery business development. In this article emphasis is placed on the latter type of business diversification.

**Sideline sales analyzed.** The growing importance of sideline business in Minnesota creameries is seen in an analysis of the sales of a representative sample of 138 plants. This analysis shows that average sideline sales of these plants were \$75,750 in 1946 or 17.1 per cent of all sales, while in 1934 the sideline sales of these identical plants averaged only \$9,183 or 8.8 per cent of all sales. In 1939 sidelines represented 11.7 per cent of total business, indicating that the trend toward further diversification was under way before the outbreak of the war.

Of the 138 creameries analyzed, eight had no sideline sales, and sidelines in an additional 29 plants represented less than 1 per cent of total sales. In contrast, seven plants had sideline sales ranging from 50 to 85 per cent of total business.

The sideline enterprises of Minnesota creameries may be classified into four major groups: (1) farm produce,

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principally poultry and eggs; (2) retail milk and cream departments; (3) farm supplies; and (4) cold-storage locker rentals and service. A number of creameries restricted their sideline business to a few supply items frequently demanded by their patrons, such as cheese and a few farm dairy supplies. Others carried a line of merchandise which rivalled that of a general merchan-

dise or farm supply store, including such diverse items as feed and flour, groceries, twine and rope, farm machinery, baby chicks, coal, paints, petroleum products, fertilizers, and many other items.

The largest sideline business in terms of volume of sales is the handling of poultry and eggs which represented 56 per cent of all sideline sales (table 2). In 29 creameries handling poultry and eggs, sales of these items averaged \$203,499 per plant. Since entry into the poultry and egg business usually involves additional capital investment, and since a considerable volume of business is necessary for efficient operation, fewer creameries have entered this field. Feed and flour also ranked high among the sidelines, averaging \$33,786 in the 64 creameries reporting sales of these items. Poultry and egg marketings and feed business expanded at a rapid rate during the war years as farmers were urged to increase production.

Cold-storage lockers and related services represent a new group of sideline activities undertaken by creameries in recent years. While in 1934 none of these plants had lockers, 31 of the 138 plants were equipped in this way in 1946, with an average annual business of \$11,296. A number of creameries have had retail milk and cream departments over a long period of time, but there is considerable interest now in extending or adding this sideline in order to meet the growing demand for pasteurized milk. A total of 53 of the plants studied reported retail milk and cream departments with average sales of \$25,046 in 1946.

The proportion of sideline business handled by creameries varied considerably from area to area in the state. Creameries in the western half of the state have entered sideline business on a much larger and more diversified scale than creameries located in the eastern and south-

Table 1. Sideline and Dairy Product Sales of 138 Minnesota Creameries, 1934, 1939, and 1946

	1946			
	Average per creamery	Per cent	1939 per cent	1934 per cent
Sideline sales .....	\$ 75,750	17.1	11.7	8.8
Dairy product sales.....	368,576	82.9	88.3	91.2
Total sales .....	\$444,326	100.0	100.0	100.0

Table 2. Sideline Sales of 138 Minnesota Creameries, 1946

Item	Average sales per plant	Per cent of total	Average sales in plants having sideline
Feed, flour, seed, and salt.....	\$15,669	20.7	\$ 33,786 (64)*
Dairy supplies† .....	550	.7	1,807 (42)
Cheese .....	740	1.0	1,292 (79)
Locker rent and service .....	2,538	3.3	11,296 (31)
Poultry and eggs.....	42,764	56.5	203,499 (29)
Retail milk and cream .....	9,619	12.7	25,046 (53)
Miscellaneous‡ .....	3,870	5.1	12,422 (130)
<b>Total sideline sales.....</b>	<b>\$75,750</b>	<b>100.0</b>	<b>\$ 80,411 (130)</b>

\* Number in brackets indicates number of plants reporting given sideline items.

† Milk cans, coolers, strainers, washing powder, etc.

‡ Includes a wide range of general farm supplies such as twine, machinery, coal, petroleum, fertilizer, etc., and some unsegregated dairy supplies.

eastern dairy areas. For instance, creameries located in the west central and northwestern areas of the state have sideline sales averaging 40 per cent of total business, while those in the southeastern and east central parts have, respectively, only 5 and 6 per cent. The sideline volume of creameries in the western areas is heavily weighted with poultry and egg sales. The extensive entry of creameries into the marketing of poultry and eggs in this important producing area is in contrast with poultry areas in southeastern and south central Minnesota where only two out of 60 plants in the sample handled poultry and eggs. Creameries in the western areas also have developed substantial feed and general farm supply sidelines and have a larger volume of locker business than plants in other areas. Plants in south central Minnesota, however, have built up a larger volume of retail milk and cream business.

