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# FARM BUSINESS NOTES

Prepared by the Divisions of Agricultural Economics and Agricultural Extension  
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NO. 294

UNIVERSITY FARM, ST. PAUL

JUNE 27, 1947

## Consolidating Cooperative Creameries

MAX K. HINDS

### University Farm Radio Programs

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10:45 a.m.

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Large creameries have a number of advantages over small ones. Repeated studies of creamery costs show the advantages of size. Usually costs of operation are lower because these costs are distributed over more units of product. Labor costs per pound of butter manufactured in larger creameries can be reduced considerably through better utilization of labor and machines. Reduced fuel costs per unit of product are made possible. The additional fuel required to heat the larger building and additional water and steam are not increased in direct proportion as volume per plant is increased. The same is true of some other items of expense.

Larger plants also have marketing advantages. Buyers prefer to obtain large quantities of butter of uniform quality and grade. This gives the large creamery bargaining power with buyers. If buyers were to obtain the same amount of butter from several small creameries, the quality at each creamery might be different. The practice of churning different grades of cream separately is more common in the larger creameries. Large shipments also have an advantage in lower per unit transportation costs.

Large creameries have the advantage of diversification of products. Some of the large creameries in Minnesota are selling milk and cream at retail in their own towns as well as in nearby smaller towns where pasteurization facilities would be too costly. Other products such as ice cream, cheese, casein, and, for still larger plants, dried milk products offer opportunity for diversification. A number of creameries have developed other sidelines such as cold storage lockers and the handling of poultry and eggs.

Size alone, however, does not guarantee efficiency and success. Unused capacity in an overbuilt plant results in high overhead costs. Factors such as poor management, improper utilization of equipment and supplies, low quality, and careless marketing will all contribute to the lack of success regardless of size.

### Increasing Creamery Size

Two methods of increasing creamery size will be considered. First, by the natural economic forces of competi-

tion. Second, by planned consolidation.

Competition has been steadily at work eliminating less efficient creameries and helping the more efficient ones become larger and stronger. There are 145 fewer creameries in Minnesota now than 10 years ago, and 74 less than five years ago. This was not due to a reduction in amount of milk produced. During

the period 1940-1945 the amount of milk produced in Minnesota increased about 5 per cent.

A recent survey in a southern Minnesota county revealed a policy among cooperative creameries of attempting to limit competition. The prevailing policy had been to stay out of territory considered to belong to another creamery. This policy did not permit expanded operations and increased efficiency and made it that much easier for competitors from the outside to come in and take patronage away. Few changes in the processing and marketing structure had occurred in this county for 40 years. All but two of the creameries were organized between 1890 and 1900 when deliveries were made in horse-drawn vehicles over unimproved roads, which limited the area that could be served. Had the area served and the number of patrons for each of these small creameries been allowed to expand along with improved roads and better means of transportation, some of the creameries would have obtained the advantages and economies of larger volume in their own manufacturing operations. Since outside competitors started drawing patronage away, some of the more progressive creameries have begun to expand their own area at the expense of weaker creameries.

The total loss of patrons since 1940 for all creameries in the county was 256. This figure represents more patrons than the total patronage at the five smallest creameries. Only the largest creamery showed a net gain in patronage. The three creameries with greatest decline lost 156 patrons. The average loss per creamery was 15 patrons. Most of the patrons were lost to two large cooperatives in neighboring counties. Both of these competitors grew materially during the war years and were enjoying the advantages of large volume, specialization of labor,

and good market outlets for diversified products. In addition to receiving as much in cash for their milk, farmers marketing through these large associations received substantial patronage dividends at the end of the year, compared with very small or no refunds in the local creameries.

Planned consolidation of smaller cooperatives is a faster method of bringing about economies and is less costly than to let the economic forces of competition take their course. A simple formula for consolidation is not possible because circumstances in one area are entirely different from those in another. In some cases it may be desirable to bring all operations into one large plant, but in other cases several plants manufacturing different products may be operated as part of one cooperative association. Two creameries in western Minnesota recently discussed a probable merger. One is in an excellent position to manufacture butter and could handle additional volume, but is crowded in the milk pasteurization department. The other creamery, located 12 miles away, does not have adequate volume for making butter efficiently. The latter creamery has adequate facilities for pasteurizing and bottling milk and making ice cream and has an excellent local market for these products. The proposed plan is to make butter at one creamery and to pasteurize, bottle milk, and make ice cream at the other. Pasteurized milk would be sold in the two towns where the creameries are located. A third small town without pasteurizing facilities has already asked for deliveries of bottled milk in that town.

