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FARM BUSINESS NOTES

Prepared by the Divisions of Agricultural Economics and Agricultural Extension
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UNIVERSITY FARM, ST. PAUL

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Minnesota Cooperative Elevator Associations

REX W. COX

The influence of cooperative grain elevators on local grain handling and costs is felt at nearly every local shipping point. Today, there are approximately 1,200 public local grain elevators in Minnesota. Of this number, 260 are cooperative. The grain marketed from these farmers' cooperative elevator associations was about 45 per cent of all grain shipped from local elevators in Minnesota during the fiscal year, 1947-48. This report is based on data obtained from 80 cooperative elevator associations.

Assets. The net capital invested in cooperative elevators in Minnesota, based on data from 80 associations, averaged \$118,642 at the end of the 1947-48 fiscal year and for individual associations ranged from less than \$50,000 to more than \$300,000 (table 1). Associations with a volume of business of less than \$400,000 averaged about \$54,000 in assets, and those with a volume exceeding \$1,600,000 averaged \$245,000.

The operating capital or current assets averaged 70 per cent of the total assets or \$82,461 per association. Accounts receivable from patrons, which mainly represent credit sales of merchandise, were \$8,992, but 10 per cent of the associations had outstanding accounts of \$16,000 or more. The over-extension of credit by cooperative associations creates one of the more serious problems of financial management, particularly during a period of declining farm income. Practically all associations aim to limit credit to 30 days, but in the case of one-half of the associations, days sales outstanding in receivables exceeded 30 and for 10 per cent of the associations, the figure was 90 days or more.

Accounts receivable from commission firms were \$14,143 or 12 per cent of the assets. Of the 80 associations, 44 had accounts receivable from these firms.

Inventories of grain of \$36,188 constituted 44 per cent of current assets. Almost 38 per cent of the grain inventory was grain owned by holders of storage tickets. Inventories of merchandise averaged \$12,645 or about one-fourth of

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the combined inventories of grain and merchandise.

Of the total capital required by elevators, an average of 26 per cent was used for fixed assets. The original capital investment in these items was \$45,511 per association but about one-third of this had been depreciated, leaving a net value of \$30,295. All associations set up a reserve for depreciations.

Liabilities. Creditors supplied 42 per cent of the capital of the associations. Included in this proportion is that representing patronage dividends payable which amounted to 5.2 per cent of the assets. As most of the patrons are members, the amount of this item can be considered as capital provided by members, bringing the total amount of capital provided by members and patrons to an average of 63.1 per cent of the total assets.

Only a small proportion of the liabilities on the average represented formal borrowing. The balance sheets of six of the associations surveyed, however, included short term notes, the amount of which ranged up to \$30,000. Eighteen of the associations obtained funds through long term paper, the amounts remaining to be paid at the end of 1947-48 ranging up to \$75,000. While bank overdrafts do not represent formal borrowing, they indicate a temporary indebtedness to banks. This item amounted to 11 per cent of the total assets.

Accounts payable to commission firms averaged \$9,919. While 44 associations have accounts receivable from commission firms, 34 others were indebted to these firms. Many associations depend almost entirely on the terminal representative for financing the purchase of grain.

Net Worth. Members and patrons have furnished the largest proportion of the capital of these associations through purchase of stock and the accumulation of net worth reserves and surplus. Net worth averaged \$69,000 and varied for individual associations from \$5,000 to \$215,000. Capital stock and stock credits provided 20 per cent of the capital. Patrons deferred dividends which are shown as patrons' equity reserve on the balance sheet amounted

to 23.5 per cent of the total assets or one-half of the net worth. Sixty-two of the 80 associations maintain a revolving plan for financing whereby savings are placed in a reserve to be distributed to the patrons at a later date.