There is no apparent relationship between the proportion of sideline sales of creameries and their volume of business as measured by pounds of butterfat handled. Small creameries with annual butterfat volume below 200,000 pounds showed about the same proportion of sideline sales as creameries in the 500,000- and 1,000,000-pound range.

**Some reasons for diversification.** Sidelines have been added in many instances in response to the demand of patrons and as a means of meeting the competition of produce companies and other dairy buyers who often provide them. By satisfying the convenience and needs of patrons in this way, creameries have been in a better position to retain patrons or even to attract new patrons. Many creameries have improved lagging volume in the butter department, for instance, by providing efficient

produce marketing, feed, locker, or other sideline services.

Probably the most important reason for engaging in sideline activities is that it may enable the creamery to obtain a larger volume of business and thus achieve the reduced per unit costs and improved net returns which usually accompany a larger scale of business. With larger volume the creamery may be able to make better use of its buildings or other equipment. It may also make more effective use of the abilities of its management and other personnel. Since dairy production is quite seasonal, the addition of certain sidelines may enable the creamery to use its personnel and equipment to better advantage throughout the year.

Where sidelines constitute a large proportion of total business, they may serve to insure the creamery against certain risks of economic change. It is possible that at certain times the volume of business and returns in some of the sidelines may be maintained at a high level while volume in the dairy department may be down because of weather or other factors. Many cooperative creameries, too, have adopted sidelines in order to extend the advantages of cooperation to more of the items marketed or purchased by their members.

There are also some limitations and problems involved in adding sidelines to a creamery business which should be considered. In some cases the point of maximum advantage in adding sidelines is soon reached because the manager may not be qualified to handle a more varied and complicated business. The direction of a creamery with large sideline departments calls for better-qualified management than a small specialized dairy plant. Also, careful consideration should be given to adding sidelines which can be coordinated readily with the main enterprise—buttermaking. Cooperative creameries should go slow in duplicating the services of other cooperatives in their community, such as purchasing and elevator cooperatives, which handle many of the items being added by creamery supply departments. Since the farmer membership of the respective associations may be much alike, duplication is particularly unwise and not in the interest of the producers. Where creamery sidelines are large it is important that accounting records be kept on a departmental basis, not only to determine the relative success of each but also to enable the distribution of patronage refunds along departmental lines. Patronage refunds on sidelines should also be handled in this way, to meet income tax regulations as well as for purposes of equity.

## Egg Industry Growing Up

W. H. DANKERS

Egg production increased in all regions of the United States during the period of World War II. The west North Central states<sup>1</sup> alone had 24.8 per cent of the total United States egg production during the years of 1933-1937, and by 1946 were producing 30.3 per cent. During this period there was a slight percentage gain in the North

<sup>1</sup> Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

Atlantic region and a slight percentage loss in the east North Central region. The South Central region just about held its own. There was, however, a substantial percentage decline in the Western region. In the period of 1933-1937 the Western region produced 12.3 per cent of the United States total, but in 1946 it was only 9.6 per cent. This downward trend is especially significant because it came at a time when the increase in population in

this region during the World War II period provided a strengthening demand-factor.

Since there had been a considerable gain in egg production before the war, indications are that war conditions merely speeded up an existing trend in the west North Central region—a trend toward expansion. In the 1933-1937 period this region had only 24.8 per cent of the total United States egg production, compared with 26.2 in 1940.

No doubt egg-driers speeded up the trend of expansion; however, it appears that discontinuance of egg drying will not greatly change the national egg-production pattern. Minnesota alone had eight large driers, all constructed by different companies. Most of these have been converted for drying other products, yet Minnesota egg production has prevailed at the comparatively high level without this special market.

However, the equipment and facilities for breaking and freezing that were constructed along with egg-driers have put Minnesota and the west North Central region in a much stronger competitive position. These facilities were lacking in many parts of the region, which made it difficult to market favorably the supply of eggs now commonly referred to as breaking stock (small eggs, eggs with irregular and defective shell conditions, checks, etc.). The opportunity to sort out such eggs also makes it possible to put a higher-quality and more uniform-shell egg pack on the market. Improved refrigeration facilities that were constructed during this period were also greatly needed and have been helpful.

