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FARM BUSINESS NOTES

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Business Trends in Oil Cooperatives

E. FRED KOLLER

What has been the progress of Minnesota cooperative oil associations in recent years? How have changing business conditions affected their operating results and financial position? An analysis of the operating statements and balance sheets of 90 representative local oil associations for the period 1938 through 1948 provides many of the answers to these questions.

The rapid growth of these associations is reflected in the increase of their average annual sales from \$70,954 in 1938 to an all-time high of \$254,678 in 1948 (table 1). Part of this increase in sales was attributable to higher prices for nearly all of the supplies handled, but a large part of the gain was the result of larger quantities of merchandise sold. Not only was there an increase in the petroleum products sold, but there was also a rapid expansion in the sales of other merchandise such as auto and tractor supplies, electrical appliances, farm equipment, feeds, fertilizers, and other farm supplies as these associations sought to widen their services.

The analysis reveals that the operating results of these associations did not improve directly as the volume of business increased. In fact, the postwar period showed a sharp decline in both the gross and net margins. Gross

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margins (the difference between the selling price and the cost of merchandise sold) averaged approximately 23 per cent of sales from 1938 through 1945, but dropped sharply in the last two years of the period to a low of 18.31 per cent.

The largest declines in gross margins occurred in electrical appliances since price cuts were made to move radios, lamps, refrigerators,

and other items as supply lines filled up and the buyers' market returned. Gross margins on fuel oils also declined sharply as the result of a squeeze in oil supplies in the winter of 1948 when many associations were required to pay premium prices to obtain adequate supplies. Another factor in reduced gross margins was that the absolute margin between costs and selling prices of light oils remained about the same as prices advanced after the war. In consequence, the percentage of gross margin declined.

A bright spot in the operating results is that the percentage of operating expense declined after 1945, reaching an all-time low of 14.96 in 1948. An important factor in this improvement was the large increase in sales volume which permitted spreading the relatively fixed items of expense such as taxes, depreciation, and insurance over a larger number of units of business.

Improvement in the item "other revenues" after the war, and particularly in 1948, served to offset some of the effect of declining gross margins. The "other revenues" consisted principally of patronage refunds on the merchandise which the local association purchased through the regional cooperative wholesale organizations with which many are affiliated.

Net margins of these associations rose to a peak of 8.80 per cent of sales in 1945 and then declined to the low of 6.43 per cent in 1948. This decline has been reflected in lower refunds to patrons and smaller increases in the member capital of these associations. It is quite probable that the decline in net margins will be slowed down or even reversed in 1949. A factor in improved net margins is that gross margins may be better this year since the largest merchandise markdowns were taken a year ago,

Table 1. Average of Selected Operating Statement Items of 90 Minnesota Cooperative Oil Associations, 1938-1948

Year	Average sales per association	Gross margin	Operating expenses	Net operating margin	Other revenue	Net margins or savings
	(dollars)		per cent of sales			
1938	70,954	22.99	16.58	6.41	.82	7.23
1939	70,861	22.98	17.67	5.31	1.12	6.43
1940	74,388	23.53	17.85	5.68	.99	6.67
1941	84,697	23.14	17.23	5.91	1.01	6.92
1942	90,501	*	*	*	*	6.64
1943	94,831	22.34	17.60	4.74	1.82	6.56
1944	110,173	22.65	16.56	6.09	1.86	7.95
1945	126,712	22.90	16.99	5.91	2.89	8.80
1947†	227,102	21.14	15.83	5.31	1.56	6.87
1948	254,678	18.31	14.96	3.35	3.08	6.43

* These operating items were not calculated for 1942.

† Not strictly comparable—only 67 associations included. No analysis of these associations was made in 1946.

and the margins on petroleum products also have shown improvement. Whether or not operating expenses can be held to the low level of 1948 or even reduced depends on the maintenance of a large volume of business and further improvement in the efficiency with which these supplies are merchandised.

The financial resources of these associations have shown a rising trend somewhat in line with the increase in the volume of sales. The total assets per association increased slowly to \$35,031 in 1943, but nearly tripled in the next five years to reach \$99,710 in 1948 (table 2).

Total current assets increased from \$14,262 in 1938 to \$47,380 in 1948, or 232 per cent. In the meantime, current liabilities (short-term debts) rose somewhat more slowly. As a result, the current ratio (current assets divided by current liabilities), which is a measure of the current debt-paying ability of these associations, increased from 1.59 to 1 in 1938 to 2.06 to 1 in 1948. A 2.00 to 1 ratio is considered to be a desirable minimum standard.

