FARM BUSINESS NOTES

Prepared by the Divisions of Agricultural Economics and Agricultural Extension
Paul E. Miller, Director Agricultural Extension

No. 204 | UNIVERSITY FARM, ST. PAUL | DECEMBER 1939

Farm Income in Minnesota

WARREN C. WAITE

The gross cash sales of Minnesota farmers in 1939 appear to have been about the same as in 1938. Preliminary estimates of the sales for the year of 16 principal agricultural products are 257 million dollars as compared with 260 million dollars in the preceding year. The physical volume of sales was larger, but prices were sufficiently lower to reduce the estimated dollar income to about the same level. Cash operating expenses were somewhat larger so that the net cash income for the state fell below 1938.

Volume of Production

The volume of agricultural production was large in 1939. Favorable growing conditions resulted in unusually large yields, and crop production was, in consequence, larger than in any recent year. Except for the northwest corner of the state where yields averaged approximately those of a year ago, crop production exceeded 1938 by a considerable amount. The difference was especially large for corn. Table 1 gives an index of yields for the past 10 years for six crops; corn, wheat, flax, potatoes, oats, and barley. The index was the highest since 1918. Creamery-butter production fell slightly below last year's very large production. Production in the early part of the year exceeded that of 1938 but was less in the latter part. The number of animal units on farms has made a marked recovery from the effects of the drouth in 1934, but is not yet as large as in 1933 and early 1934. Both hog and cattle production continued to expand during the year.

Table 1. Indexes of Agricultural Production in Minnesota, 1930-1939 (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	114.3	105.6

Prices of Farm Products

Agricultural prices were less favorable than in any year during the last 5. There was a slight rise in the speculative commodities in September as a result of the outbreak of the war, but these gains had been largely lost by the following month. Table 2 gives the annual averages for Minnesota farm prices by the groups of commodities; crops, livestock, and livestock products. As compared with a year ago, the largest decline was in the prices of livestock products, largely due to butterfat prices which were several cents lower during most of the year. The decline in the livestock price index was largely occasioned by the drop in hog prices which became the lowest in 5 years by the close of the year. Crop prices as a group averaged about the same as the preceding year.

Table 2. Indexes of Minnesota Farm Prices by Groups, 1930-1939 (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	56*	86*	67*
1939	54*	81*	59*

* Preliminary.

Agricultural Income and Expenses

Increased output and lower prices combined to produce an agricultural income slightly less than in 1938. The index of the gross cash sales of the 16 principal agricultural products of the state, with the average of the years 1924-5-6 as 100, is shown for the past 10 years 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 cash income for the month. The sum of the 12 calendar months is the estimated annual cash income. A number of minor crops have been omitted, and no allowance has been made either for the value of farm products used by the family or for changes in inventory value of livestock or crops. The index thus represents simply the returns from the cash sales of products. It is estimated to be 68.0 in 1939 as compared with 68.8 in 1938 and 82.3 in 1937.

Table 3. Indexes of Minnesota Gross and Net Agricultural Income and Cash Operating Expenses, 1930-1939 (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	83.3	57.9

Cash operating expenses as indicated by our index of the total outlay for 18 items have shown an increase since the low in 1933, and they appear to have been larger in 1939 than a year ago but probably not as large as in 1937. The index is shown in table 3. The cash expenses are the sum of the 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 represent 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.

Both the smaller gross cash sales of agricultural products and the larger outlay for operating expenses combined to produce a smaller net cash income for the year. A rough estimate of net cash income has been secured by subtracting the total of the 18 expense items from the gross cash sales of the 16 principal agricultural products for the corresponding year. These net incomes expressed in the form of an index with 1924-5-6 as a base 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 for 1939 at 57.9 was a decline of 3 points from the index of 61.0 of 1938 and more than 20 points below the high years of 1936 and 1937.

