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AGRICULTURAL EXTENSION DIVISION
UNIVERSITY OF MINNESOTA

F.W. Peck, Director

MINNESOTA FARM BUSINESS NOTES

No. 180 December 20, 1937

Prepared by the Division of Agricultural Economics
University Farm, St. Paul, Minnesota

FARM INCOME IN MINNESOTA

Prepared by Warren C. Waite

The past year has been a relatively favorable one for the majority of Minnesota farmers. The gross cash income from the sale of the sixteen principal Minnesota agricultural products in 1937 will total close to 305 million dollars, which is slightly larger than the income from the sale of the same products in the preceding year.

The income from the sale of crops this year appears to have been somewhat greater than in 1936, while the income from the sale of livestock and livestock products probably was slightly smaller. The physical volume of crops sold in the early part of the year was small because of the short crop in the fall of 1936 but prices were high and the income from crop sales was well sustained. Growing conditions were favorable over most of the state in 1937 and yields were good, resulting in sufficiently large marketings so that even with lower crop prices the income from sales exceeded those of the preceding fall. The quantities of livestock marketed were less than in 1936, but the price of hogs was higher during most of the year and prices of cattle materially higher during the entire year. These higher prices resulted in nearly the same income for the year as a whole despite the smaller marketings. Production of butterfat was also lower than in 1936 but prices averaged slightly higher and the income from sales was only slightly smaller.

The total physical volume of sales in 1938 will probably be greater than in 1937. Stocks available for sale from the crop of last fall exceed those available for sale at the beginning of this year. Feeding ratios are favorable and some expansion in the production of livestock and livestock products seems probable. Present prospects are for a somewhat lower level of prices so that an income about that of the past year seems probable.

Estimates of the gross cash income for the past eleven years are given in Table 1. The gross cash income is the total of the sales of the sixteen principal agricultural products--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 each month. The sum of the twelve calendar months is the estimated annual cash income. A number of minor crops have been omitted. These sixteen products, however, constitute about 95 per cent of the sales of all agricultural products in the state. The figures do not represent the total value of agricultural production and no allowance has been made either for the value of farm products used by the family or for changes of inventory value of livestock or crops. Cash income from other sources than the sale of farm products is not included.

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Table 1

Gross Cash Income from the Sale of Sixteen Principal Minnesota Agricultural Products, and Indexes of Prices and Quantities Sold, 1924 to 1937

Year	Gross cash sales	Benefit payments	Index of gross cash income	Index of prices	Index of physical quantity of gross cash sales
	(million dollars)	(million dollars)	(1924-5-6 = 100)		
Average 1924-5-6	378	-	100	100	100
1927	366	-	97	103	94
1928	367	-	97	102	96
1929	384	-	101	106	96
1930	326	-	86	88	97
1931	235	-	62	60	104
1932	155	-	41	42	97
1933	177	3	47	46	102
1934	218	16	58	61	95
1935	231	20	64	79	81
1936	303	9	80	88	91
1937	305*	18*	80*	88*	91*

*Preliminary estimate.

Sources of Farm Income

From 1910 to 1918 wheat was the largest contributor to the annual cash income, but since 1920 hogs and butterfat have competed for the first place. These latter two products in recent years have been responsible for nearly half of the total agricultural income. Since 1927, cattle have been in third place. The percentages of the total income received from the sale of the sixteen principal products in 1910, 1919, 1928 and 1936 are shown in the following table:

Table 2

Percentage of Total Annual Cash Income of Minnesota Farmers Received from Sale of Each of Principal Products, 1910, 1919, 1928 and 1936

1910	Per cent	1919	Per cent	1928	Per cent	1936	Per cent
Wheat	34.9	Hogs	21.5	Butterfat	27.1	Hogs	24.6
Butterfat	13.8	Wheat	20.6	Hogs	22.0	Butterfat	24.3
Hogs	12.1	Butterfat	14.9	Cattle	14.4	Cattle	13.9
Cattle	5.9	Cattle	10.1	Wheat	5.6	Corn	5.6
Oats	5.6	Potatoes	4.9	Eggs	4.0	Eggs	4.9
Corn	4.8	Corn	4.5	Milk	3.9	Barley	4.4
Barley	4.7	Barley	4.3	Corn	3.3	Milk	4.3
Flax	4.1	Oats	3.6	Flax	3.3	Wheat	3.7
Eggs	3.3	Eggs	3.3	Oats	2.7	Flax	2.5
Potatoes	3.2	Milk	2.9	Barley	2.7	Lambs-sheep	2.5
Milk	2.5	Flax	2.7	Potatoes	2.5	Calves	2.4
Rye	1.4	Rye	2.4	Calves	2.4	Chickens	2.2
Chickens	1.2	Hay	1.4	Chickens	1.9	Oats	1.7
Hay	1.2	Chickens	1.2	Hay	1.7	Potatoes	1.6
Calves	.8	Calves	1.1	Rye	1.4	Hay	.8
Lambs-sheep	.5	Lambs-sheep	.6	Lambs-sheep	1.1	Rye	.6

Purchasing Power of the Agricultural Income

The purchasing power of the farm income is a more significant indication of the farmers' situation than the income in dollars alone. This takes into account the cost of goods bought by farmers as well as the amount of income available for expenditure. There is no state index for the cost of goods purchased by Minnesota farmers, but the United States Department of Agriculture publishes an index of the retail price of goods bought by farmers for production purposes and for family living for the United States as a whole. In the absence of a better measure, this index has been used to compute the purchasing power of the Minnesota gross cash income.

