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FARM BUSINESS NOTES

Prepared by the Divisions of Agricultural Economics and Agricultural Extension
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The Minnesota Creamery Industry, 1934-37

By E. Fred Koller

A series of significant changes has characterized the development of the Minnesota creamery industry in recent years. This article describes some of the changes in the manufacturing and marketing of creamery products observed in an analysis of 173 cooperative creameries in the four-year period 1934-1937.

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Creamery Manufacturing Operations

Changes in the manufacturing efficiency of the 173 creameries included in this study were measured by the cost of manufacture per pound of butter made. Comparisons of the operating costs of these plants in the last four years are shown in Table 1.

Table 1. Operating Costs of 173 Minnesota Cooperative Creameries, 1934-1937

Cost Items	Operating Costs			
	1934	1935	1936	1937
Manufacturing expenses:	Cents per pound of butter made			
Packing supplies	.480	.452	.409	.376
General supplies	.177	.178	.177	.194
Salt	.040	.038	.036	.034
Fuel	.188	.195	.208	.195
Power, light, water, refrigeration	.152	.152	.149	.147
Property taxes	.086	.094	.096	.099
Social security taxes	.....	.....	.....	.039
Insurance	.046	.044	.044	.047
Repairs	.072	.087	.090	.090
Depreciation, buildings	.094	.092	.094	.094
Depreciation, equipment	.168	.166	.160	.169
Miscellaneous	.034	.031	.018	.014
Manufacturing expense (total)	1.537	1.529	1.481	1.498
Labor and management expense	.831	.862	.875	.924
General and administrative expense	.249	.271	.267	.287
Interest on loans	.034	.032	.024	.023
Total operating cost	2.651	2.694	2.647	2.732

Some of the changes in creamery manufacturing are revealed by a study of the component operating costs. Table 1 shows that packing-supply expense has been steadily reduced. This continues a trend started early in this decade. The gradual displacement of wooden butter tubs by low-cost fiber containers of various kinds has been a major factor in this decrease.

The outlay for interest on loans has decreased. Creamery debts have been steadily reduced in this period. Old loans have been refunded and new loans have been obtained at lower rates of interest in line with the general decline in interest rates.

A plant cost which some creameries have reduced but which has not moved downward in the averages for all plants is the outlay for fuel. Increased efficiency in the use of fuel in some plants has been offset by higher prices paid for various fuels.

The cost of labor and management, general supplies, taxes, repairs, and administrative expense increased in this period. The rise in labor and management expense is largely attributable to the restoration of wage cuts made during the depression. Most creameries have not been able to increase the volume of output sufficiently to offset the higher wages which have been granted.

Increases in property taxes and the addition of social security taxes have added to total costs in recent years. The larger outlay for repairs after 1934 indicates that creameries have been making repairs postponed in the years when butter prices were unusually depressed.

General and administrative expenses have risen. This is due in part to increases in office salaries in line with the general advance in plant wages. Shifts in the methods of payment for butterfat, such as more frequent pool settlements, growing use of cash payments, more cash advances, and the growing popularity of the patronage dividend, have involved additional clerical work and have increased administrative expense.

Marketing of Creamery Products

Improvement in the average net prices which these creameries received for butter from 1934—1937 is shown in Table 2. Nearly all of the increase shown here is due to the improved market situation during these years.

Some of the more important improvements in the marketing of butter have occurred in transportation. An increasing quantity of butter is being gathered at the creamery by refrigerated trailer trucks and delivered to Minneapolis and other concentration points at a saving. The organization of cooperative trucking associations for the purpose of moving butter to market is resulting in economies and a higher net price for butter shipped. Many

Table 2. Marketing Results of 173 Minnesota Cooperative Creameries, 1934-1937

Market factors	Average Net Butter Price			
	1934	1935	1936	1937
	Cents per pound of butter			
Price of butter shipped	24.114	27.684	31.475	32.645
Price of local (non-patron) butter	25.626	28.992	33.131	34.297
Price of patron butter	25.448	29.314	33.727	35.082
Price of all butter	24.309	27.898	31.735	32.939

	Total Dairy Product Sales			
	1934	1935	1936	1937
	In thousands of dollars			
Butter sales	14,792	16,626	20,412	20,337
Cream and milk sales	357	530	582	652
Buttermilk sales (liquid and dried)	120	102	155	188
Skimmilk sales (liquid and dried)	22	21	130	164

creameries are shipping butter to the eastern markets by way of the Great Lakes during the summer months, thereby effecting an approximate saving of 0.2 to 0.3 cent a pound, as compared with the all-rail shipment.