Two factors have operated to offset this small decline in net cash income during the past year. The first is the increase in government payments. The January to September total in 1939 was 18.8 million dollars as compared with 13.2 million dollars for the same period in 1938. The second factor has been a slight decline in the cost of goods bought by the farmers for their living. The net effect has been to result in a purchasing power for agriculture as a whole in the state of substantially that of a year earlier.

Meat Handled by Locker Plants

A. A. Dowell[1]

Patrons and operators of cold-storage locker plants are interested in the kind and amount of meat handled and processed by the plants for an average patron during the year. Patrons are interested because the cost of storage per pound of meat depends upon the relationship between the volume placed in the locker during the year and the yearly locker rental. Plant operators are interested because it enables them to estimate more accurately the income that may be expected from the various services rendered. Such information will also be of value to those who contemplate the erection of locker plants because it will enable them to plan the size and layout of the chill, cutting, and sharp-freeze rooms for more efficient and economical operation.

Data obtained from 13 Minnesota cold-storage locker plants on the kind and amount of meat handled, sold, cut, and ground by the plants per patron year are shown in table 1. These plants handled an average of 586 pounds

Table 1. Kind and Amount of Meat Handled, Sold, Cut, and Ground by Cold-Storage Locker Plants,* July 1, 1937 to June 30, 1938

Kind	Amount of Meat in Pounds per Patron Year†			
	Handled‡ by plants	Sold by plants	Cut by plants	Ground by plants
Beef	275.9	35.8	260.8	23.4
Veal	13.4	0.3	12.8	.8
Pork	281.4§	9.2§	270.2§	25.7
Lard	.....	.....	.....	40.3
Lamb and mutton	2.6	0.1	2.4	.....
Poultry	3.2	0.1	.....	.....
Other meat‖	9.5	0.7	2.5	.....
Total	586.0	46.2	548.7	90.2

*Average of data obtained from 13 Minnesota cold-storage locker plants.

† Total months all lockers were rented less total months extra lockers were rented to regular patrons, divided by 12.

‡ Includes meat sold by plants to locker patrons.

§ Includes lard.

‖ Includes fish, game, and unclassified meat.

of meat per patron year of which 48.0 per cent was pork; 47.1 per cent, beef; 2.3 per cent, veal; 0.6 per cent, poultry; 0.4 per cent, lamb and mutton; and 1.6 per cent, other meats. Beef and pork were of about equal importance and together accounted for about 95 per cent of the total meat handled.

The total amount of meat sold by the plants to their patrons varied from none to 100 pounds with an average of 46 pounds per patron year. Beef accounted for 76.8

[1] Assistance in the preparation of these materials was furnished by the personnel of Works Progress Administration, Official Project No. 465-71-3-350.

per cent of this amount; pork, 19.7 per cent; other meat, 1.5 per cent; poultry, 1.1 per cent; veal, 0.6 per cent; and lamb and mutton, 0.2 per cent.

The amount of meat cut by the plant butchers was slightly less than the amount handled by the plants because, in a few instances, the patrons performed this service for themselves and because poultry is drawn, wrapped, and frozen without being cut.

The amount of meat and lard ground per patron year ranged from 23 pounds to 158 pounds with an average of 90 pounds. Over 45 per cent of the total amount ground consisted of lard; 28 per cent, pork; 26 per cent, beef; and less than one per cent, veal.

Several major conclusions may be drawn from the figures presented in the table. Of the 586 pounds of all kinds of meat handled by the plants per patron year, 540 pounds were supplied by the patrons and 46 pounds sold by the plants. Beef was the most important kind of meat sold by the plants to their patrons. Whereas about equal amounts of beef and pork were handled by the plants, the amount of beef sold to patrons was nearly four times that of pork. The greater part of the meat handled was cut by the plant butcher in plants providing this service. Patrons of Minnesota locker plants use relatively little lamb and mutton.

Using Farm Records To Adjust Practices

S. B. Cleland

Farm records over a period of years offer the most practical basis known for deciding on changes in the farm business. Changes in price relationships, new types of equipment, and new methods of management or other conditions often appear to give great advantage to material adjustments in farm practices. The farmer who can look back over records of his farm business for several years past and then can study records showing the results as the new methods are put into effect has a great advantage over the man who has no such records.