The surplus of \$12,762 or 11 per cent of the total assets is in the main not credited to individual patrons' accounts. In many associations, this item has changed but slightly in recent years because all savings are distributed as dividends on stock, stock credits, cash dividends, or credited to the patrons in some reserve account. Some associations, however, continue to make substantial additions to surplus. Any association which desires to maintain an income tax exemption status should avoid distributing any savings to an unallocated surplus account.

Table 1. Composite Balance Sheet, Minnesota Cooperative Elevator Associations, 1947-48 Fiscal Year

	Average value	Per cent of total assets
Current Assets		
Cash	\$ 7,926.06	6.7
Government Bonds	909.87	.7
Accounts Receivable—Patrons (net).....	8,992.18	7.6
Advances	143.11	.1
Accounts Receivable—Commission Firms.....	14,143.19	11.9
Notes Receivable	1,202.61	1.0
Inventory—Grain	36,188.47	30.5
Inventory—Merchandise	12,644.88	10.7
Other Current Assets	310.73	.3
Total Current Assets	82,461.10	69.5
Investments	\$ 5,045.14	4.2
Fixed Assets		
Buildings and Equipment	\$ 45,511.81	38.4
Less: Reserve for Depreciation	15,216.25	12.8
Net value	30,295.56	25.6
Land	370.09	.3
Total Fixed Assets	\$ 30,665.65	25.9
Others Assets	\$ 470.10	.4
Total Assets	\$118,641.99	100.0
Current Liabilities		
Bank Overdrafts	\$ 12,775.12	10.8
Accounts Payable—Patrons	215.88	.2
Accounts Payable—Commission Firms	9,919.91	8.3
Accounts Payable—General	518.40	.4
Interest Dividends Payable	566.48	.5
Notes Payable	688.10	.6
Storage Liability	13,910.54	11.7
Patronage Dividends Payable	6,121.82	5.2
Other Current Liabilities	1,267.86	1.1
Total Current Liabilities	\$ 45,984.11	38.8
Noncurrent Liabilities		
Notes and Mortgages Payable.....	\$ 2,851.66	2.4
Other Long Term Liabilities	1,051.48	.9
Total Long Term Liabilities	3,903.14	3.3
Total Liabilities	\$ 49,887.25	42.1
Net Worth		
Stock and Stock Credits	\$ 23,567.34	19.9
Patrons' Equity Reserve	27,943.12	23.5
Statutory Reserve	431.11	.4
Certificates of Equity	130.39	.1
Other Net Worth Reserves	1,317.32	1.1
Surplus	12,762.12	10.7
Undistributed Savings	2,603.34	2.2
Total Net Worth	68,754.74	57.9
Total Liabilities and Net Worth	\$118,641.99	100.0

Financial Relationships. Certain ratios are indicative of the financial status of an association. The most commonly used is the ratio of current assets to current liabilities which indicates the current solvency of the business. A ratio of 2 to 1 is considered a desirable minimum standard. The average of all cooperative elevator associations was equal to the standard, but the ratio for a number of the associations was less than 1.0. These associations did not have sufficient liquid assets to meet current creditor claims in full on demand.

The extent to which an association is financed by owner capital is indicated by the ratio of net worth to total liabilities. For all elevators, the ratio averaged 1.7 to 1 compared with a desirable minimum standard of 1.5 to 1. Almost one-third of the associations, however, had a ratio of less than 1 to 1. In these associations, members and patrons actually own less than 50 per cent of the assets.

A common rule of sound finance is that fixed assets should be financed by owner capital which means that the ratio of net worth to fixed assets should be at least 1. to 1. Only eight per cent of the associations failed to meet this standard. Almost two-fifths show a ratio exceeding 3 to 1.

On the basis of averages, the financial status of Minnesota cooperative elevator associations at the end of the 1947-48 fiscal year was fairly satisfactory. However, the variations from the averages for individual associations was quite wide indicating that some associations would have difficulty in adjusting to unfavorable conditions.

