FARM BUSINESS NOTES

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Farm Income in Minnesota

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The gross cash sales of Minnesota farmers in 1940 were the largest in the last three years. They appear to have been about the same as in 1937, which would make them as large as in any year in the last ten. The physical volume of sales was large, especially of crops, hogs, and butterfat. Higher prices of livestock products and crops offset somewhat lower livestock prices to raise the general level of prices above 1939, and this rise combined with the larger volume of sales raised the income materially above that of 1939. The preliminary estimates of the sales for the year of the 16 principal agricultural products of the state are 311 million dollars compared with 257 million dollars for the same products in 1939. Cash operating expenses increased only slightly so that there was a material increase in net cash income.

Volume of Production

The volume of agricultural production during the year was large. Crop yields were the highest since 1918, with the season being particularly favorable for wheat and oats. The number of hogs sold was the largest in recent years, but the peak of the current production cycle appears to have been passed and there were probably fewer hogs on farms at the close of the year than at the beginning. Cattle production continued to expand. Creamery butter production was markedly above that of the preceding year and probably was the largest in the history of the state. Table 1 gives some indexes indicative of the volume of production. The index of yields is for the six crops: corn, wheat, flax, potatoes, oats, and barley. The number of animal units on farms has continued to recover from the effects of the drouth in 1934, but is not yet as large as in 1933 and early 1934. Creamery butter production exceeded 1939 during the first 8 months of the year and was nearly the same as 1939 at the end of the year.

Prices of Farm Products

Agricultural prices have thus far received little stimulus from the war and remain at levels below those reached in 1937. Table 2 gives the annual averages for Minnesota farm prices by groups of commodities: crops, livestock, and livestock products. As compared with a year ago the prices of livestock products were appreciably higher largely due to the price of butterfat which was several cents higher through most of the year than in corresponding months of the preceding year. The decline in livestock prices was occasioned by low hog prices throughout the year. Cattle prices were about the same as in 1939 during the early part of the year but rose relatively to 1939 in the latter part of the year. Crop prices averaged above the preceding year but the level of prices at the close of the year was lower than at the beginning.

Table 1. Indexes of Agricultural Production in Minnesota, 1930-40 (1924-25-26=100)

	Index of Yields of Six Principal Crops	Index of Creamery Butter Production	Index of Animal Units on Farms January 1
1924-5-6 (Average)	100	100	100
1930	97.5	109.0	104.0
1931	73.7	109.7	107.5
1932	98.8	111.5	110.5
1933	70.0	115.2	112.0
1934	54.4	105.4	114.3
1935	93.5	105.2	99.7
1936	58.9	111.8	100.7
1937	103.8	106.4	101.7
1938	95.0	116.1	103.3
1939	107.9	114.0	104.8
1940	112.5*	118.7*	107.8

* Preliminary.

Table 2. Indexes of Minnesota Farm Prices by Groups, 1930-40 (1924-25-26=100)

	Crops	Livestock	Livestock Products
1924-5-6 (Average)	100	100	100
1930	79	98	86
1931	50	64	64
1932	38	42	46
1933	54	41	46
1934	82	49	57
1935	71	93	72
1936	89	96	78
1937	88	102	81
1938	54	86	67
1939	55*	79*	60*
1940	60*	73*	68*

* Preliminary.

Agricultural Income and Expenses

The index of the gross cash sales of the 16 principal agricultural products of the state, with the average of 1924-5-6 as 100, is shown for the years 1930 to 1940 inclusive in table 3. The index represents the sum of the estimated sales of butterfat, hogs, cattle, wheat, eggs, milk, corn, flax, oats, barley, potatoes, calves, chickens, hay, rye, and lambs-sheep. The amounts of the principal products sold each month multiplied by their farm price constitute the sales for the month. The sum of the 12 calendar months is the estimated cash income. A number of the less important products have been omitted but the index is adequate for showing the relative changes between years. No allowance has been made either for the value of farm products used by the family or for changes in the inventory value of livestock or crops. The index thus represents simply the returns from the cash sales of products. It indicates an increase of about 20 per cent in the gross cash farm income in 1940 as compared with 1939.