A case in point is a Steele county farmer who got the idea in 1934 that he could make more money from his dairy herd by not feeding grain to his cows. He had farm records for 1932 and 1933 secured through the Southeast Minnesota Farm Management Service. His cows had done well with herd butterfat averages of 302 pounds in 1932 and 272 pounds in 1933. He had fed grain heavily in those years, but with butterfat prices much lower in 1934 relative to grain prices, he felt he might net more by feeding only roughage and pasture.

He decided to shift to a no-grain ration but to watch his records carefully to be sure he was moving in the right direction. Many points needed to be studied. One was the total feed consumption of his cows. That meant giving particular care to the quality of the hay, silage, and pasture. Another question was whether or not his cows were maintaining good levels of production. Some drop in production might have been accepted because of the lower cost of the ration, but too low a production would have defeated the purpose. In particular, he watched the "return over feed per cow" which he was getting each year, as compared with other years, and as compared with the average of all the cooperators.

The practice of feeding no grain, or very little, was continued through 1937. At the end of that time he bought a farm in another county, and records are not available as to his practices after 1937. The records for the dairy herd on this farm from 1932 to 1937 are shown in table 1.

Table 1. Records of Dairy Herd, 1932-1937

	1932	1933	1934	1935	1936	1937
Lbs. butterfat per cow	302	272	240	269	293	294
Lbs. concentrates per cow	1,791	1,367	99	.....	61	.....
Lbs. dry roughage per cow	3,618	4,536	4,654	4,019	6,748	4,966
Lbs. silage per cow	9,647	8,246	8,404	16,346	11,870	11,103
Total digestible nutrients per cow (exclusive of pasture)	4,762	4,628	3,820	4,843	5,500	4,358
Returns above feed per cow	$32.28	$36.09	$37.72	$46.59	$81.96	$83.25
Average returns above feed	$17.78	$26.46	$29.82	$41.99	$62.25	$52.56

In studying the adjustments in his practice as presented in table 1, note that he did not get the feed consumption necessary for his best results in 1934, his first year of the new method. It appears that after studying his 1934 records, he adjusted his feeding practices so that in 1935 the results were some better and in 1936 and 1937 much better in all essential points.

The reader should remember that the experience of this man does not constitute a wholesale endorsement of exclusive roughage feeding. For his situation—his pasture conditions, his methods of obtaining quality in roughage, his labor and management circumstances—this man felt that he was justified in the shift during the period reported. During other years, or on other farms, the conditions might be entirely different. Each farmer should have records of his own business and should study them as did this man, and be guided accordingly.

Government purchases of dairy products for relief distribution, under the dairy products purchase programs in the last 6 fiscal years beginning August, 1933 and ending June, 1939 have totaled $72,373,825.06 (exclusive of administration costs). Of this expenditure 56 million dollars was for butter, 3.6 million dollars for cheese, 4 million dollars for evaporated milk, 4.6 million dollars for dry skim milk, and 4 million dollars for fluid milk. The largest purchases of butter were in the fiscal year 1938-39 when 122 million pounds were purchased at a cost of 33.8 million dollars. The year of next largest butter purchases was in 1933-34 when 45.7 million pounds were purchased at a cost of 10 million dollars. Thus far, this fiscal year (since July 1) about 12 million pounds have been purchased at an approximate cost of 2.9 million dollars.

Minnesota Farm Prices for Nov. 1939

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

The index number of Minnesota farm prices for the month of November 1939 was 67. When the average of farm prices of the three Novembers, 1924-25-26, is representer by 100, the indexes for November of each year from 1924 to date are as follows:

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

* Preliminary.

