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FARM EARNINGS AND AGRICULTURAL ADJUSTMENTS IN SOUTHEASTERN MINNESOTA

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Farm earnings in Minnesota have varied widely during recent years. Violent changes in the prices of farm products and, to a lesser extent, changes in crop yields have caused most of these variations in earnings. Even in the dairy region of southeastern Minnesota where the drouth has been less severe and crop yields have suffered less, fluctuations in earnings from year to year have been very marked. It is the purpose of the authors to present in this article some definite information on farm earnings during recent years and to note the adjustments farmers have been making to meet changing conditions both as individuals and in cooperation with the A.A.A.

Table 1

Average Farm Receipts, Farm Expenses and Operator's Labor Earnings per 100 Acres on Dairy Farms in Southeastern Minnesota

Year	1928-29	1930-1-2	1933	1934
Number of farms	148	157	108	120
Size of farms, acres	170	194	202	209
Cash farm receipts	$2,797	$1,896	$1,453	$2,001
Change of inventory	363	-389	250	292
Farm produce used in house	190	128	96	107
Total income	3,350	1,635	1,799	2,400
Cash farm expenditures	$1,435	$1,071	$748	$970
Board of hired labor	60	48	35	39
Estimated value of unpaid family labor	211	151	119	91
Interest on investment at 5%	722	561	409	417
Total expense	2,428	1,831	1,311	1,517
Operator's labor earnings	$922	$-196	$488	$883

The average receipts, expenses and operator's labor earnings for a group of dairy farms in southeastern Minnesota for the years 1928-1934 inclusive are shown in Table 1. The figures for the first two years which were characterized by relatively favorable prices are combined as are also those for 1930, 1931 and 1932 which were characterized by a severe and continued decline in prices. The figures are shown on a basis of 100 acres because of changes in size of farm from year to year. This change in size was due in part to a change in the farms included each year and in part to increases in the amount of land operated by those who continued to keep records.

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The decrease in earnings in 1930-32 as compared with 1928 and 1929 was very largely due to price declines. Crop yields in 1930 and 1932 were higher than in 1928 and 1929 but the drouth of 1931 reduced the average yield of the three-year period about 5 per cent below the two previous years. Price increases that were reflected more in inventories than in sales, together with a curtailment of expenditures, resulted in a material increase in earnings in 1933 even though crop yields were 5 per cent below the average of the previous five years. The increase in earnings in 1934 were almost altogether the result of price increases as the crop yields were reduced by the drouth to 58 per cent of the average for the seven-year period. It should be noted that the interest charge is materially lower in the later years. The base values of land, buildings, and dairy cows were reduced in 1931 and 1932 but these reductions are not included in the inventory changes shown in the statement. The inventory changes shown reflect only changes in the quantities of goods on hand and changes in the value of property that is normally disposed of within a year's time.

Adjustments in Farm Organization 1928-1933

Farmers are constantly adjusting the organization of their farms to meet changing conditions. In order to distinguish between the normal voluntary changes in organization and those in which A.A.A. contracts played a part, the changes from 1928 to 1933 will be discussed separately from those occurring in 1934. From 1928 to 1933 there was no material change in the distribution of the crop acreage between grain crops, cultivated crops, hay crops and pasture. The most marked change in the cropping system was the increase in the proportion of legume hay from 49 per cent of the total hay acreage in 1928 to 66 per cent in 1933. During the same period the proportion of legume pasture was increased from 13 per cent to 30 per cent.

Table 2

Average Number of Livestock per 100 Acres, 1928-1934

	1928	1929	1930	1931	1932	1933	1934
Milk cows	8.5	8.4	8.5	8.9	9.1	9.3	9.1
Other cattle	8.7	8.8	9.1	10.3	10.2	9.8	9.4
Litters of pigs	5.6	5.4	5.4	7.0	5.6	5.8	3.4
Sheep	4.1	4.1	4.3	6.2	7.2	7.2	9.9
Hens	85	76	80	79	82	93	91
Animal units (productive livestock)	19.4	18.9	19.4	21.7	20.9	20.9	20.1
Work horses	3.4	3.1	2.9	2.8	2.7	2.7	2.5

The changes in livestock from 1928 to 1934 are shown in Table 2. There was a general tendency to increase all livestock up to 1931. Both hogs and young cattle have been curtailed since that time whereas the increase in cows, sheep and hens was continued up to 1933. There was practically no change in butterfat production per cow from 1928 to 1933, but there was a definite upward trend in egg production per hen. There was an increase in turkey production on the farms raising turkeys and also an increase in the proportion of farms on which turkeys were raised. The number of horses per 100 acres decreased each year while the percentage of farms on which tractors were used increased from 48 per cent in 1928 to 67 per cent in 1933. The months of man labor per 100 acres varied only slightly from year to year. The principal change on these farms from 1928 to 1933

was an increased intensity in livestock production but this was hardly sufficient to be considered a material change in the farm organization.

Adjustments in the Farm Organization in 1934

Changes in the farm organization in 1934 were caused by the drouth and by A.A.A. contracts. Of the 120 farmers who kept records in 1934, 108 signed corn-hog contracts. Forty-one of these also had wheat contracts in force and two additional men had wheat contracts but did not have corn-hog contracts. On all of these farms corn was raised and on all but one, hogs. Some wheat was raised on 72 farms. It is very difficult to distinguish between the A.A.A. contracts and the drouth as the cause of shifts in production especially since many of the restrictive provisions of the contracts were modified or dropped completely during the season.