In this period, many creameries have made changes in the sales outlets to which they have contracted to sell butter. In a total of 173 creameries, 45 plants, or 26 per cent, were selling to a different buyer in the 1938 season than they were in 1934. It is a significant trend of the industry that the "packing" companies are manufacturing relatively less of their butter requirements and are obtaining an increasing amount of butter directly from local creameries. A growing number of creameries are selling their butter to large national corporations.

Many creameries have developed the sale of dairy products other than butter. Increases in the sale of pasteurized milk and cream are shown in Table 2. Total sales of this type for the 173 plants amounted to $357,139 in 1934, but had increased to $652,024 in 1937. Further expansion in this direction is indicated for 1938.

The sale of creamery by-products has also increased, reaching a peak in the early months of 1937. Sales of liquid buttermilk and skimmilk showed a large increase in the period 1934—1937. Many creameries which had been selling these products to farmers for feeding purposes were able to sell them at attractive prices to various milk-drying plants during 1936 and 1937.

Table 3. Net Returns Available for the Payment of Butterfat in 173 Creameries, 1934-1937

	1934	1935	1936	1937
	Cents per pound			
Highest return	29.935	34.753	39.834	41.194
Average return	27.405	31.659	36.607	38.102
Lowest return	23.970	27.479	32.278	34.431
Range from high to low	5.965	7.274	7.556	6.763

The volume of the sideline business of these creameries, such as their farm supply purchases and produce sales for farmers, has also shown a large increase. While the volume of sideline sales in 1934 amounted to $8,517 per plant in 101 plants, in 1937 the identical 101 plants showed average sales of these items of $14,878.

Net Returns Available for the Payment of Butterfat

Changes in the net returns available for the payment of butterfat handled by these plants are shown in Table 3. The average return varied from 27.405 cents per pound of butterfat in 1934 to 38.102 cents in 1937. The range between the highest and lowest butterfat returns suggests the possibilities of improving the economic efficiency of a large proportion of these plants.

Table 4 shows that the 30 plants having the highest average butterfat returns from 1934—1937 made a larger average amount of butter than the 30 lowest return plants and a larger amount than all 173 plants combined. This indicates that an adequate volume of business is very important for efficient operation.

Table 4 also shows that the 30 highest return plants have had a decided increase in their volume of business, output having increased from an average of 573,304 pounds of butter in 1934 to 616,840 pounds in 1936 with a slight dip to 603,501 pounds in 1937. In contrast, the average volume of the 30 lowest return plants declined from a high of 220,743 pounds in the first year to the low level of 204,187 pounds in 1937.

Table 4. Average Amount of Butter Manufactured by 173 Creameries Grouped According to Average Butterfat Returns, 1934-1937

	1934	1935	1936	1937
	Pounds of butter			
30 highest return plants	573,304	554,573	616,840	603,501
30 lowest return plants	220,743	212,870	216,426	204,187
173 plants combined	353,089	344,446	371,850	359,304

These results indicate that a shift in the organization of the industry is gradually being effected by competitive processes. The more efficient plants are expanding and serving a larger number of farmers. The smaller, less efficient plants are losing patrons to stronger competitors. A number of plants of this type have discontinued operations in recent years. Others will find it necessary to do likewise in areas which can be served to advantage by larger and more efficient plants. The process of shifting the manufacture of butter into the more efficient plants could be facilitated in many areas and a large saving to dairy farmers by a planned consolidation of creameries.

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Size of Business and Farm Earnings

By W. P. RANNEY

Farm records kept by approximately 150 dairy farmers in southeastern Minnesota from 1928 to 1937 show considerable variation in earnings among these farmers each year. One of the major reasons for this variation in earnings among farmers arises out of the wide differences in the size of the farm business. Some farmers have businesses three or four times as large as those of others in the same neighborhood. The differences in size of businesses are due to variations in the size of the farms, the kinds of crops grown, and the amounts and kinds of livestock. That is, size of business includes more than merely the number of acres in the farm. As the size of a farm is measured in terms of number of acres, so the size of a

farm business may be measured by the number of "work units," or ten-hour days, of man labor required to handle the productive enterprises of the farm at average rates of accomplishment.