These associations effected a noteworthy reduction of their net receivables from 1938 to 1943, but there was a large increase to \$9,039 in 1948. Probably more significant are the movements of receivables relative to sales. Days of sales outstanding in gross receivables averaged 25.4 days at the close of 1938, 14.3 days in 1943, 11.0 days in 1947,

Table 2. Average of Balance Sheets of 90 Minnesota Cooperative Oil Associations for Years Ending 1938, 1940, 1943, and 1948

	1938	1940	1943	1948
Current assets:				
Cash and U. S. bonds	\$ 2,817	\$ 3,265	\$ 4,144	\$ 5,829
Advances to wholesalers		654	1,004	2,254
Receivables (net)	5,673	5,247	3,855	9,039
Inventories	5,323	5,382	9,104	28,912
Prepaid expenses, etc.	449	504	691	1,346
Total current assets	\$14,262	\$15,052	\$18,798	\$47,380
Investment assets:				
Equities in other coops., etc.	1,473	2,133	4,751	25,002
Fixed assets:				
Land, buildings, equipment	12,923	15,648	19,459	41,994
Less: reserve for depreciation	4,054	5,432	8,283	14,911
Net value	\$ 8,869	\$10,216	\$11,176	\$27,083
Other assets	576	419	306	245
Total assets	\$25,180	\$27,820	\$35,031	\$99,710
Current liabilities:				
Notes, acceptances, etc., payable	1,968	1,808	1,028	7,109
Accounts payable	2,130	1,892	900	4,797
Accruals, etc., payable	2,043	1,831	2,432	4,317
Patron refunds payable	2,818	2,442	5,110	6,807
Total current liabilities	\$ 8,959	\$ 7,973	\$ 9,470	\$23,030
Noncurrent liabilities:				
Mortgages payable, etc.	1,571	1,832	2,367	5,765
Patron refunds payable (long term)	570	1,321	1,417	3,722
Total noncurrent liabilities	\$ 2,141	\$ 3,153	\$ 3,784	\$ 9,487
Members' and patrons' equities:				
Stock and stock credits	8,461	9,981	14,706	52,902
Patrons' equity reserves	875	1,746	3,184	6,055
General reserve	2,700	2,751	3,447	6,751
Undistributed net margins	2,044	2,216	440	1,485
Total equities	\$14,080	\$16,694	\$21,777	\$67,193
Total liabilities and equities	\$25,180	\$27,820	\$35,031	\$99,710

and 11.6 days in 1948. Receivables have been rising some more in 1949, indicating a return to an unfavorable trend which bears watching in the period immediately ahead.

Inventories have followed a rising trend. As inventory has risen, inventory turnover (annual sales divided by average inventory) has shown a declining trend from 13.3 turnovers in 1938 to 8.8 in 1948 which is near the low for the period. The slower turnover represents a less efficient use of the capital invested in inventories.

The borrowings (notes, contracts, mortgages) of these associations have followed a rising trend. Short-term notes declined from 1938 to 1943 but showed a pronounced increase from 1943 to 1948 as more merchandise became available and as expansion of facilities was undertaken.

Another significant trend of this period is the large increase in financing by members and patrons. In 1948 these equities averaged \$67,193 or 67.4 per cent of the total capital as compared with only \$14,080 or 55.9 per cent of the total in 1938. Some of this increase is the result of the sale of securities to members, but most of the increase is the result of net margins retained in the business for which stock and other credits were issued. The increase in members' equities is a favorable trend since it indicates less reliance on creditor financing which may present difficult problems in case of a business downturn.

In general, these associations have shown substantial progress in their operating results and financing through most of the period 1938 through 1948. However, turning points in many of the important business indicators, such as net margins, have appeared as agricultural incomes have declined and more highly competitive business conditions have returned. In the period ahead maintenance of favorable results will depend on increased efficiency of management in all phases of activities of these organizations.

Shall I Sell or Feed My Skim Milk?

S. A. ENGINE

Many farmers are asking, "Shall I sell or shall I feed my skim milk? How can I get the most from my milk?" Feeding experiments and farm records give a partial answer.

Most of the skim milk used for livestock is fed to hogs. Calves can use about 15 per cent of the milk available. Chickens get little on most farms. The question is then, is skim milk worth more as hog feed than it will bring if sold?

One hundred pounds of skim milk will replace about seven pounds of tankage and one-fifth bushel of corn when fed to hogs in dry lot. A farmer can get a rough estimate of the value of skim milk by applying current prices for corn and tankage. With tankage at \$6.00 a hundred, seven pounds will be worth 42 cents. With corn at \$1.00 a bushel, one-fifth bushel is worth 20 cents. One hundred pounds of skim milk will be worth 42 + 20 or 62 cents.

The above figures will hold if skim milk is the only protein supplement and only enough is fed to balance the

ration. The skim milk will be worth slightly more if only a small amount is fed and the ration is balanced with other protein feeds. In this case the high quality of the protein in milk helps to correct for deficiencies in the proteins in other feeds.