**Production methods better.** Some of the reasons for an expanded egg industry in Minnesota and the west North Central region can be found in production, even though favorable marketing factors, together with favorable prices, have no doubt been reflected in production methods. There have been great improvements in egg- and poultry-production methods in this region. The average size of flocks has increased considerably as shown in both census and farm management reports, even though they are still "farm flocks." This has resulted in the application of better management and improved production methods, as well as better egg-handling methods such as are more commonly found with specialized and commercialized egg producers. Statistics are not available, but it is readily observed that there are now many flocks in this region that are kept on a partial or total confinement basis. This is more common and more practical with larger flocks.

Production factors that lead to increased efficiency and lower production costs have the tendency of expanding an enterprise. Both chick and layer mortality are costly. Minnesota and most of the west North Central region have made much progress in reducing flock mortality. As late as 1941 this region still reported a death loss of nearly 22 per cent of layers on farms (based on January 1 numbers of hens and pullets). Other regions have considerably less. In 1946 the reported death loss was below 17 per cent and less than in most of the other regions.

**Year-round market outlets predicted.** The results of better methods of breeding, feeding, and management

can be observed in another way. In 1940 the west North Central region was considerably below the United States average in the number of eggs laid annually per layer, but in 1946 it was just as far above the average. Egg production per layer for the United States as a whole increased by 16 eggs during this period. For the west North Central states, which had a comparatively low production in 1940, the increase was 27 eggs, and for Minnesota it was 31 eggs per layer.

Eggs are consumed at a fairly uniform level throughout the year. A high peak of production in the spring months, with an abnormally low production in the fall months, requires more egg storage, results in greater price fluctuation, and does not permit the development of as broad a regular market. The west North Central region had a more extreme seasonal pattern of egg production during the years of 1933-1937 than any other region in the United States. Of total annual production, 15.5 per cent was produced in the peak month of April and only 3.3 per cent in the low month of November, hence a range of 12.2 per cent. This range in per cent from the peak-production month to the low-production month decreased to 10.2 per cent by 1940 and was only 7.3 per cent in 1946. The reduction was greater in the west North Central states during this period than in any other region and indicates the comparative progress made in leveling out production. It appears that this trend will continue further. More uniform egg production throughout the year will permit further development of year-round market outlets for this region.

In the past, much of the supply of feed for other areas has been obtained in the west North Central region. It would appear logical to ship a finished product (eggs and poultry), rather than bulky feed to produce these products, near consuming centers. Why wasn't this a strong impetus to the development of the egg and poultry industry in the west North Central states prior to World War II? No doubt other forces had to come along with it before the low-cost feed factor could exert its full influence, such as increased efficiency resulting from larger flocks, lower mortality, better egg-handling methods on the farm, higher egg quality and more grading, and especially better facilities for processing and freezing that in large part came supplementary to egg drying. Such progress was further supplemented by improved and more rapid transportation.

It appears that the west North Central region will not revert to its prewar position in the nation's egg-production pattern. All regions may need to curtail the industry as meat supplies become more plentiful and as purchasing power declines from its present high level. However, it is quite likely that the west North Central region will continue to produce a percentage of the nation's egg supply as high or higher than it is producing at the present time. Although eggs in Minnesota and in the west North Central region are still largely produced by "farm flocks," nevertheless the egg enterprise is now considered a major enterprise on many farms and one that has gained greatly in its remunerative position for the farm family. In short, the egg industry is rapidly "growing up" in Minnesota and in the west North Central region.

## Minnesota Farm Prices For September, 1947

Prepared by W. C. WAITE and H. W. HALVORSON

The index number of Minnesota farm prices for September, 1947, is 305.2. This index expresses the average of the increases and decreases in farm product prices in September, 1947, over the average of September, 1935-1939, weighted according to their relative importance.

