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FARM BUSINESS NOTES

Prepared by the Divisions of Agricultural Economics and Agricultural Extension
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Minnesota Farm Income

WARREN C. WAITE

High prices and a large physical output resulted in the largest cash sales in the history of agriculture from the farms in Minnesota. These sales were nearly three times the average of 1935-39, and when all products are taken into account were well over a billion dollars. Sales have been large throughout the entire war period. The total of the sales for the last five-year period 1942 to 1946, for example, was as large as the total for the preceding 13 years from 1929 to 1941.

Production during the year was at a high level. The outturn of feed grain was favorable. The corn crop was the second largest in the state's history as was also the oat crop. The corn crop was also above last year in quality. The barley crop was the smallest since 1937 but was of the best quality in recent years. Hay production was about 5 per cent below average. Among the cash crops wheat production was the largest since 1940, flax production was less than in 1945, and the potato crop was somewhat smaller than in recent years. Hog production was reduced sharply as compared with 1945 and recent years. The total pig crop in 1946 was about 12 per cent smaller than in 1945. The number of cows milked was less than a year ago, but milk production per cow was higher in the period of flush production and again in the early winter so that production for the year was slightly larger. Egg production was larger than in 1945, both because of a larger number of layers in the flocks and because the rate of lay was higher during most of the year.

Prices advanced gradually during the first half of the year and then increased greatly for most products when price ceilings were removed.

The Minnesota Farm Price index at 261 in November was at the highest level ever reached. The high in the World War I period was 216 in August, 1919. Between January and June this year the index rose about 2 per cent a month. With the removal of controls there was a sharp increase amounting to about 19 per cent between June 15 and July 15. There was a further rise of 5 per cent recorded in the index for August, a 3 per cent de-

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cline in the September index after some of the controls had been returned, and then another upward surge of 13 per cent in October. At current levels the prices of livestock and dairy products exceed the highest levels reached in World War I, but the grains are generally below the World War I peaks. Comparison of the current prices of the individual commodities included in

the Minnesota Farm Price Index is shown in table 1, together with the highest price of the World War I period.

Table 1. Prices of Minnesota Farm Products on November 15, 1946, and the Peak of Prices in the World War I Period

	Price on November 15, 1946	Highest price World War I period
Wheat	1.97	\$ 2.49 Dec. 1919
Corn	1.09	1.62 Aug. 1919
Oats .....	.71	.95 June 1920
Barley	1.40	1.73 Mar. 1918
Rye	2.29	2.51 Apr. 1918
Flax	6.90	5.18 Aug. 1919
Potatoes	1.15	3.84 May 1920
Hogs	22.40	19.10 May 1919
Cattle	17.70	10.30 May 1919
Calves	17.10	13.60 Sept. 1919
Lambs—sheep	18.14	14.30 May 1918
Chickens .....	.23	.248 May 1920
Eggs .....	.39	.68 Dec. 1919
Butterfat .....	.92	.72 Dec. 1919
Milk	4.60	3.21 Dec. 1919
Index	261	216 Aug. 1919

Indexes showing the changes in the cash income derived from the sale of Minnesota agricultural products and the expenses involved in their production are shown in table 2. The average of the five-year period 1935-39 is taken as 100. The index of cash income is made up of the annual sale of the 19 principal agricultural products in the state. The included commodities are wheat, corn, oats, barley, rye, flax, potatoes, hay, hogs, cattle, calves, lambs, sheep, butterfat, milk, farm butter, chickens, eggs, and turkeys. A number of minor commodities have been omitted, but those included represent about 90 per cent of the total sales of the state, and the indexes are conse-

Table 2. Indexes of Cash Farm Income from the Sale of Agricultural Products and Cash Expenses for Farm Production in Minnesota (Average 1935-39 equals 100)

Income Expenses			Income Expenses		
1930	111	101	1939	100	106
1931	79	98	1940	116	116
1932	54	84	1941	151	129
1933	61	77	1942	212	154
1934	68	79	1943	266	170
1935	83	88	1944	241	171
1936	107	101	1945	261	172*
1937	110	106	1946	296*	200*
1938	100	101			

* Preliminary estimates.

quently adequate for showing the changes from year to year. The expenses are also a summation of the principal items such as mortgage interest, taxes, hired labor, machinery repairs, new equipment, lubricating oil, gasoline, and so on and cover about 90 per cent of all the production expenses on the farm.

Expenses have risen since the war began but at a slower rate than the cash income. The result has been a very large increase in the net cash farm income of the state. The difference between cash income from the sale of agricultural products and cash expenses averaged about 150 million dollars a year during the period 1935-39, and in 1946 was nearly four times as large. Expenses might have been larger if more machinery and equipment had been available for purchase during the year. Part of the net cash income for the year thus consists of postponed expenditures.

