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THE EARNINGS ON BEEF CATTLE FARMS IN SOUTHWESTERN MINNESOTA

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In 1929 the University of Minnesota and the United States Department of Agriculture started a detailed farm accounting study of the organization, operation, and earnings on twenty-two beef cattle farms in Rock and Nobles Counties in Southwestern Minnesota. The records kept by these farmers include cash receipts, cash expenses, inventories, labor, crop and livestock production, and other records necessary for a complete analysis of the farm business. The second year of the three year study was completed February 28, 1931.

Description of the Farms Studied

The farms studied in 1930 averaged 360 acres in size. This is 75% larger than the average size of farms in these two counties as reported in the 1925 census. Corn, oats, barley, alfalfa, and wild hay are the principal crops grown. Eight farms in 1929 and thirteen in 1930 grew flax. Cattle and hogs are the chief sources of income. Poultry was kept on all the farms and seven farmers raised sheep.

Operator's Labor Earnings

On the farms studied in 1930 the cash receipts exceeded the cash expenses per farm by $3256. However, when allowance is made for the decrease in inventory, interest on the investment, and other non-cash receipts and expenses, the operator failed by $1083 to receive anything for his labor and management. The average receipts, expenses, and operator's labor earnings are presented in Table 1. The decrease in inventory value of $1844 is partly the result of depreciation of buildings and equipment, but largely due to the decline in prices of the products these farmers produce. The extent of the decline is indicated by comparing the inventory prices of March 1, 1930 and February 28, 1931. The decrease in the price was $2.07 and $3.49 per hundredweight, respectively, of cattle and hogs, $.20 per bushel of corn, $.11 per bushel of oats, and $.13 per bushel of barley.

The effect of the price on income is illustrated by a comparison of the income from cattle and hogs in 1930 with that in 1929. In 1930 the total weight of cattle produced per farm was 3,700 pounds more than in 1929 but the income from cattle, after adjusting for inventory differences, was $1144 less.

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The average weight of hogs produced per farm in 1930 was 2200 pounds more than in 1929 but the income was $692 less.

Table 1. Average Earnings on 22 Beef Cattle Farms in Rock and Nobles Counties in 1930

Receipts		Expenses	
Cattle (incl. dairy prod.)	$3,627	Hired labor	$ 567
Hogs	2,444	Livestock bought	1,327
Sheep & wool	243	Misc. livestock expense	103
Poultry & eggs	239	Crops & feeds	1,405
Horses	47	Real estate	227
Corn	409	Machinery, gas & oil*	701
Oats	230	Taxes	423
Flax	287	Miscellaneous expense	80
Other crops	274	Total cash expense	4,833
Outside	132	Decrease in inventory	1,844
Miscellaneous cash	157	Board for hired labor	210
Total cash receipts	8,089	Interest on investment	2,244
Farm produce used	391	Unpaid family labor	432
Total receipts	$8,480	Total expenses	$9,563

Operator's labor earnings - $1083

*Includes the farm share of the auto.

Earnings on the Same Farms in 1929 and 1930

Eighteen farmers kept records in both 1929 and 1930. On these eighteen farms the average operator's labor earnings dropped from $1676 to -$1170, a difference of $2846. Cash receipts were $968 less in 1930 than in 1929; the inventories increased $421 in 1929 but decreased $1775 in 1930, a difference of $2194. Cash expenses, however, decreased only $52 per farm from 1929 to 1930, board for hired labor decreased $23 and family labor decreased $100.

Possibilities of Increasing Earnings

There was a wide range in earnings between the different farms in both 1929 and 1930. In 1930 the earnings varied from $448 to -$2992. In 1929 they varied from $4,999 to -$1836. This variation is the result of differences in size, organization, and efficiency of methods and practices.

Size: Under the favorable conditions of 1929 the farms with the largest business generally yielded highest returns. In 1930, as a result of the rapidly declining prices of the products the farmers sold and the failure of expenses to decline in proportion, the farmers with the largest business tended to have the largest losses. However, under conditions of favorable prices for farm products the farms with the largest business will again tend to have the largest earnings.

Organization: Earnings are affected by the profitableness of the individual enterprises. Hence a farmer may take steps toward securing high earnings by organizing his farm business around the most profitable enterprises, supplementing these with other enterprises, which although less profitable, add to the

total net income through a greater utilization of the available resources of the farm. The study of these farms has indicated some of the more profitable enterprises.

The hog enterprise was the most profitable livestock enterprise in both 1929 and 1930. In addition to paying all other charges, hogs returned 74 cents in 1929 and 71 cents in 1930 for each 56 pounds of grain consumed, if no charge is made for the feed they picked up behind the cattle. However in planning a farm organization one must keep in mind the fact that hogs can utilize comparatively little hay and pasture.