Table 3. Indexes of Minnesota Gross and Net Agricultural Income and Cash Operating Expenses, 1930-40
(1924-25-26=100)

	Index of Gross Cash Sales	Index of Cash Operating Expenses	Index of Net Cash Income
1924-5-6 (Average)	100	100	100
1930	86.2	99.3	77.6
1931	62.2	88.7	44.7
1932	41.0	74.0	19.3
1933	46.8	65.3	34.6
1934	57.7	68.7	50.4
1935	63.8	74.0	57.0
1936	80.2	78.7	81.1
1937	82.3	86.7	79.4
1938	68.8	80.7	61.0
1939	68.0	82.0	58.0
1940	82.4*	83.3*	86.0*

* Preliminary.

Changes in the cash operating expenses are shown by our index of the total outlay for the 18 principal items of expense. These include annual estimates for the following: taxes, interest payable, wages, feed, building and machinery repairs, automobile and truck licenses, gasoline and other fuels, fertilizer, twine, sacks, spray and seed-treatment material, telephone, electricity, insurance, farm papers, and veterinary services. These data represent only the farmer's cash operating expenses and do not constitute his entire cash outlay. They do, however, probably account for about 90 per cent of the total cash expenditures excluding those made for new capital investments. Cash expenses appear to have been increasing steadily from the low point in 1933, except for the unusual outlays in 1937 for feed, occasioned by the drouth of 1936.

A rough estimate of the net cash farm income is secured by subtracting the sum of the 18 expense items from the sum of the gross cash sales of the 16 principal agricultural products for the corresponding year. The net incomes calculated in this way are expressed in the form of an index with 1924-5-6 as 100 and are shown in the third column of table 3. This net income is the amount farmers have available for payment for their own labor and return on capital investment, or, in other words, the amount available for family living and saving. The index of 86.0 for 1940 is the highest in the last 11 years.

Government payments to farmers in the state appear to have been the largest so far made in any year. The January to September total in 1940 was reported as 25.4 million dollars as compared with 18.8 million dollars for the same period in 1939. The cost of things bought by farmers for their living increased only slightly during the year, and thus far there has been no important rise in these costs as a result of the war. The purchasing power of the income this year thus appears to have exceeded that of any year since 1929.

Methods in Assisting Cooperative Creameries

W. H. DANKERS

In order to assist cooperative creameries with marketing problems, the Agricultural Extension Division of the University of Minnesota has in recent years conducted surveys in selected areas of the state. The first survey was made in Morrison County in 1937, covering the operations for 1936. The material was brought together and published in mimeographed form.

The second and third surveys were made in 1938 and 1939 in Watonwan and Houston counties. Results of these surveys were mimeographed in Agricultural Extension pamphlets No. 54 and No. 62. The project was expanded to include meetings with boards of directors and managers for discussion of the prevailing problems. Such meetings proved to be exceptionally worthwhile.

The most comprehensive survey was the fourth and most recent one, made during 1940 and covering operations for 1939. This survey covered 10 counties in West Central Minnesota. The results are published in Pamphlet 70 "A Survey of Cooperative Creameries in West Central Minnesota" and Pamphlet 71 "A Survey of the Egg and Poultry Enterprise of Cooperative Creameries in West Central Minnesota." Meetings and conferences have been held in all counties to bring information regarding creamery problems to the directors and operators in the area. Later in the season meetings will be held to discuss egg and poultry marketing problems.

The first step in the survey procedure was to familiarize the county agent with the project. In a number of cases this has resulted in a fuller realization of creamery problems on the part of the agent. Later the marketing specialist visited each plant and obtained detailed data concerning all phases of creamery organization and operation. In practically all cases this led to a discussion of individual problems, and thereby to a greater appreciation of the services offered by the Agricultural Extension Service. Also the marketing specialist had an opportunity to share the practical problems at first hand and consequently to make his own educational program more realistic. When all the records were obtained, the material was analyzed, summarized, and published. This provided an opportunity to compare the methods of organization and management,

procurement and operating costs, seasonality, quality, marketing results, and, most important of all, the net returns available to the farmer.

Wide differences in cooperative creameries have been found in all surveys made. This indicates that individual plants can gain much from studying the factors in which they are operating at a disadvantage and making adjustments. A summary table of a few general comparisons will be of interest.