Table 1. Average Operator's Labor Earnings for Groups of Dairy Farms in Southeastern Minnesota, Grouped by Size of Business and Years, Respectively

Years	Work Units		
	579 and less	580 to 779	780 and more
1928	$ 799	$1,141	$1,949
1929	1,240	1,614	2,629
1930	218	276	127
1931	−395	−769	−806
1932	−545	−815	−1,101
1933	505	893	1,495
1934	998	1,850	2,744
1935	864	1,256	2,075
1936	1,827	2,697	4,202
1937	860	1,472	2,161
10-year average	637	962	1,548

The data in Table 1 indicate that size of business was closely related with earnings and losses. But averages do not always show all of the facts. Even in the best years there were some farmers who lost money, and during the depth of the depression a number of farmers, who operated very efficiently, made at least moderate earnings. In every year, among the farmers who made money, those with the larger businesses tended to have higher earnings than those with smaller businesses, and among the farmers who failed to meet expenses, the larger losses tended to fall on those farmers with the larger businesses.

A farmer may alter his earnings by changing the size of his business, by changing the amount of earnings per unit of business, or by a combination of the two. Size of business may be increased by adding land or livestock, or by more intensive methods of production. Earnings per unit of business may be increased by lowering costs through more efficient production, or by obtaining better prices through improving quality, finding special markets, or adapting production and selling to market requirements. The proper choice among these alternatives depends on the particular abilities of the operator and other special circumstances in each case. Increasing earnings per work unit has definite limitations even for the best managers. But the principal limitations to increasing earnings by enlarging the size of the business are the difficulty of obtaining the use of additional land and capital, the difficulty of managing the large business efficiently, and the extra efforts that must be exerted.

The small business efficiently managed may afford a farmer greater security in times of severe price declines, but his earnings are always relatively low. There is the risk of greater losses in the larger businesses. But in seven years out of the last ten most of the farmers made some money, and greater size of business added materially to the earnings. Even in the three worst years of the depression it enhanced the earnings of those farmers who operated with high efficiency. A large farm business does not insure financial success, but it does offer the opportunity for higher earnings for those who have the necessary aptitude for management and who are willing to exert the extra effort.

The Effectiveness of the Butter Tariff

By William A. Newman

The effectiveness of a given tariff rate depends largely upon the relationship between domestic production and consumption of the commodity to which it applies. If production exceeds consumption so that part of the supply is exported, the tariff tends to be ineffective. The production of butter in the United States is so nearly in balance with consumption that the effectiveness of the tariff on butter moves with the supply and consumption situation. Comparisons of quotations for 92-score butter at New York with London quotations for New Zealand finest butter reduced to American money by using average monthly exchange quotations show that during the summer months of 1924, 1925, and 1931 the tariff was virtually ineffective. At certain other times, New York prices have been above London prices by the full amount of the tariff.

The direct effects of the tariff on domestic butter prices are decidedly seasonal. During the fall and winter months when domestic production is lowest, the differential between domestic and world market prices is greatest, thus making the tariff partially or wholly effective. In the summer months when domestic production is heaviest, this differential is smallest, thus making the tariff virtually ineffective. As shown in Table 1, 31 of the 35 months when the differential was 12 or more cents were fall and winter months, whereas 34 of the 50 months when the differential was less than 4 cents were spring and summer months.

Table 1. Number of Months New York Butter Prices Exceeded London Prices by Specified Differentials, 1922-1937

Differential (cents per lb.)	Spring and summer	Fall and winter	Total
Under 4	34	16	50
4.00- 7.99	35	26	61
8.00-11.99	23	23	46
12.00 or more	4	31	35
Total	96	96	192

The greatest importation of butter into the United States over the 16-year period under study was in 1935 when we imported 21,717,000 pounds. These importations came in a period of decided reductions in domestic supply resulting from drouth conditions. Yet this amounted to less than one per cent of domestic consumption. In only three other years did we import more than 10 million pounds. During the depression years 1931-1934, there was only one month when the butter tariff was fully effective. During the remainder of the period, the duty was either partially effective or virtually ineffective. During these years, there was a net exportation of butter. Over the 16-year period 1922-1937, there were only 32 months when the tariff was fully effective compared with 160 months when it was only partially effective or wholly ineffective.

It may thus be concluded that a high tariff on butter is effective only in raising prices for temporary periods when the supply is short and some importations of butter are made. Most of the time it is only partially effective, and part of the time it is virtually ineffective.