In northeastern Minnesota a different situation exists between two creameries located six miles apart. One is equipped for making cheese but has inadequate facilities for churning. The other is well equipped for churning. Because of market price conditions the creamery manufacturing butter was for a time able to pay more than the one making cheese for milk bought from farmers, whereas a year earlier the situation had been the reverse. Had these creameries worked together, the patrons would have received additional income by marketing their milk as cheese when cheese prices were more favorable and as butter and dried skim milk when those prices were more favorable. The labor could have been shifted to the plant needing it.

A common plan for consolidating two or more creameries would be to set up an "over-all" association. Members of the local creameries would become members of the larger association and would obtain an equity in it equivalent to that held in the local creamery. Another method would be for one creamery to purchase the other plants outright.

The method of consolidation is not difficult after the need for consolidation is fully understood by all participating producer members and patrons. Detailed and complete information to all concerned is necessary in bringing about such an understanding.

A frequent objection to consolidation is based on the belief that trading in the town by creamery patrons would be lost if the creamery were located elsewhere. When milk and cream is picked up by truck at the farm, which is now very common, the location of the creamery does not seem to influence farmers as to where they do their shopping. However, it is to the advantage of local business interests to have increased purchasing power of farmers. As indi-

cated, this return from dairying tends to be higher when dairy farmers patronize a larger, more efficient creamery.

Another objection may come from the local creamery operator who has a job at stake. The adjustment required of him may not be as difficult as anticipated. Frequently an operator can find a better-paying job in a larger plant compared with the low salary that frequently prevails in a small creamery. It may also mean more regular hours and improved working conditions in a larger plant where labor specialization is possible. In the southern Minnesota county discussed earlier a number of creameries receiving whole milk were operating seven days a week. With a limited number of workers it was difficult to arrange schedules to get time off from work.

There are numerous advantages in larger-scale dairy plant operations. Whether the slow, costly procedure of increasing creamery size by competition alone will be used or whether planned cooperative group action will bring this about will depend largely on the decisions of dairy farmers who will stand to gain as size of plants is increased.

## Minnesota Milk Prices<sup>1</sup>

H. G. HIRSCH

Total milk production in Minnesota increased steadily from 1924 to 1933. The predrouth peak was reached again in 1938. In 1942 an all-time high of nearly 9 billion pounds was produced. In subsequent years production fluctuated between 8.8 and 8.4 billion pounds. In the mid-twenties only 9 per cent of all milk utilized in the sale of dairy products was sold as whole milk at wholesale. In 1941, 18 per cent was sold in this way; during the following years the percentages were 26, 28, 40, and 52, until an all-time high of 58 was reached in 1946.

The variation of milk prices among the type-of-farming areas of the state is shown in table 1. Area IX (Hennepin and Ramsey counties) enjoyed the highest prices, because milk goes largely into fluid milk consumption, while utilization of milk in manufacturing plants is more important in the other areas (except in Area III, where milk sales are very small). The price in Area IV, the west central part of the state, was considerably below the state average in 1945, but reached that average in 1946. Inversely, in Area VII, the Red River Valley, the 1945 price

Table 1. Wholesale Milk Prices Received by Farmers in the Nine Type-of-Farming Areas of Minnesota, 1945 and 1946

Area	1945		1946	
	Dollars	Per cent of state	Dollars	Per cent of state
I	2.63	97	3.37	99
II	2.69	100	3.43	100
III	2.53	94	3.22	94
IV	2.50	93	3.42	100
V	2.70	100	3.45	101
VI	2.59	96	3.38	99
VII	2.98	110	3.14	92
VIII	2.78	103	3.47	101
IX	3.44	127	3.94	115
The state	2.70	100	3.42	100

<sup>1</sup> The basic data which have been used for this article were made available through the courtesy of the Minnesota Cooperative Reporting Service.

Table 2. Comparison of Whole Milk Prices at Wholesale with the Minnesota Farm Price Level, Parity Prices, and Butterfat Prices, 1935-1946

Year	Wholesale price		Minn. farm price index	Wholesale price as percentage of Parity price	
	Dollars	Per cent		Parity price	Butterfat price*
1935-39	1.59	100	100	83	142
1940	1.55	97	89	82	142
1941	1.80	113	113	91	137
1942	2.15	135	145	96	141
1943	2.65	166	170	109	140
1944	2.70	170	166	106	140
1945	2.70	170	175	103	140
1946	3.42	215	212†	118	138

\* Wholesale price per 100 lbs. divided by price of 3.64 lbs. of butterfat.

† Preliminary estimate.

exceeded the state average by 10 per cent, but the 1946 price was 8 per cent below the state average. Some of the price differences between areas are due to differences in butterfat content. By and large, the variations between areas are small, ranging from 92 to 110 per cent of the state average price in both years, except in the Twin City area.