Operating Results of West Central Minnesota Creameries, 1939

Operating Expenses— Cents per lb.	Average–29	Highest Cost Plant	Lowest Cost Plant
Manufacturing expense	1.47	2.59	.82
Labor and management expense	.91	1.51	.79
General and adm. expense	.37	.80	.26
Interest on loans	.06	.19	—
Total operating costs	2.81	5.09	1.87
Volume	Average–27	Highest vol. plant	Lowest vol. plant
All butter sales—pounds	313,753	600,279	116,546
Price Received	Average–27	Highest ave. price plant	Lowest ave. price plant
All butter sales—Cents per lb.	23.87	24.94	23.05
Net Returns Available for Farmers	Average–27	Highest ret. plant	Lowest ret. plant
Per pound of butterfat—cents	27.21	28.20	23.82

The job of the Agricultural Extension Service is one of education and not of special group service, promotion, or dictation. From the studies referred to, the directors of cooperative creameries are provided with basic information which can be used for improvement of their cooperative. The response to this help is obvious from the numerous requests during recent years for assistance from marketing specialists at annual stockholders' meetings.

Farmers Can Increase Their Earnings

SELMER A. ENGENE

Many farmers can increase their earnings materially by improving the quality or by expanding the size of their business. Although this has been shown frequently by comparisons of successful with unsuccessful farmers, the principle is established more definitely by a study of the effect on earnings of changes made from year to year by the same farmers. Records kept by 150 southeastern Minnesota dairy farmers each year from 1928 through 1938 serve as the basis for this analysis.

Change in crop yields was one of the most important factors influencing changes in earnings. Crop yields on some farms rose from one year to the next relative to other farms. That is, crop yields for the entire group of farms may have increased from one year to the next, but the yields on some farms rose more than on others. On one fifth of the farms studied the yields increased by 25 per cent relative to the other farms. The operator's labor earnings of these farmers rose by almost $500 compared with the earnings of other farmers. Earnings decreased by a corresponding amount for those farmers whose yields decreased. The other major factors influencing earnings did not change, hence this entire change in earnings can be ascribed to crop yields. Although a part of this change in yields was due to variations in weather conditions among different communities, a large part of it was due to factors under the farmer's control, such as the varieties grown, the quality of seedbed preparation, the use of fertilizers, the rotations used, and the timeliness of the field work.

Change in the efficiency of livestock production measured in terms of return over feed cost was an even bigger cause of change in earnings. Approximately one fourth of the farmers increased their livestock efficiency enough to increase their earnings by $550. The earnings decreased by a corresponding amount for farmers whose livestock efficiency fell. Some of the factors that enabled farmers to increase the return over feed cost were a better selection of livestock, the use of better balanced and more economical rations, and improvements in livestock management.

Increase in the proportion of tillable land used for crops yielding the highest net return per acre also increased earnings, but the differences were not as large as for the two previous factors. Earnings increased $200 on the fifth of the farms with the largest increases in the proportion of land used for high return crops. Comparable increases in earnings were obtained from increases in the number of livestock per 100 acres, in the efficiency in the use of labor, and in the efficiency in the use of power, machinery, and buildings.

Almost one fifth of these farmers increased the size of their business by operating more land, by adding livestock, or by changing the kinds of crops or livestock. The average increase in the size of business was sufficient to utilize one third of the time of one man. The earnings of those farmers increased by $200. The earnings of the farmers who decreased the size of their business fell by a larger amount.

In general, earnings increased just as much when the farmer improved a part of the farm business which was relatively good as when he improved a part which was poor. The conditions and opportunities existing on each farm determined the changes that could be made most profitably.

The increases in earnings obtained by these farmers can also be obtained by others. Farm management studies have revealed opportunities for profitable changes on most farms. Many of these improvements require no additional investment and little extra labor; they only require a wiser utilization of the farmer's time and other resources. The weaknesses of the present farm organization and opportunities for improvement can be determined by a careful analysis of the business, particularly if it is based upon a good farm record. An effective method of analysis was presented in the November, 1940, issue of FARM BUSINESS NOTES in an article entitled "Finding Flaws in the Farm Business." Sound and continuous thinking combined with a careful execution of well laid plans will contribute materially to increased earnings.