**Average Farm Prices Used in Computing the Minnesota Farm Price Index, September, 1947, with Comparisons\***

	Sept. 15, 1947	Aug. 15, 1947	Sept. 15, 1946		Sept. 15, 1947	Aug. 15, 1946	Sept. 15, 1947
Wheat .....	\$2.52	\$2.20	\$1.82	Hogs .....	\$27.40	\$24.00	\$16.00
Corn .....	2.37	2.16	1.69	Cattle .....	20.70	20.50	15.00
Oats .....	1.06	.92	.68	Calves .....	23.20	21.90	15.20
Barley .....	2.10	1.99	1.45	Lambs-sheep .....	20.82	19.99	15.03
Rye .....	2.69	2.19	2.03	Chickens .....	.226	.205	.253
Flax .....	6.22	5.75	3.79	Eggs .....	.460	.404	.372
Potatoes .....	1.50	1.50	1.25	Butterfat .....	.90	.79	.80
Hay .....	12.60	11.90	9.60	Milk .....	3.85	3.05	3.75
				Wool† .....	.42	.39	.44

\* These are the average prices for Minnesota as reported by the United States Department of Agriculture.

† Not included in the price index number.

The index of Minnesota farm prices reached a new high in September, with prices more than three times the average September prices for the base period 1935-1939. The purchasing power of Minnesota farm products rose to 61 per cent over the 1935-1939 average, also the highest on record.

Prices received for Minnesota farm products increased 11 per cent from August to September. Price gains were recorded in all of the 17 commodities except potatoes. The largest increases were milk, 26 per cent; rye, 23 per cent; wheat and oats, 15 per cent; and hogs, eggs, and butterfat, 14 per cent. The price received for wheat increased more than for corn, thus widening the narrow price differential between wheat and corn prices reported in August.

**Indexes and Ratios for Minnesota Agriculture\***

	Sept. 15, 1947	Sept. 15, 1946	Sept. Average 15, Sept. 1945 1935-1939	
U. S. farm price index .....	266.8	226.7	183.8	100
Minnesota farm price index .....	305.2	221.8	169.8	100
Minn. crop price index .....	354.2	241.7	181.6	100
Minn. livestock price index .....	289.7	188.4	155.9	100
Minn. livestock product price index .....	263.1	237.8	172.0	100
U. S. purchasing power of farm products .....	140.7	141.7	126.9	100
Minn. purchasing power of farm products .....	161.0	138.6	117.2	100
Minn. farmers' share of consumers' food dollar .....	60.9†	64.0	62.7	48.6
U. S. corn-hog ratio .....	11.3	9.1	12.6	12.6
Minnesota hof-corn ratio .....	11.6	9.5	13.7	14.9
Minnesota beef-corn ratio .....	8.7	8.9	11.4	11.9
Minnesota egg-grain ratio .....	11.4	13.1	16.1	17.3
Minnesota butterfat-farm-grain ratio .....	23.6	31.1	37.0	32.4

\* Explanation of the computation of these data may be had upon request.

† Figure for May, 1947.

## Agricultural Exports

Exports of agricultural products in terms of their physical quantities (combined on the basis of 1924-1929 average values) were 3 per cent lower in the year ending June 30, 1947, than the previous year. Due to the increase in prices, however, the value of this smaller quantity of exports was 14 per cent higher than the previous year.

The importance of exports as a market outlet for some Minnesota products is indicated in the following table, which compares the proportion of the total production or disappearance exported in the first half of 1947 with the per cent of total Minnesota cash farm receipts from sales of these products in 1946.

**Table 1. Comparison of Proportion of Production or Disappearance Exported with Proportion of Cash Receipts**

	Per cent of Minnesota farm receipts from 1946 sales	Per cent of total production or disappearance of U. S. exports Jan.-June, 1947
Wheat (or products) .....	3.2	41.5
Corn (or products) .....	5.0	7.0
Meats .....		
Beef and veal .....	14.3	1.6
Lamb and mutton .....	2.0	0.6
Pork .....	22.0	1.0
Dairy products .....	25.4	3.0
Eggs .....	14.5 (and chickens)	3.6
Potatoes .....	1.4	9.5

It seems obvious that principal sources of Minnesota cash farm receipts are not directly dependent to any very important degree on the export market. Any drastic reduction of exports of a particular product is not likely to be so very important to Minnesota agriculture considered as a whole. In specific and limited cases, however, the export market is very important. Over 56 per cent of disappearance of dried whole milk and over 16 per cent of disappearance of nonfat dry-milk solids were the result of exports during the first six months of 1947. When export demands change, the ability to adjust production quickly will greatly reduce the hardship of loss of markets.

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