Important changes have taken place in Minnesota agriculture during the war period. Among these was a great increase in the production of livestock and livestock products, an expansion of the production of feed grains at the expense of the acreage of cash crops, and a shift to the sale of whole milk rather than butterfat from the farms. These changes have affected the quantities of the various products sold from the farms and, together with price changes, have resulted in large changes in the value of the various commodities from prewar. In table 3 a comparison of 1946 with the prewar period 1935-39 is given. The 1946 figures are preliminary but sufficiently accurate to indicate the magnitude of the changes.

Table 3. Index as of the Value of Sales, Quantity, and Prices of Specified Minnesota Agricultural Products in 1946 (Average 1935-39 equals 100)

	Index of value of sales	Index of quantity of sales	Index of prices
Milk	717	410	175
Eggs	552	283	196
Turkeys	532	226	235
Oats	466	158	295
Flax	447	166	269
Corn	421	182	232
Chickens	334	156	214
Hogs	319	158	202
Cattle and calves	257	121	213
Potatoes	231	93	249
Sheep and lambs	212	120	177
Wheat	183	90	204
Wool	173	92	187
Butterfat	146	64	228
Barley	130	44	300
Rye	76	20	390

The largest increase has been in the sales of milk which in value terms were nearly seven times the average of those in 1935-39. This has been to a considerable extent the result of a shift from the farm sale of butterfat to that of milk, as indicated by the decline in the quantity of butterfat sold. Total milk production in the state, however, is now larger than prewar. Egg and turkey sales were five times as large as those in the base period and chicken sales more than three times as large. Flax, oat, and corn sales were more than four times as large. Hog sales were more than three times as large and cattle two and one-half times. In physical terms hog sales were larger in 1943 than in 1946, but the higher prices this year resulted in a larger cash income from the sales. A major part of these increases is to be attributed to the changes in prices between the two periods, but a glance at the indexes of the physical quantities of sales indicates that there have also been significant changes in these quantities.

About 80 per cent of the cash income from the sales of agricultural products in the state is now derived from the sale of livestock and livestock products. Table 4 gives the percentages for the 19 products included in the indexes.

Table 4. Proportion of Income Derived from Sales of 19 Principal Minnesota Agricultural Products in 1946

Product	Per cent	Product	Per cent
Milk and butterfat	25.4	Oats	3.0
Hogs	22.0	Turkeys	2.9
Eggs and chickens	14.5	Lambs—sheep—wool	2.0
Cattle and calves	14.3	Potatoes	1.4
Corn	5.0	Barley	1.4
Flax	4.3	Hay	.4
Wheat	3.2	Rye	.2

The two leading products of the state during the past year were the combined sales of milk and butterfat and the sales of hogs, both amounting to slightly over 200 million dollars. Third and fourth in rank and of almost identical amount were cattle together with calves and eggs combined with chickens, each source amounting to around 135 million dollars. There was no other single source of sales which amounted to as much as 50 million dollars during the year.

Monthly Distribution of Minnesota Cash Farm Receipts

REX W. COX

The cash farm income of Minnesota farmers as a group is markedly stable from month to month. This is shown by the data representing the monthly proportionate distribution of the average annual receipts for the period 1940-45 (table 1). This stability is mainly the result of the high diversity of Minnesota agriculture. While the income was relatively higher in November and December, it averaged less than 10 per cent of the annual total income during these months. In no month did the proportion fall below 7.4 per cent.

The income received from the sale of crops shows more variation during the year than that from other sources. The heaviest concentrations of receipts from this source occurred in August, September, and October, with

Table 1. Minnesota Cash Farm Receipts Derived from Specified Sources Distributed Proportionately by Months, Averages, 1940-45

Month	All sources	Crops	Livestock	Livestock products
	Per cent of average annual income			
Total	100.0	100.0	100.0	100.0
January	8.1	7.0	9.4	7.1
February	7.4	6.5	8.4	6.7
March	8.1	7.5	8.7	7.8
April	7.8	6.2	8.1	8.1
May	8.2	5.7	7.9	9.8
June	8.0	5.1	7.6	9.9
July	7.4	5.5	6.9	8.9
August	8.8	17.9	5.6	7.7
September	8.1	13.6	6.6	7.1
October	8.8	11.4	8.9	7.6
November	9.5	6.6	10.5	9.7
December	9.8	7.0	11.4	9.6

these months accounting for almost 43 per cent of the annual receipts from sales of crops. Beginning in November and continuing through July the proportions were relatively low, especially the latter part of the crop year.