The price index of 67 for the past month is the net result of increases and decreases in the prices of farm products in November 1939 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, 1939 with Comparisons*

	Nov. 15, 1939	Oct. 15, 1939	Nov. 15, 1938		Nov. 15, 1939	Oct. 15, 1939	Nov. 15, 1938
Wheat	$0.74	$0.71	$0.55	Cattle	6.90	7.10	6.40
Corn	.36	.37	.32	Calves	8.50	9.10	8.00
Oats	.27	.25	.17	Lambs-sheep	7.42	7.70	7.05
Barley	.39	.39	.32	Chickens	.09	.09	.11
Rye	.38	.39	.29	Eggs	.22	.18	.25
Flax	1.66	1.65	1.61	Butterfat	.30	.29	.27
Potatoes	.50	.50	.41	Hay	4.42	4.54	4.35
Hogs	5.70	6.50	7.20	Milk	1.65	1.60	1.50

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

The index of 67 represents virtually no net change from the October 15 situation although there were some changes in individual commodity quotations which offset each other. The declines were substantial in livestock items with hogs carrying the greatest relative decline, having dropped 80 cents from $6.50 for October to $5.70 for November. Changes for cattle and sheep also were somewhat more than the usual seasonal declines while the quotation for calves was down by about the usual seasonal amount. There was a slight drop in the crops group, rises in wheat and oats being somewhat more than offset by the decline in corn and rye. Butterfat and eggs, on the other hand, showed somewhat more than seasonal rises.

Indexes and Ratios of Minnesota Agriculture*

	Nov. 1939	Oct. 1939	Nov. 1938	Average Nov. 1924-26
U. S. farm price index	70.8	70.3	68.6	100
Minnesota farm price index	67.4	67.7	65.6	100
U. S. purchasing power of farm products	88.2	87.6	86.2	100
Minn. purchasing power of farm products	84.0	84.3	82.4	100
Minn. farmer's share of consumer's food dollar	.....	.....	44.4	55.7
U. S. hog-corn ratio	12.5	13.7	18.1	13.4
Minnesota hog-corn ratio	15.8	17.6	22.5	15.6
Minnesota egg-grain ratio	23.8	19.8	35.8	26.2
Minnesota butterfat-farm-grain ratio	38.2	38.2	46.9	40.7

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

Purchasing Power of Farm Products

Minnesota farm prices are at present at a level about two thirds as high as that prevailing in 1924-26. Although this means that the dollar values of farm products are a third less than they were in 1924-26, fortunately for producers this is not the whole story. The goods and services purchased by farmers from their dollar receipts are at a level 80 per cent of that prevailing in 1924-26, or in other words, these goods and services including interest and taxes cost one fifth less than in the 1924-26 base period. Therefore, what is referred to as the purchasing power of farm products is now at 84 per cent of the base-period level.

In the low-price period centering in 1932, Minnesota farm prices dropped to 40 per cent of 1924-26 levels, but prices of goods and services dropped to 70 per cent. As a result, the purchasing power of goods sold dropped to a low of 60 per cent. In 1936 and 1937, when Minnesota farm prices were, respectively, 88 per cent and 91 per cent of the 1924-26 base-period level, the prices of goods and services used in living and production were 81 per cent and 85 per cent, respectively, of the base period. The relationship of these price indexes was consequently such as to indicate that for the two years commodities sold by farmers would actually buy 10 per cent more of goods and services than they did in 1924-26. For last year (1938) although farm prices, as shown by the index, were only 70 per cent of their base level, this low dollar value of products was again partly offset by the lower level of prices paid by farmers, which was at 80 per cent of base, yielding a purchasing power of farmers' products of 87 per cent of that prevailing in the base period. Preliminary figures for this year indicate that the purchasing power of farm products will be about 85 per cent of base or slightly lower than the level for 1938.

UNIVERSITY OF MINNESOTA
Department of Agriculture
Agricultural Extension
University Farm, St. Paul, Minn.

P. E. MILLER, Director

PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, $300

FREE—Co-operative Agricultural Extension Work, Acts of May 8 and June 30, 1914.

UNIVERSITY FARM, ST. PAUL, MINNESOTA

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