The comparison of relative wholesale milk prices with the Minnesota farm price index in table 2 shows that milk prices did not deviate much from the average level of Minnesota farm prices. The actual wholesale milk price did not exceed the parity price until 1943. One possible reason for this is that nearly all wholesale milk was used for fluid milk consumption during the 1909-1914 base period, whereas much wholesale milk went into manufactured products in recent years. Wholesale prices maintained a rather constant relationship to butterfat prices. The absolute difference between whole milk and butterfat prices increased during the war. This difference averaged 47.5 cents during 1935-1939, (based on the prices of 100 pounds of whole milk and 3.64 pounds of butterfat); it rose to 62 cents in 1942, to approximately 77 cents from 1943 to 1945, and to 94 cents in 1946. Since subsidy payments were slightly higher for whole milk than for cream, this difference was still larger, if subsidy payments are considered. It was this difference, ranging from 79 cents in 1943 to 99 cents in 1946, that helped to bring about the great shift from cream sales to whole milk sales which was one of the most important wartime developments in Minnesota agriculture.

## Poultry Competes with Hogs

S. A. ENGINE and FRANK HADY

Poultry production is rapidly becoming a major livestock enterprise on Minnesota farms. In most parts of the state the expanding poultry production must meet the competition of hogs for feed and labor. How well has it succeeded in this competition? The records of farmers belonging to the Southeast Minnesota Farm Management Service throws some light on this problem.

Livestock provides a market for feed. The return for \$100 feed measures the effectiveness of a class of livestock as a market for feed (see table 1). In the period 1935-1938 the average return to hens was \$171 and to hogs

Table 1. Returns for \$100 Worth of Feed Fed to Poultry and Hogs, 1935-1946\*

Year	Hens	Hogs	Year	Hens	Hogs
1935	\$194	\$172	1941	\$192	\$205
1936	158	151	1942	195	199
1937	146	139	1943	184	128
1938	186	190	1944	159	134
1939	179	152	1945	180	150
1940	168	136	1946	156	166

\* Southeastern Minnesota Farm Management Service.

\$163. This is an advantage of \$8 in favor of the hens. In the period 1939-1942 the feed returned \$184 when fed to hens and \$173 when fed to hogs. This amounts to \$11 in favor of the hens. In the last period 1943-1946 the feed returned \$170 for the hens and \$145 for the hogs, or an advantage of \$25. The hens have had an advantage in the return from feed used during most of these 12 years, and this advantage has been increasing.

Another factor must be taken into account. The return must pay for labor and housing as well as for feed. Poultry requires more of both labor and housing than hogs. Poultry has been able to hold its own in competition with hogs for feed where there is plenty of family labor. This is especially true for farms where the wife takes care of the poultry but where she would be unable or unwilling to spend the time on hogs.

Many farmers, however, are short of labor, and are interested in marketing it to the best advantage. The return above feed cost per 100 hours of labor measures the effectiveness with which each class of livestock markets labor (see table 2). During the four-year period 1935-1938 the return above feed cost per 100 hours of labor was \$126 for hogs and \$53 for poultry, or 2.4 times as high for hogs as for poultry. During the next four-year period, 1939-1942, the returns were \$152 for hogs and \$65 for poultry, or 2.3 times as high for hogs. During the last four-year period the returns were \$163 and \$103, or only 1.6 times as high for hogs.

Throughout this entire period the returns per 100 hours of labor were considerably higher for hogs than for poultry. Hogs require a relatively small amount of labor compared with poultry, and are well adapted to farms with limited supplies of labor. Poultry has been gaining on hogs during this period, however. This has been due in part to a rapidly increasing efficiency of poultry production. The production per hen has been rising rapidly. Improved rations and management practices have cut costs. This gain will probably hold in the future, and will continue to give poultry a better competitive advantage than it has held in the past. The gain by poultry has also been partly due to shifts in price relationship. These may change in the future with changes in supply and demand.

Table 2. Return Above Feed Costs for 100 Hours of Labor, 1935-1946\*

Year	Poultry	Hogs	Year	Poultry	Hogs
1935	\$ 72	\$153	1941	\$ 75	\$208
1936	49	122	1942	98	273
1937	38	95	1943	116	112
1938	51	134	1944	83	107
1939	44	70	1945	121	164
1940	42	58	1946	93	271

\* Southeastern Minnesota Farm Management Service.