Almost 31 per cent of the income from sales of livestock was received during the last three months of the year and reflects the relatively heavy movement of hogs to market during these months. Livestock products receipts were distributed fairly uniformly through 1946.

The relative importance of each source of receipts in the various months is shown in table 2. Beginning in January and continuing until August, the sale of livestock and livestock products accounted for around 84 per cent of the monthly income. August is the only month in which the returns from the sale of crops exceeded the receipts from either livestock or livestock products. During the summer months, receipts from sales of livestock products exceeded those from sales of livestock.

Table 2. Minnesota Monthly Cash Receipts Distributed Proportionately According to Source, Average, 1940-45

Month	All sources	Crops	Livestock	Livestock products
	Per cent of average monthly income			
Average annual	100.0	17.0	39.7	43.3
January	100.0	15.9	49.5	34.6
February	100.0	16.2	48.7	35.1
March	100.0	16.7	46.1	37.2
April	100.0	13.9	45.0	41.1
May	100.0	12.1	42.3	45.6
June	100.0	11.5	40.9	47.6
July	100.0	13.3	39.7	47.0
August	100.0	37.3	27.8	34.9
September	100.0	31.4	33.7	34.9
October	100.0	24.5	41.5	34.0
November	100.0	12.7	47.5	39.8
December	100.0	13.3	49.0	37.7

Net Worth Statements Measure Financial Progress

TRUMAN R. NODLAND

A net worth statement shows the financial status of a farmer at a particular time. A comparison of two or more net worth statements shows his financial progress during a period of time. An increase in net worth from one inventory date to another means the farmer is getting ahead financially and is making savings. The savings may be in

the form of more farm capital, stocks, bonds, cash, or a decrease in liabilities.

An example of the financial progress made by a farmer in southern Minnesota is shown in table 1. On January 1, 1937, each dollar of assets was offset by 72 cents of liabilities. This was not a strong financial position for the farmer. The value of the farm capital was nearly doubled from 1937 to 1946. Some of this represents small improvements on the buildings. Some additional machinery was purchased and more livestock was on hand on January 1, 1946. However, a fairly large proportion of the increase in farm capital was the result of higher prices at the end of the period for market livestock, feeds, and seed. The value of land was not changed and the value of breeding stock, machinery, equipment, and buildings was changed only as new items were added to the business. The liabilities were reduced some each year. The last liability item was paid in 1944. Beginning in 1944 this farmer added considerably to his savings in the form of bonds. Even with a drop in the general price level and a consequent decrease in the value of his farm capital this farmer would still be in a secure financial position. He can now increase his expenditures for family living without endangering his earning capacity.

Table 1. Financial Progress Made by Farmer A in Southern Minnesota, 1937-46

	Jan. 1, 1937	Jan. 1, 1940	Jan. 1, 1943	Jan. 1, 1946
Total farm capital	\$ 9,849	\$10,777	\$15,033	\$18,860
Other assets*	532	906	1,873	6,535
Total assets	10,381	11,683	16,906	25,395
Liabilities	7,479	6,785	5,215	0
Net worth	2,902	4,898	12,691	25,395

* Cash on hand and in bank, bonds and other securities, cash surrender value of life insurance policies, clothing, household goods, and any other property owned by the farmer but not used in the farm business.

The data in table 2 show the financial progress made by another farmer in southern Minnesota. He operates the same number of acres as the farmer represented in table 1. Farmer B, however, has not increased his farm capital a great deal during the war period. He has little in the way of liquid assets. He has not made any progress toward paying his indebtedness. For every dollar of assets owned on January 1, 1946, he had 68 cents in liabilities. He should be looking into the future with considerable apprehension. A bad mistake in the management of his farm, a crop failure, illness in the family, or reverses in the general price levels would probably leave him in financial difficulty. A new dwelling or an increase in the family expenditures would be impossible under the existing circumstances.

A net worth statement is a valuable aid in planning for the future. It will supply facts in regard to the present financial resources of the farm operator and will serve as a guide for future spending.