Minnesota Farm Prices for November, 1940

Prepared by W. C. WAITE and W. B. GARVER

The index number of Minnesota farm prices for the month of November, 1940, was 68. When the average of farm prices of the three Novembers, 1924-25-26, is represented by 100, the indexes for November of each year from 1924 to date are as follows:

1924— 92	1929— 99	1934— 65	1939— 67*
1925—105	1930— 77	1935— 76	1940— 68*
1926—104	1931— 53	1936— 91	
1927— 96	1932— 38	1937— 81	
1928— 96	1933— 48	1938— 66	

* Preliminary.

The price index of 68 for the past month is the net result of increases and decreases in the prices of farm products in November, 1940, over the average of November, 1924-25-26, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, November 15, 1940, with Comparisons*

	Nov. 15, 1940	Oct. 15, 1940	Nov. 15, 1939		Nov. 15, 1940	Oct. 15, 1940	Nov. 15, 1939
Wheat	$0.74	$0.69	$0.74	Cattle	$7.30	$7.60	$6.90
Corn	.49	.49	.36	Calves	9.00	8.80	8.50
Oats	.27	.22	.27	Lambs-sheep	7.96	7.68	7.42
Barley	.37	.34	.39	Chickens	.10	.11	.09
Rye	.37	.33	.38	Eggs	.21	.19	.22
Flax	1.40	1.27	1.66	Butterfat	.33	.30	.30
Potatoes	.35	.32	.50	Hay	4.45	4.62	4.42
Hogs	5.40	5.70	5.70	Milk	1.65	1.60	1.65

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

The rise of 5 points from the October level of the index was the result of consistent price gains or strength throughout the entire list of 16 commodities. The crops group showed the greatest rise, but the price for butterfat also rose substantially more than the usual seasonal advance. The only important declines from October levels —hogs, cattle, and chickens—were less than the usual October to November declines for these commodities.

The level of prices paid by farmers for commodities used in living and production has remained unchanged for the past 5 months. Consequently, the purchasing power of Minnesota farm products is the highest since last May.

Indexes and Ratios of Minnesota Agriculture*

	Nov. 1940	Oct. 1940	Nov. 1939	Average Nov. 1924-26
U. S. farm price index	72.3	71.7	70.8	100
Minnesota farm price index	67.7	62.7	67.4	100
U. S. purchasing power of farm products	90.3	89.4	88.2	100
Minn. purchasing power of farm products	84.4	78.2	84.0	100
Minn. farmer's share of consumer's food dollar	.....	44.2	43.8	54.7
U. S. hog-corn ratio	9.9	9.8	12.5	13.3
Minnesota hog-corn ratio	11.0	11.6	15.8	15.6
Minnesota beef-corn ratio	14.9	15.5	19.2	8.7
Minnesota egg-grain ratio	21.0	20.3	23.8	26.2
Minnesota butterfat-farm-grain ratio	39.6	40.6	38.2	40.7

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

The Poultry Situation

The Armistice Day storm caused some reduction of turkey supplies, particularly in some Midwestern states. In Minnesota the loss has been estimated all the way from 500,000 to 1,000,000 birds. Nevertheless, indications are that turkey production, after allowing for storm losses, will be larger than for any other year except the 1939 record large production. Market receipts at principal markets up to November 1 were running larger than for a year earlier. But hatchings of poultry were smaller this year than last, and it is therefore expected that marketings will run somewhat less through the rest of the marketing year than for the corresponding period of the 1939 marketing season.

Minnesota farm prices of chickens have been above 1939 since July, running from ½ cent to 1½ cents above corresponding months of last season. Turkey prices for September, October, and November tended to run a little under a year ago, but with supplies reduced by the storm it is probable that the average return for this year will be a little above the 1939 season. Before the storm in November the Surplus Marketing Administration announced it would purchase turkeys for distribution through the school lunch program but is reported to be holding the purchase in abeyance pending an examination of the effect of the storm on turkey prices and supplies.

Egg prices were running slightly above a year earlier until November. Feeding ratios have been more favorable to egg producers than a year ago and appear now apt to continue more favorable throughout the balance of the winter.

There is continued improvement in domestic demand for farm products as the result of increased consumer purchasing power arising from the increase in industrial activity to fill defense orders and for industrial exports. This demand improvement is being felt in poultry and egg prices, but cannot necessarily be counted upon for too many months, since some industries are approaching capacity volume of operations.

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