Skim milk will be worth less than shown above if more is fed than is needed to balance the ration. About 2 pounds of skim milk are needed to balance each pound of grain in raising a hog to 250 pounds. By doubling the amount of skim milk to about 4 pounds per pound of grain, the value of 100 pounds of skim milk will be cut by about one-third. With the prices used above, skim milk would be worth about 40 cents per 100 pounds.

Good legume pastures make it possible to cut the skim milk or other protein supplement in half. A pound of skim milk will be enough to balance one pound of grain.

How can a farmer know when he has too much skim milk to provide a balanced ration? One way to figure it is this. According to records kept by farmers, it takes about 1,100 pounds of grain and 2,200 pounds of skim milk to raise a hog to 250 pounds. A dairy cow producing 250 pounds of butterfat will produce about 6,000 pounds of skim milk. About 1,000 pounds of that skim milk will be used for calves, leaving 5,000 pounds for hogs. That is enough for about 2½ hogs. Or rather, it would be right if the hogs could be raised when the skim milk was available. On most farms there will be surplus of skim milk for part of the year; the farmer will have to buy other protein supplements the rest of the year. The farmer who farrows hogs twice a year or oftener will be able to use the skim milk more effectively than the farmer who farrows pigs once a year. To be sure to get full value from the skim milk, he should raise three or four pigs if they are kept in dry lot. If the farmer has good legume pasture for the hogs, he will need twice as many; that is, he must raise seven or more pigs for each cow that he milks.

The farmer can then figure that about the top value of his skim milk when used as a feed is the amount he has to pay for seven pounds of tankage and one-fifth bushel of corn. For many farmers the value will be less than this, because they have more skim milk than they can use to good advantage. This value can then be compared with the price the skim milk will bring when sold. This sale price must be the net to the farmer; that is, delivery and other costs must be counted. Some farmers will also want to consider differences in the work involved.

Earnings of Veterans Taking On-The-Farm Training

TRUMAN R. NODLAND

The 1948 records of veterans taking on-the-farm training afford an opportunity to study the capital investment, earnings, and financial progress made by these veteran-farmers in the third year of farming. A wide variety of tenure arrangements is represented. The farmers were widely scattered except in northwestern Minnesota. The farmers included in this region were from type-of-farming

area six which is the transition area between the Red River Valley and the cut-over region.

The capital supplied by the operator is his average investment in the farm business during 1948. In addition he has a small amount of other assets such as cash on hand, household goods, life insurance, accounts receivable, and bonds. The indebtedness against the operator's capital includes mortgages, notes, and accounts payable. The return to capital and family labor represents the amount available from his business for living expenses and savings, including payment of indebtedness. In addition to the income from their farming operations, all of these farmers had other income in the form of veterans' compensation payments amounting to an average of approximately \$1,150.

In general the owner-operators were on the smaller farms and furnished more of their own capital than any other group. They also have the largest indebtedness per farm. Livestock and crop-share renters, on the other hand, operated the largest farms, furnished the smallest amount of capital, and in most cases, had the lowest indebtedness.

The records show that renters have a good opportunity of securing earnings and making savings equal to that made by owner-operators. They have the added advantage of assuming less risk. Unless a prospective owner has sufficient capital to make a sizeable payment on a good farm of adequate size and equip it with good livestock and equipment, he may achieve greater earnings and financial progress by renting a good well-equipped farm. This is particularly true in a period when land and commodity prices show a downward trend.

Operator's Investment in Farm Capital, Liabilities, Increase in Net Worth, and Return to Capital and Family Labor, 1948

	Owners	Cash and crop-share renters	Livestock and crop-share renters
Southeastern Minnesota			
Number of farms	21	27	26
Acres per farm	148	157	170
Farm capital supplied by operator.....	\$18,760	\$7,636	\$5,700
Indebtedness against operator's capital	9,932	1,202	1,579
Increase in net worth.....	1,765	1,311	1,153
Return to capital and family labor	2,088	2,440	2,445
Southwestern Minnesota			
Number of farms	13	36
Acres per farm	208	229
Farm capital supplied by operator.....	\$21,907	\$7,025
Indebtedness against operator's capital	9,698	1,616
Increase in net worth.....	1,808	2,242
Return to capital and family labor	2,944	2,848
Northwestern Minnesota			
Number of farms	34	17	13
Acres per farm	129	186	210
Farm capital supplied by operator.....	\$9,678	\$5,414	\$2,827
Indebtedness against operator's capital	3,524	1,358	357
Increase in net worth.....	1,540	1,645	1,611
Return to capital and family labor.....	1,518	1,837	1,169
Northeastern Minnesota			
Number of farms.....	61	7	7
Acres per farm.....	137	157	165
Farm capital supplied by operator.....	\$8,702	\$4,326	\$3,098
Indebtedness against operator's capital	3,508	1,596	444
Increase in net worth.....	1,261	1,580	1,858
Return to capital and family labor.....	1,484	1,454	1,844