## Minnesota Farm Prices For May, 1947

Prepared by W. C. WAITE and O. K. HALLBERG

The index number of Minnesota farm prices for May 15, 1947, is 247.2. This index expresses the average of the increases and decreases in farm product prices in May, 1947, over the average of May, 1935-39, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, May 15, 1947, with Comparisons\*

	May 15, 1947	April 15, 1947	May 15, 1946		May 15, 1947	April 15, 1947	May 15, 1946
Wheat .....	\$2.43	\$2.44	\$1.69	Hogs .....	\$23.40	\$24.90	\$14.10
Corn .....	1.45	1.48	1.19	Cattle .....	17.70	18.50	13.00
Oats .....	.84	.81	.75	Calves .....	20.80	21.00	13.40
Barley .....	1.69	1.65	1.21	Lambs-sheep..	18.62	19.07	12.82
Rye .....	2.89	2.87	2.33	Chickens .....	.215	.210	.204
Flax .....	6.00	7.40	2.92	Eggs .....	.377	.384	.319
Potatoes .....	1.30	1.25	1.20	Butterfat .....	.650	.740	.550
Hay .....	14.00	13.00	9.20	Milk .....	2.85	3.25	2.90
				Wool† .....	.38	.43	.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 prices of Minnesota farm products dropped 6 per cent from April to May, with sharp decreases of 10 per cent in livestock products prices and 5 per cent in livestock prices. While purchasing power of Minnesota farm products dropped 2.8 per cent from April, it is still 35.6 per cent over the 1935-1939 average.

The decline in prices received by farmers was led by flax, 19 per cent; milk and butterfat, 12 per cent; hogs, 6 per cent; and cattle, 4 per cent. Increases noted were hay, 8 per cent; potatoes, 4 per cent; and oats, 4 per cent. While normal seasonal declines are expected for milk and butterfat, a decline of 12 per cent is larger than usual.

Lower prices for livestock and livestock products accompanied by slight increases for some grains caused a lowering of all feed ratios.

### Indexes and Ratios for Minnesota Agriculture\*

	May 15, 1947	May 15, 1946	May 15, 1945	Average May 1935-39
U. S. farm price index.....	255.6	198.3	188.0	100
Minnesota farm price index.....	247.2	189.6	179.6	100
Minn. crop price index.....	274.2	207.1	171.0	100
Minn. livestock price index.....	272.8	181.2	177.2	100
Minn. livestock product price index.....	219.2	190.5	184.0	100
U. S. purchasing power of farm products	140.2	129.7	131.2	100
Minn. purchasing power of farm products	135.6	124.0	125.3	100
Minn. farmers' share of consumers' food dollar	59.8†	63.9	66.6	46.3
U. S. hog-corn ratio .....	14.4	10.6	13.1	10.7
Minnesota hog-corn ratio .....	16.1	11.8	15.7	14.6
Minnesota beef-corn ratio .....	12.2	10.9	14.0	12.7
Minnesota egg-grain ratio .....	11.8	13.0	15.7	14.6
Minnesota butterfat-farm-grain ratio.....	22.9	23.6	28.6	29.7

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

†Figure for February, 1947.

## Fruit and Vegetable Consumption

O. K. HALLBERG

The accompanying table shows the trends in per capita consumption of fruits and vegetables for the last four years. Consumption of both fresh fruits and vegetables has increased, particularly vegetables. Canned fruit and vegetable consumption has also increased, except during 1943 and 1944 when canned fruit consumption decreased due to rationing and short supplies. Especially striking is the trend toward higher consumption of frozen fruits and vegetables. In 1946 frozen fruit consumption was nearly four times that of the 1935-1939 average, and frozen vegetable consumption was over five times the 1937-1939 average. This large increase represents a gain of 2.2 pounds in frozen fruit and 1.7 pounds in frozen vegetable consumption. Even though the frozen food industry is rapidly expanding, consumption of frozen fruits is only 2 per cent of the fresh fruit consumption, while frozen vegetable consumption is not quite 1 per cent of the fresh vegetable consumption.

Table 1. Apparent Civilian Consumption of Fruits and Vegetables on a Pounds Per Capita Basis

FRUITS		Fresh total	Canned fruit	Canned juices	Frozen	Dried
Average 1935-39.....	138.5	14.9	4.0	.8	5.7	
1943 .....	120.8	12.9	6.9	1.3	6.0	
1944 .....	144.6	9.3	9.8	2.0	6.4	
1945 .....	144.3	14.7	10.3	2.3	6.1	
1946 .....	144.9	20.7	17.2	3.0	4.9	
1947 preliminary.....	145.0	20.0	16.2	2.8	†	

  

VEGETABLES		Fresh	Canned soups and baby foods		Frozen	Potatoes
Average 1935-39.....	235	31.1	5.2	.4*	131	
1943 .....	236	33.5	6.9	.7	133	
1944 .....	255	34.7	8.8	1.4	127	
1945 .....	266	43.8	10.2	1.7	130	
1946 .....	275	47.5	11.6	2.1	129	
1947 preliminary.....	261	44.3	10.7	2.5	126	

\* Figure for 1937-1939.

† Not available.

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