Table 3

Gross Cash Agricultural Income in Minnesota and Its Purchasing Power

Year	Estimated gross cash income (million dollars)	Index of prices paid by farmers (1924-5-6 = 100)	Purchasing power of Minnesota farm income (million dollars)	Index of purchasing power (1924-5-6 = 100)
Average 1924-5-6	378	100	378	100
1927	366	99	370	98
1928	367	101	363	96
1929	384	100	384	102
1930	326	95	343	91
1931	235	82	287	76
1932	155	70	221	58
1933	177	72	246	65
1934	218	80	273	72
1935	241	82	294	78
1936	303	81	374	99
1937	305	86	355	94

When examined on this basis, farm incomes although they fell rapidly did not fall as much in purchasing power as in dollars during the depression since there was also some decline, although not nearly as large, in the prices of things bought by farmers. The purchasing power of the Minnesota gross cash income at the low in 1932 was only 58 per cent of the 1924-5-6 period. It appears that the past two years have carried the purchasing power for the state back to the levels of 1924-5-6. Two important considerations need to be kept in mind, however, in judging the significance of these figures. The first is that it was necessary for farmers to postpone replacements of equipment and repairs during the depression and as a result there is a considerable backlag of purchases to be made up. The purchasing power of the farm income would need to exceed that of the 1924-5-6 period for several years before the farmer would reach the same relative position as in that period. The other factor is the increase in the number of farms in the state. The state farm income now must be divided among a larger number of persons than in the 1924-5-6 period and it would be necessary, in consequence, for it to be correspondingly larger to provide the same per capita purchasing power.

Recently published data from the United States census indicate that the mortgage indebtedness on Minnesota farms is now probably the lowest in the past fifteen years. The 1935 indebtedness, estimated at $407,888,000 was 17 per cent below the $492,800,000 estimated for 1930. The reduction was due both to a decrease in the average debt per mortgaged farm and in the number of mortgaged farms. A number of factors are responsible for this decrease. Some farms were acquired by the mortgage holders and thus freed of debt. In a number of cases, debts were reduced by agreement between the debtor and creditor. The reduced sale of farms and the paying up of some mortgages were also factors. Interest rates have also declined in large part thru refinancing at lower rates. In consequence, the total out-of-pocket interest payment to be made by farmers is at present substantially less than it has been for many years.

MINNESOTA FARM PRICES FOR NOVEMBER, 1937

Prepared by W. C. Waite and W. B. Garver

The index number of Minnesota farm prices for the month of November, 1937, was 81. 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:

November 1924 -	92	November 1931 -	53
" 1925 -	105	" 1932 -	38
" 1926 -	104	" 1933 -	48
" 1927 -	96	" 1934 -	65
" 1928 -	96	" 1935 -	77
" 1929 -	99	" 1936 -	93*
" 1930 -	77	" 1937 -	81*

*Preliminary

The price index of 81 for the past month is the net result of increases and decreases in the prices of farm products in November, 1937, 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, 1937, with Comparisons*

	Nov. 15, 1937	Oct. 15, 1937	Nov. 15, 1936	Av. Nov. 1924-25-26	% Nov. 15, 1937 is of Oct. 15, 1937	% Nov. 15, 1937 is of Nov. 15, 1936	% Nov. 15, 1937 is of Nov. 15, 1924-25-26
Wheat	$.90	$.96	$1.23	$1.32	94	73	68
Corn	.41	.45	.98	.66	91	42	62
Oats	.24	.24	.39	.36	100	62	67
Barley	.51	.51	.93	.58	100	55	88
Rye	.57	.59	.75	.95	97	76	60
Flax	1.82	1.89	1.90	2.22	96	96	82
Potatoes	.35	.31	1.00	.89	113	35	39
Hogs	8.30	10.00	8.70	10.06	83	95	82
Cattle	6.60	7.70	6.40	5.67	86	103	116
Calves	8.20	8.80	7.40	8.63	93	111	95
Lambs-sheep	8.11	8.68	7.56	10.90	93	107	74
Chickens	.155	.163	.100	.158	95	155	98
Eggs	.234	.203	.296	.41	115	79	57
Butterfat	.39	.37	.35	.45	105	111	87
Hay	6.38	6.40	8.02	11.81	100	80	54
Milk	1.90	1.80	1.92	2.29	106	99	83

*Except for milk, these are the average prices for Minnesota as reported by the United States Department of Agriculture.

Indexes and Ratios of Minnesota Agriculture*

	Nov. 1937	Oct. 1937	Nov. 1936	Av. Nov. 1924-26
U.S. farm price index	78.0	81.0	88.0	100.0
Minnesota farm price index	81.0	81.0	93.0	100.0
U.S. purchasing power of farm products	93.0	96.0	105.0	100.0
Minnesota purchasing power of farm products	96.0	96.0	111.0	100.0
U.S. hog-corn ratio	17.2	16.6	9.2	13.4
Minnesota hog-corn ratio	20.2	22.2	8.9	15.6
Minnesota egg-grain ratio	22.3	18.2	16.8	26.2
Minnesota butterfat-farm-grain ratio	47.3	43.9	22.9	40.7

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