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MINNESOTA FARM MANAGEMENT SERVICE NOTES

No. 40

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Prepared by the Farm Management Group at University Farm, St. Paul, Minn.

Livestock and Legumes Produce Profits in Cottonwood County

- A case report of a successful farm -

All studies of farm income show a wide variation between different farms. Even in the same community where weather, soil and market conditions are quite uniform some farmers make materially larger incomes than others. This is not, however, a peculiar characteristic of farming. It is equally true of stores and factories, banks and railroads. In any business there are certain methods and practices and certain types of organization that yield larger profits than others. The manager who succeeds in combining these methods and practices in his organization finds his success reflected in increased profits.

In Farm Management Service Notes No. 39 some of the factors of success in profitable dairy farm organization were presented. In this number a farm in Cottonwood County is used to illustrate profitable practices on a corn, beef-cattle and hog farm. This farm consists of 191 acres of which 131 are in crops. In soil and topography it is fairly typical of the county. In the following table is presented a comparison between the average income from this farm for the years 1923 and 1924 and the average income from all the farms on the statistical route in which it is included.

	This farm	Route average		This farm	Route average
Receipts:			Expenses:		
Cattle	\$1894	\$1124	Labor	\$71	\$69
Swine	1674	978	Livestock expense	719	525
Poultry	438	269	Crop expense	282	156
Other livestock	42	112	Bldgs. & machinery	240	464
Crops	1147	648	Unpaid family labor	614	326
Miscellaneous	570	127	Other	584	388
Totals	\$5765	\$3258		\$2510	\$1928
Farm Income				3255	1330
Interest at 5 per cent				1646*	332*
Farmers labor income				\$1609	\$498

*On this farm the entire acreage was owned by the operator; on the other farms about one-half was rented.

Altho this farm is no larger than the average for the route, the operator received more than three times as much for his labor and management as did the average of the group. One of the reasons for this is indicated in the following statement of crop yields.

Crops	1923			1924		
	This farm	Route average	County average	This farm	Route average	County average
Oats	61 $\frac{1}{2}$ bu.	57 bu.	56 bu.	69 bu.	51 bu.	45 bu.
Barley	58 "	35 "	29 "	-	-	-
Rye	- "	- "	- "	21 "	12 "	12 "
Flax	20 $\frac{1}{2}$ "	18 $\frac{1}{2}$ "	17 "	-	-	-
Corn	53 "	50 "	40 "	57 "	25 $\frac{1}{2}$ "	21 "

On the basis of the acreage of crops on this farm for the two years, one acre produced as much as 1.6 acres on the other farms on the route and 1.9 times as much as the average for the county. This advantage in yields results in more economical production and in a much larger advantage from the standpoint of profits as indicated in the following crop cost statements.

	Corn 1924(per acre)		Oats 1924(per acre)	
	This farm	Route average	This farm	Route average
Labor	\$12.30	\$3.50	\$3.83	\$3.29
Other costs	1.35	1.94	4.20	3.93
Land rent	6.00	6.00	6.00	6.00
Total cost	20.15	16.44	14.03	13.22
Yield	57 bu.	25 $\frac{1}{2}$ bu.	69 bu.	51 bu.
Value of crop	42.75	19.13	28.98	21.42
Net return	\$22.60	\$2.69	\$14.95	\$8.20

Except for the additional labor costs of harvesting the larger crop there is little difference between the cost per acre of producing the larger crop and the smaller one. The differences in net returns, however, are quite marked. These larger yields are not the result of any advantage in greater natural fertility of the soil on this farm. They are very largely the result of twenty years of good farming practices. One of these practices is the large use of clover, alfalfa and other legumes that have been used to maintain the soil fertility. The other is the liberal application of manure made possible by the large amount of livestock maintained.

Twenty-one per cent of the crop acreage of this farm was devoted to clover and alfalfa as compared with an average of 11 per cent in tame hay on the route farms and 7 per cent for the county as a whole. Since part of this tame hay is timothy and other non-legumes the advantage is greater than the figures indicate.

There were $34\frac{1}{2}$ animal units of livestock to each 100 acres of crops on this farm as compared with an average of $22\frac{3}{4}$ on the route and $13\frac{3}{4}$ for the county. This heavier stocking is made possible by the larger yields of the feed crops. Sweet clover pasture also supports more stock per acre than the bluegrass or timothy and clover pasture commonly used. This is supplemented with rape sown in the small grain or corn and used for fall pasture. Besides the manure left on the fields and pastures by the stock 252 loads were hauled out each year as compared with the route average of 133 loads per farm.

High yields of crops, however, are not the only cause for the larger returns on this farm. Pork is produced at an average profit of \$1.43 per 100 pounds as compared with the average for the route of 46 cents. Approximately one bushel less corn was required to produce this amount of pork. This economy of production was made possible by the liberal use of alfalfa and rape pasture and the balancing of the corn ration with sufficient tankage. This advantage in pork production is increased further by the fact that this farm produced more than twice as much pork as the others. Poultry was also a profitable enterprise. The average profit per bird was 90 cents or 27 per cent more than the route average. Sheep brot in about the same net returns per head as the other farms and cattle slightly less. This latter is due to the fact that beef production was much more important relatively than dairying as compared with the other farms and during these two years the price of beef was relatively lower than that of dairy products.

This comparison demonstrates the results of good farming practices. It was no mere accident that this farmer should receive more than three times as large a net income as other farmers in the same community. Twenty years of soil building with legumes and farm manures pay large dividends. Legumes not only help to maintain soil fertility but also by providing protein to balance the ration makes possible greater efficiency in livestock production. Sweet clover and alfalfa are well adapted to the soils of southwestern Minnesota. Coupled with a generous acreage of corn and a smaller acreage of oats and barley they provide the basis for a well balanced system of livestock farming. They are especially suited to the production of beef and pork, altho poultry, sheep and dairying may well be added to diversify the business and supplement these enterprises. The results secured by this farmer indicate the possibilities of such a system of farming followed consistently over a period of years.

Geo. A. Pond.