Three types of beef-cattle production were found on these farms; the combination of milk and beef production, the feeding of purchased cattle, and the raising and fattening of baby beeves. In both years of the study the raising and fattening of baby beeves was the most profitable type of beef production on these farms. In 1930 the baby-beef type of production returned 48 cents more per bushel of grain than the dual beef and milk type, and 33 cents more than the purchased feeder type.

Judging from the ten-year average county yields and the costs on the farms studied, corn produced more feed per acre and at a lower cost per pound of digestible nutrients than either oats or barley. Oats yielded less feed per acre and was produced at a higher cost per pound than either corn or barley. Of the roughages, corn fodder produced the most feed per acre and at lowest cost, but it has the disadvantage of being low in protein. When the need for protein in the ration and the cost of protein feeds are taken into account, alfalfa appears to have been the most profitable roughage crop. Corn fodder may be used to advantage if a short hay crop is harvested.

In so far as cash crops are concerned, on the basis of ten-year average county yields and seven year average prices, flax has been the most profitable cash crop, corn next, and barley third.

Efficiency of the Enterprises: The records secured on these farms show a wide range between farms in the efficiency with which the individual enterprises were conducted and indicate the possibility of increasing the income by improving the practices and methods. The amount of grain fed per beef breeding cow varied from 95 to 1181 pounds and the amount of hay and fodder from 815 to 5523 pounds with a resulting feed cost per cow ranging from $12.75 to $37.77. The calves coming from a herd of cows receiving an average of $37.77 worth of feed per head and raising even a 95% calf crop, are rather expensive calves. When a farmer feeds his cows more than is necessary to keep them in fair flesh he is reducing his chance of making profits from raising and fattening calves.

The records indicate the possibility of increasing the returns from the hog enterprise on a number of the farms by the adoption of swine sanitation. A comparison of the record of the hog enterprise in 1930 with that in 1929 on one of the farms studied illustrates these possibilities. Following heavy losses in 1929 this farmer adopted a complete swine sanitation system which he followed in 1930. The result of the changes in methods was a saving in feed cost, on the basis of 1930 prices, of $1.34 per hundred pounds of hogs produced. More

total labor was used in 1930, but due to a much larger production there was a saving of one hour per hundred pounds of hogs produced. Figuring labor at 30 cents per hour, there was a difference in feed and labor cost of $1.64 per hundred pounds of hogs produced.

One way of increasing the efficiency of the crop enterprises is through selection of the best variety of seed. This is illustrated by the records for the oat and barley crops. On the farms studied in 1930 Gopher oats outyielded Green Russian by eight bushels per acre and outyielded common oats by 13 bushels per acre. Velvet barley outyielded common barley by six bushels per acre. The costs per acre were not significantly different. The increase in yield, even at present prices, makes a significant difference in the net income. The superiority of certain varieties over others could be demonstrated with the other crops.

MINNESOTA FARM PRICES FOR JUNE 1931

Prepared by D. D. Kittredge & A. E. Erickson

The index number of Minnesota farm prices for the month of June 1931 was 57.2. When the average of farm prices of the three Junes of 1924-25-26 is represented by 100, the indexes for June of each year from 1924 to date are as follows:

June 1924 -	84.2
" 1925	108.1
" 1926	109.5
" 1927	99.8
" 1928	109.7
" 1929	108.6
" 1930	90.4*
" 1931	57.2*

*Preliminary

The price index of 57.2 for the past month is the net result decreases in the prices of farm products in June 1931 from the average of June 1924-25-26 weighted according to their relative importance. These decreases range from approximately 69 per cent to 18. The products ranked according to the size of their percentage decreases in this comparison are shown in the following list:

Principal Farm Products which Showed Price Decreases in June 1931 when Compared with Average Prices in June 1924-25-26
(arranged in descending order of percentage change)

Decreases: Rye, wheat, barley, oats, eggs, flax, lambs-sheep, hogs, butterfat, corn, chickens, hay, milk, potatoes, cattle, calves.

Although the Minnesota index for June 1931 does not measure price changes from May 1931, a comparison of month to month changes in price has been made. The increases range from 9 per cent to 1, and the decreases from 13 per cent to 1. The products ranked according to the size of their percentage increases or decreases in June 1931 over May 1931 are shown in the following list:

Principal Farm Products which Showed Price Increases and Decreases in June 1931 when Compared with May 1931
(listed in descending order of percentage change)

Increases: Eggs, milk.

Decreases: Wheat, hogs, lambs-sheep, barley, oats, corn, flax, cattle, butterfat, rye, calves, chickens, hay.

No Change: Potatoes