Table 2. Financial Progress Made by Farmer B in Southern Minnesota, 1941-46

	Jan. 1, 1941	Jan. 1, 1943	Jan. 1, 1945	Jan. 1, 1946
Total farm capital	\$18,611	\$22,450	\$22,144	\$23,691
Other assets	1,999	1,635	1,565	1,545
Total assets	20,610	24,085	23,709	25,236
Liabilities	16,700	17,324	16,453	17,190
Net worth	3,910	6,761	7,256	8,046

Minnesota Farm Prices For November, 1946

Prepared by W. C. WAITE and O. K. HALLBERG

The index number of Minnesota farm prices for November, 1946, is 260.7. This index expresses the average of the increases and decreases in farm product prices in November, 1946, over the average of November, 1935-39, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, November, 1946, with Comparisons*

	Nov. 15, 1946	Oct. 15, 1946	Nov. 15, 1945		Nov. 15, 1946	Oct. 15, 1946	Nov. 15, 1945
Wheat	\$1.97	\$1.94	\$1.55	Hogs	\$22.40	\$20.60	\$14.00
Corn	1.09	1.69	.98	Cattle	17.70	16.50	9.00
Oats .....	.71	.74	.64	Calves	17.10	15.90	13.00
Barley	1.40	1.47	1.08	Lambs-Sheep	18.14	16.20	12.07
Rye	2.29	2.13	1.65	Chickens .....	.230	.305	.206
Flax	6.90	3.79	2.91	Eggs .....	.390	.450	.397
Potatoes	1.15	1.20	.95	Butterfat .....	.920	.930	.530
Hay	10.50	9.30	7.60	Milk	4.600	4.400	2.800
				Wool† .....	.440	.440	.460

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

† Not included in the price index number.

Prices received by farmers for livestock rose about 11 per cent from October to November, but the prices of all Minnesota farm products rose only 2 per cent. This was due to a drop in crop prices of approximately 5 per cent, and a larger drop in livestock products of about 7 per cent. The purchasing power of Minnesota farm products increased to 52.5 per cent over the 1935-39 average, slightly larger than October's previous high.

Sharp increases are noticeable in the hog-corn and beef-corn ratio, due to a 35 per cent decrease in corn price and an increase of about 8 per cent in hog and cattle prices.

The greatest increase in prices from October to November was in flax, which rose 82 per cent. Other major increases were rye, 8 per cent; hay, 13 per cent; and lambs—sheep, 12 per cent. Decreases were noted in corn, 35 per cent; chickens, 25 per cent; and eggs, 13 per cent.

Indexes and Ratios for Minnesota Agriculture*

	Nov. 15, 1946	Nov. 15, 1945	Nov. 15, 1944	Average Nov., 1935-39
U. S. farm price index	247.2	192.7	184.2	100
Minnesota farm price index	260.7	172.4	172.2	100
Minn. crop price index	252.0	200.4	187.2	100
Minn. livestock price index	276.7	166.8	170.6	100
Minn. livestock product price index	241.6	165.4	166.5	100
U. S. purchasing power of farm products	144.6	131.3	129.0	100
Minn. purchasing power of farm products	152.5	117.4	120.6	100
Minn. farmers' share of consumers' food dollar	65.3†	59.8	62.7	62.1
U. S. hog-corn ratio	18.0	12.8	12.7	14.4
Minnesota hog-corn ratio	20.6	14.3	14.8	17.3
Minnesota beef-corn ratio	16.2	9.2	12.1	15.1
Minnesota egg-grain ratio	15.3	18.6	18.6	24.6
Minnesota butterfat-farm-grain ratio	39.6	26.5	29.8	39.7

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

† Figure for June, 1946.

Distribution of Farm Income in Minnesota

HARLOW W. HALVORSON

If farm income in Minnesota in 1946 is over a billion dollars, as is suggested elsewhere in this issue, it is probable that over 45,000 farmers in Minnesota had sales over \$5,500 each, with their total sales amounting to over \$580,000,000. This estimate is based upon the distribution of farms and sales by value of sales from the last two censuses of agriculture in 1940 and 1945.

Further estimates indicate that about one half of the value of products in Minnesota were sold by less than 20 per cent of the more important farms, which had sales of \$6,300 or more. Three fourths of the total value of sales were made by the upper 45 per cent of the farms and these farms are estimated to have made sales of \$3,700 or more per farm. Thus the median farm sold products valued at about \$3,300, while the upper tenth had sales of \$8,500 or more and sales of these farms accounted for nearly 35 per cent of the total.

The preliminary census figures for 1944 show large increases over 1939 in numbers of farms at the upper income levels of \$2,500 and above. Thus only 22 per cent of farmers had income from sales or consumption above \$2,500 while in 1944 over 57 per cent of farmers were above this level.

Table 1. Percentage of Farms Reporting Sales and Consumption of Agricultural Products by Value, 1939 and 1944*

	1939	1944
Value group	Per cent of farms	Per cent of farms
Under \$250	10.3	4.7
250-399	5.6	3.0
400-599	7.2	3.6
600-999	15.0	6.4
1,000-1,499	16.9	7.9
1,500-2,499	23.1	16.8
2,500-3,999	14.2	22.3
4,000-5,999	5.3	18.8
6,000-9,999	1.8	12.3
10,000 and over6	4.2

* Preliminary.

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