Labor Efficiency in Milk Drying Plants

DALE E. BUTZ

One of the most important factors affecting costs of manufacturing dry milk is labor efficiency or powder output per hour of labor. The larger milk drying plants have a higher powder output per hour of labor than do the plants with somewhat lower volume of production (table 1).

Since the wage rates were nearly the same in all plants, the labor cost per pound of dry milk produced decreased rather sharply as the size of plant increased. The ranges in powder output per hour of labor indicate that there was much variation within the size groups. In the group producing 5.0 million pounds or more, there were plants with a lower production per hour than some of the plants in the smaller volume grouping. This variation may have been

Table 1. Relationship of Volume of Production, Powder Produced per Hour of Labor, and Labor Cost per Pound of Powder, 15 Minnesota Spray Drying Plants, 1948.

Annual powder output per plant	Number of plants	Range in powder output per hour of labor	Average powder output per hour of labor	Average labor cost per pound of powder
million pounds		pounds	pounds	cents
0.0-3.9	3	38.1-44.8	42.2	2.19
4.0-4.9	7	54.8-76.3	65.6	1.44
5.0 and over	5	62.3-80.8	72.1	1.34
Average—all plants	15	38.1-80.8	64.8	1.47

due to differences in management, qualities of labor, plant layout, or a number of other factors. In general, however, the powder output per hour of labor was higher in the larger plants. Larger plants tend to have higher output per hour of labor because part of the labor force such as office help and boiler room labor do not increase as rapidly as volume. Larger plants also use more labor saving devices than do smaller plants. These factors tend to increase the output per hour of labor as volume expands.

The production of milk powder follows a very distinct seasonal pattern. Powder output per hour of labor also varies widely during the different seasons of the year. During the peak production months of May and June, total output is high and output per hour of labor is also at very high levels. In the fall months, the total output is low and the output per hour of labor is only about one-half as high as during the peak period in May.

There are many reasons why the number of people employed or the hours worked are not adjusted closely to variations in powder output. Probably the principal one is that the officials of most drying plants consider it poor labor policy to hire and fire men during the year. Consequently, they try to operate during the flush season with as few employees as possible and then try to keep most of these employees on the payroll for the entire year.

In the slack seasons, the powder production per hour of labor falls, but the employees are kept busy painting the plant, making repairs, and doing other odd jobs about the plant. This often results in inefficient use of labor and relatively high labor costs.

In some plants, the workers voluntarily work longer hours during the flush season with the understanding that they will have extra time off during the slack production period. In other plants, the variation in the number of laborers is reduced by paying the personnel for overtime work during the flush season. Some plants adjust the labor supply more closely to output through the use of part-time help or help that is hired for only a few months of the year.

If labor costs are to be held to a minimum, it will be necessary for the plant managers to adjust the number of employees and the hours worked with changes in powder output. This together with measures designed to give near maximum output per hour of labor should result in greater labor efficiency and lower labor costs.

On 88 farms in southwestern Minnesota, 19 per cent of the tillable land, or 42 acres, was devoted to hay and pasture. Of this total 38 per cent, or 16 acres, was plowed up annually. New seedings averaged 29 acres per farm for this five-year period, increasing from 23 acres in 1944 to 37 acres in 1948. A large share of this increase in new seedings resulted from an increase in the acreage of new seedings used for green manure. In 1944 seven acres per farm were turned under, while in 1948, 19 acres per farm were used in this manner. An average of 41 per cent of the new seedings was used for green manure. Another 10 per cent of the new seedings were plowed under in the fall or the following spring because of poor stands. A little less than half of the original new seeding remained to replace old stands. The rate of replacement of new seeding for old stand showed that the average hay or pasture crop was kept down about three years. There was a slight decrease in the percentage of tillable land in sod crops during the five-year period.