The percentage of land in small grains harvested for grain decreased 12 per cent below the average of the six previous years because some fields were so seriously damaged by heat and drouth that they were cut for hay or pastured. Severe winter-killing of wheat reduced the acreage of that crop far in excess of contract requirements. The acreage of corn was reduced 12 per cent on the farms having corn-hog contracts, as compared with an increase of 7 per cent on those farms not covered by contracts. However, a much larger acreage of corn was used for silage and fodder than in previous years. The acreage of corn husked was reduced 39 per cent on the farms covered by contracts and 24 per cent on the farms not so covered. There was an increase of both hay and pasture due to using drouth damaged small grain for these purposes and because of emergency crops seeded on the contracted acres. The contracted acres were used as follows: harvested roughage crops, 48 per cent; pasture, 10 per cent; alfalfa, clover and sweet clover seeding, 29 per cent; summer fallow, 5 per cent; and idle, 8 per cent. Only 42 per cent of the contracted acreage was used for the purposes originally permitted by the contracts.

Cattle and poultry showed moderate decreases in 1934, but still remained above the average of the preceding six years. Sheep were increased but still remained a minor enterprise. The number of pigs raised decreased 42 per cent. The reduction was greater on the farms not covered by contracts than on farms so covered. It seems reasonable to assume that shortage of feed and high feed prices were important factors causing curtailment of hog production.

The average adjustment payments on the farms covered by A.A.A. contracts was $397. This includes wheat adjustment receipts also. Payments per farm varied from $22 to $1,341. The average payment amounted to 10 per cent of the gross cash income and 21 per cent of the operator's labor earnings. Since the average feed cost of producing 100 pounds of hogs was $4.71 on these farms and the average price received for hogs sold was $4.01, it is evident that the reduction in hogs did not affect earnings adversely. The net reduction in corn acreage was too small to affect earnings materially and some reduction would have resulted even without the contract restrictions. Under conditions that obtained in 1934, it is apparent that A.A.A. contracts were an advantage from the standpoint of earnings. Whether or not this would have been true under normal crop and price conditions is not evident from this study. The increase in earnings in 1934 was, however, due primarily to marked increases in prices resulting from drouth shortages rather than from the direct or indirect effect of the A.A.A. operations.

MINNESOTA FARM PRICES FOR MARCH 1935

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

The index number of Minnesota farm prices for the month of March 1935 was 85.2. When the average of farm prices of the three Marches 1924-25-26 is represented by 100, the indexes for March of each year from 1924 to date are as follows:

March 1924 -	84.0	March 1930 -	97.3
" 1925 -	105.0	" 1931 -	68.0
" 1926 -	111.4	" 1932 -	47.4
" 1927 -	101.9	" 1933 -	35.5
" 1928 -	101.2	" 1934 -	54.1*
" 1929 -	107.6	" 1935 -	85.2*

*Preliminary

The price index of 85.2 for the past month is the net result of increases and decreases in the prices of farm products in March 1935 over the average of March 1924-25-26 weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, March 15, 1935, with Comparisons*

	Mar.15, 1935	Feb.15, 1935	Mar.15, 1934	Av. Mar. 1924-25-26	% Mar.15, 1935 is of Feb. 15, 1935	% Mar.15, 1935 is of Mar. 15, 1934	% Mar. 15, 1935 is of March 15, 1924-25-26
Wheat	$.96	$.97	$.74	$1.38	99	130	69
Corn	.77	.82	.36	.65	94	214	119
Oats	.50	.51	.28	.36	98	179	139
Barley	.84	.90	.49	.60	93	171	140
Rye	.55	.59	.48	.84	93	115	65
Flax	1.61	1.70	1.63	2.44	95	99	66
Potatoes	.35	.36	.65	.83	97	55	42
Hogs	8.60	7.40	3.70	9.97	116	232	86
Cattle	6.50	5.70	3.65	5.90	114	178	110
Calves	7.30	6.60	5.00	9.16	111	146	80
Lambs-sheep	7.10	7.08	7.16	11.53	100	99	62
Chickens	.116	.116	.08	.173	100	145	67
Eggs	.18	.24	.13	.20	75	136	89
Butterfat	.33	.37	.25	.46	89	132	72
Hay	17.28	16.96	7.82	11.08	102	221	156
Milk	1.53	1.69	1.23	2.13	91	124	72

*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*

	Mar. 1935	Feb. 1935	Mar. 1934	Av. Mar. 1924-26
U.S. farm price index	76.6	78.2	54.0	100.0
Minnesota farm price index	85.2	87.4	54.1	100.0
U.S. purchasing power of farm products	93.3	96.1	70.1	100.0
Minnesota purchasing power of farm products	103.8	107.4	70.3	100.0
U.S. hog-corn ratio	9.8	8.4	8.2	12.2
Minnesota hog-corn ratio	11.2	9.0	10.3	15.6
Minnesota egg-grain ratio	11.7	15.2	13.9	12.9
Minnesota butterfat-farm-grain ratio	21.1	22.7	29.4	39.8

*Explanations of the computation of these data are given in Farm Business Notes No. 144.