Minnesota Farm Prices for October, 1949

Prepared by W. C. WAITE and ARNOLD B. LARSON

The index number of Minnesota farm prices for October, 1949, is 226.7. This index expresses the average of the increases and decreases in farm product prices in October, 1949, over the average of October, 1935-39, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, October, 1949, with Comparisons*

	Oct. 15, 1949	Sept. 15, 1949	Oct. 15, 1948		Oct. 15, 1949	Sept. 15, 1949	Oct. 15, 1948
Wheat	\$ 2.01	\$ 1.98	\$ 2.05	Hogs	\$17.70	\$19.40	\$24.30
Corn	.99	1.06	1.25	Cattle	20.40	20.90	21.20
Oats	.55	.56	.62	Calves	24.20	25.10	26.00
Barley	1.25	1.22	1.21	Lambs-sheep	20.02	21.16	21.87
Rye	1.25	1.26	1.36	Chickens	.178	.195	.248
Flax	3.47	3.67	5.75	Eggs	.440	.460	.462
Potatoes	1.10	1.20	1.15	Butterfat	.68	.67	.76
Hay	14.56	14.40	16.70	Milk	3.25	3.20	3.75
				Wool†	.43	.44	.45

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

† Not included in the price index number.

Farm prices declined for nearly all Minnesota farm products from September to October. Hogs and chickens were nine per cent lower in price, and corn and potatoes declined seven and eight per cent respectively, but price changes were generally moderate. Wheat, barley, hay, milk, and butterfat showed slight increases.

Feed ratios were near the September level. The corn-hog and egg-grain ratios were a fraction lower, while the beef-corn and butterfat-grain ratios rose one point.

Indexes and Ratios for Minnesota Agriculture*

	Oct. 15, 1949	Oct. 15, 1948	Oct. 15, 1947	Average Oct. 1935-39
U. S. farm price index	228.8	260.8	272.1	100
Minnesota farm price index	226.7	265.9	300.2	100
Minn. crop price index	220.7	253.2	366.8	100
Minn. livestock price index	246.2	294.5	303.2	100
Minn. livestock product price index	199.7	229.7	238.9	100
U. S. purchasing power of farm products	118.4	130.1	141.4	100
Minn. purchasing power of farm products	117.3	132.6	156.0	100
Minn. farmers' share of consumers' food dollar	58.0†	60.1	65.7	47.6
U. S. hog-corn ratio	16.1	17.8	12.4	14.1
Minnesota hog-corn ratio	17.9	19.4	13.0	17.8
Minnesota beef-corn ratio	20.6	17.0	9.1	14.7
Minnesota egg-grain ratio	18.3	17.4	11.4	20.9
Minnesota butterfat-farm-grain ratio	34.8	35.2	22.8	36.4

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

† Figure for August, 1949.

UNIVERSITY FARM, ST. PAUL 1, MINNESOTA

Cooperative Extension Work in Agriculture and Home Economics, University of Minnesota, Agricultural Extension Division and United States Department of Agriculture Cooperating, Paul E. Miller, Director. Published in furtherance of Agricultural Extension Acts of May 8 and June 30, 1914.

Milk Cow—Butterfat Ratios

W. C. WAITE and B. J. PEIGHTAL

The amount of butterfat which would be required to purchase a milk cow in Minnesota at farm prices is at a new high level. It took an average of 297 pounds of butterfat to equal the price of a milk cow during the first six months of 1949. The average for 1948 was 228 pounds and this was a 74 per cent increase over the average amount required to buy a cow during the period 1920-1924. The table below shows the relationships by five-year averages from 1920-24, and annually for 1945 to 1948. Column three of the table is derived by dividing the average price of milk cows by the average price of butterfat for the corresponding period.

The ratio of milk cow prices to farm prices for beef cattle, however, has shown a continuous decline since 1920. This means that beef prices have risen relative to milk cow prices. It indicates an increasing influence of beef prices on the price of dairy cows. It appears, therefore, that the culling of low-producing cows is more important now than ever before.

Ratios of Milk Cow Prices to Butterfat Prices

Year	Average price of milk cows per head	Average price of butterfat per pound	Pounds of butterfat required to buy one cow
	(dollars)	(dollars)	(pounds)
1920-24	58.66	.45	130.36
1925-29	78.06	.47	166.09
1930-34	44.45	.26	170.96
1935-39	58.28	.31	188.00
1940-44	92.03	.43	214.02
1945	114.00	.53	215.09
1946	137.60	.71	193.80
1947	160.00	.78	205.13
1948	196.00	.86	227.91

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