In southeastern Minnesota 30 per cent of the tillable land, or 51 acres, was devoted to hay and pasture. Of the tillable hay and pasture, over one-third was plowed up each year. New seedings were started annually on 26 acres which was equivalent to 51 per cent of the total tillable acres in hay and pasture. However, 9 per cent of these seedings were plowed under for green manure and 18 per cent were plowed in the fall or following spring because of poor stands. The new seeding remaining was great enough to replace sod plowed annually. The percentage of tillable land used for hay or pasture remained relatively constant with existing stands averaging a little less than three years of life.

There was little change in the kind of legumes seeded down to replace old stands of hay and pasture. In southeastern Minnesota, alfalfa and alfalfa mixtures made up 31 per cent of the seeding used for replacing old stands, while 28 per cent of the sod plowed up had included alfalfa. Alfalfa and alfalfa mixtures made up 46 per cent of the new seeding used as replacements in southwestern Minnesota, while 46 per cent of the sod plowed up also included alfalfa. The seedings plowed under as green manure were largely sweet clover.

Legume and Grass Seedings

B. F. STANTON and T. R. NODLAND

Records of cooperators in the farm management associations in southern Minnesota indicate little change in the amount of tillable land devoted to hay and pasture in the southeastern area from 1944 through 1948.

In southwestern Minnesota, however, the percentage of tillable land in hay and pasture has declined from 21 per cent in 1944 to 17 per cent in 1948. During the same period in this area, the average acreage of legume seedings used for green manure has more than doubled.

Management of Grass and Legume Seedings, 1944-48

	Southeastern Minnesota	Southwestern Minnesota
Number of farms	111	88
Total acres per farm	232	265
Total tillable acres per farm	171	218
Per cent of total tillable acres:		
Hay and pasture	29.8	19.2
Old stand plowed up	11.0	7.3
Old stand remaining	18.8	11.9
New seeding annually	15.1	13.2
Plowed for green manure	1.4	5.4
Plowed because of poor stand	2.7	1.3
Total new seeding plowed	4.1	6.7
Net new seeding for hay or pasture.....	11.0	6.5

Minnesota Farm Prices January-June, 1950

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

The following tables summarize the Minnesota farm price data for the first six months of 1950. Some of the comparisons with the corresponding month of past years are omitted. During the year, *Farm Business Notes* will be published bimonthly. To maintain an uninterrupted monthly series of average farm prices, and indexes and ratios, only those comparisons which are given in this issue will be shown in future issues.

Average Farm Price Index, January to June, 1950, with Comparisons*

	Jan. 15 1950	Feb. 15 1950	Mar. 15 1950	Apr. 15 1950	May 15 1950	June 15 1950	Dec. 15 1949	June 15 1949
Wheat	\$ 2.00	\$ 1.99	\$ 2.04	\$ 2.06	\$ 2.12	\$ 2.07	\$ 2.02	\$ 2.01
Corn	1.04	1.04	1.07	1.17	1.24	1.23	1.04	1.09
Oats	.64	.64	.66	.68	.75	.78	.64	.54
Barley	1.24	1.24	1.25	1.28	1.33	1.35	1.23	1.00
Rye	1.23	1.16	1.19	1.18	1.22	1.22	1.25	1.12
Flax	3.68	3.63	3.59	3.66	3.68	3.74	3.57	3.43
Potatoes	1.20	1.20	1.20	1.20	1.25	1.25	1.15	1.50
Hay	14.20	14.80	14.20	15.20	18.70	16.50	14.60	14.20
Hogs	14.90	16.20	16.00	15.60	18.40	17.00	14.60	18.00
Cattle	19.00	20.40	21.00	21.60	23.50	24.50	19.70	20.60
Calves	24.90	26.00	26.30	26.40	27.60	27.90	24.70	24.50
Lambs-Sheep	19.87	21.52	21.81	22.17	23.16	23.84	19.87	22.96
Chickens	.163	.167	.168	.17	.162	.167	.166	.20
Eggs	.252	.25	.27	.27	.266	.264	.33	.399
Butterfat	.67	.68	.67	.66	.66	.66	.68	.65
Milk	3.00	3.00	2.90	2.80	2.80	2.90	3.05	2.80
Wool†	.42	.42	.42	.42	.44	.50	.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.