Minnesota Farm Prices for October, 1938

By W. C. WAITE and W. B. GARVER

The index number of Minnesota farm prices for the month of October, 1938, was 61. When the average of farm prices of the three Octobers, 1924-25-26, is represented by 100, the indexes for October of each year from 1924 to date are as follows:

October, 1924	93	October, 1929	107	October, 1934	67
October, 1925	104	October, 1930	82	October, 1935	74
October, 1926	103	October, 1931	52	October, 1936	94
October, 1927	93	October, 1932	38	October, 1937	81*
October, 1928	95	October, 1933	50	October, 1938	61*

* Preliminary

The price index of 61 for the past month is the net result of increases and decreases in the prices of farm products in October, 1938, over the average of Octobers, 1924-25-26, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, October 15, 1938, with Comparisons

	Oct. 15, 1938	Sept. 15, 1938	Oct. 15, 1937	Av. Oct. 1924-25-26		Oct. 15, 1938	Sept. 15, 1938	Oct. 15, 1937	Av. Oct. 1924-25-26
Wheat	.55	.57	.96	1.28	Cattle	6.30	6.90	7.70	5.97
Corn	.33	.40	.45	.78	Calves	8.20	8.40	8.80	9.36
Oats	.18	.18	.24	.38	Lambs-sheep	6.71	6.79	8.68	11.03
Barley	.35	.35	.51	.61	Chickens	.109	.12	.163	.166
Rye	.30	.29	.59.	1.01	Eggs	.233	.208	.203	.35
Flax	1.64	1.60	1.89	2.15	Butterfat	.26	.26	.37	.44
Potatoes	.37	.40	.31	.71	Hay	4.55	4.30	6.40	11.90
Hogs	7.20	8.10	10.00	10.68	Milk	1.45	1.45	1.80	2.26

Indexes and Ratios of Minnesota Agriculture*

	Oct. 1938	Sept. 1938	Oct. 1937	Average Oct. 1924-26
U. S. farm price index	68.8	69.3	81.2	100
Minnesota farm price index	61.2	62.5	81.1	100
U. S. purchasing power of farm products	86.4	86.3	96.4	100
Minnesota purchasing power of farm products	76.9	77.8	96.4	100
Minn. farmer's share of consumer's food dollar	—	44.3	49.8	54.6
U. S. hog-corn ratio	17.4	16.8	16.6	12.8
Minnesota hog-corn ratio	21.8	20.5	22.2	14.6
Minnesota egg-grain ratio	32.5	26.8	18.2	21.7
Minnesota butterfat-farm-grain ratio	42.6	40.5	43.9	38.3

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

The Dairy Situation

Creamery butter production, while declining, is now near the low point for the winter and will shortly begin to increase. Thus far this year production has exceeded that of a year ago by about 100 million pounds. Apparent consumption has been nearly the same and consumer expenditures have been over 55 million dollars smaller. Prices have been sustained largely by purchases by government agencies or agencies financed by government. The Dairy Products Marketing Association had purchased 113,267,000 pounds of its total authorized purchases of 115,000,000 pounds by mid-October, and the Federal Surplus Commodities Corporation then began market purchases. The D.P.M.A. is authorized to sell butter in the market whenever the price rises sufficiently to cover the holding costs, or to sell to the F.S.C.C. Purchases by the F.S.C.C. to November 4 approximated 24 million pounds, of which 11 million were purchased from the D.P.M.A. The F.S.C.C. has been authorized to purchase 90 million pounds from the D.P.M.A.

The winter season is entered with (1) large storage stocks (210 million pounds on October 1, compared with 119 million in 1937), (2) a larger current volume of output than a year ago, and (3) a situation favoring feeding. The level of winter prices appears to depend largely on the quantity of butter purchased by the F.S.C.C. for relief purposes, and, in consequence, some interest attaches to how large these purchases may need to be. If consumers' expenditures are about those of the same period a year ago, then a 30-cent New York 92-score average price would necessitate additional purchases by the F.S.C.C. of about 32 million pounds plus any winter excess over a year ago. A 5 per cent excess would amount to 28 million pounds. If consumer expenditures are 5 per cent less than a year ago, new purchases of 76 million pounds would appear necessary, plus any winter excess.

The index declined one point from the September figure of 62. The declines for wheat and corn were seasonal in nature, although the corn price decline appears to have exceeded somewhat the normal seasonal decline. Rye and flax, which customarily decline from September to October, actually rose—rye one cent and flax 4 cents. Hogs and cattle both declined considerably more than the usual seasonal rate. Generous receipts at terminal markets resulted in a downward trend. Milk and butterfat prices remained unchanged rather than showing the conventional October seasonal increase. Exceptional weather has enabled a fairly high rate of production. The stability of butterfat prices is discussed elsewhere on this page.

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