Indexes and Ratios for Minnesota Agriculture*

	Jan. 15 1950	Average Jan. 1935-39	Feb. 15 1950	Average Feb. 1935-39
U. S. farm price index	216.4	100	217.0	100
Minnesota farm price index	210.2	100	218.2	100
Minn. crop price index	182.5	100	190.0	100
Minn. livestock price index	236.9	100	255.8	100
Minn. livestock product price index	183.0	100	186.5	100
U. S. purchasing power of farm products	108.8	100	109.5	100
Minn. purchasing power of farm products	105.7	100	110.1	100
Minn. farmers' share of consumers' food dollar	57.2†	48.4	54.9‡	48.0
U. S. hog-corn ratio	13.1	12.7	14.3	13.1
Minnesota hog-corn ratio	14.3	14.9	15.6	15.5
Minnesota beef-corn ratio	18.3	11.7	19.6	12.1
Minnesota egg-grain ratio	10.1	15.0	10.1	14.4
Minnesota butterfat-farm-grain ratio	31.8	33.9	32.2	34.2

* Explanation of the computation of these data may be had upon request.
† Figure for October, 1949.
‡ Figure for November, 1949.

UNIVERSITY FARM, ST. PAUL 1, MINNESOTA

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Indexes and Ratios for Minnesota Agriculture*

	Mar. 15 1950	Average Mar. 1935-39	Apr. 15 1950	Average Apr. 1935-39
U. S. farm price index	217.0	100	220.3	100
Minnesota farm price index	221.1	100	220.7	100
Minn. crop price index	195.1	100	200.9	100
Minn. livestock price index	254.6	100	260.2	100
Minn. livestock product price index	193.8	100	190.4	100
U. S. purchasing power of farm products	108.8	100	110.4	100
Minn. purchasing power of farm products	110.9	100	110.6	100
Minn. farmers' share of consumers' food dollar	54.6†	48.2	53.7‡	47.9
U. S. hog-corn ratio	13.5	13.4	12.4	12.5
Minnesota hog-corn ratio	15.0	16.5	13.3	15.4
Minnesota beef-corn ratio	19.6	12.9	18.5	12.6
Minnesota egg-grain ratio	10.6	13.6	10.2	13.7
Minnesota butterfat-farm-grain ratio	31.0	32.4	29.3	31.8

* Explanation of the computation of these data may be had upon request.
† Figure for December, 1949.
‡ Figure for January, 1950.

Indexes and Ratios for Minnesota Agriculture*

	May 15 1950	Average May 1935-39	June 15 1950	Average June 1935-39
U. S. farm price index	232.1	100	234.3	100
Minnesota farm price index	239.3	100	240.6	100
Minn. crop price index	223.4	100	237.5	100
Minn. livestock price index	293.6	100	273.8	100
Minn. livestock product price index	202.9	100	213.3	100
U. S. purchasing power of farm products	115.0	100	115.2	100
Minn. purchasing power of farm products	118.5	100	118.3	100
Minn. farmers' share of consumers' food dollar	56.6†	46.3	57.1‡	45.5
U. S. hog-corn ratio	13.8	10.7	13.1	12.0
Minnesota hog-corn ratio	14.8	14.6	13.8	15.2
Minnesota beef-corn ratio	19.0	12.7	19.9	12.8
Minnesota egg-grain ratio	9.6	14.6	9.6	14.6
Minnesota butterfat-farm-grain ratio	27.3	29.7	26.7	30.9

* Explanation of the computation of these data may be had upon request.
† Figure for February, 1950.
‡ Figure for March, 1950.

UNIVERSITY OF MINNESOTA

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