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# FARM BUSINESS NOTES

Prepared by the Divisions of Agricultural Economics and Agricultural Extension  
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NO. 318

UNIVERSITY FARM, ST. PAUL

JULY 29, 1949

## Choosing Crops for Low Cost

S. A. ENGENE

A wise choice of crops is the first step in planning a profitable farm organization. With declining prices in prospect, the choice must be made even more carefully than during the past few years. The farmer must raise crops which produce a high income or a high yield of quality feeds per acre. With costs pressing harder against income than in recent years, he must also study the relative costs of the various crops.

Data obtained from records kept by farmers in southern Minnesota provide a basis for comparing the costs of the principal crops. These are presented in table 1. The labor used in raising and harvesting an acre of crops is given in hours, not in dollars. Since most of the labor is provided by the family or is hired by the month or year, it is difficult to determine an exact dollar cost for each hour or each acre of crops.

More time is needed for corn silage than for any other crops. Alfalfa hay is second. Most of these farmers put up their hay with loaders and slings, spreading it in the barn by hand. With field choppers or self-tying balers, the time spent per acre would have been about 9.0 hours. More time is spent per acre with hay crops than with husked corn or small grains. Less time is spent on soybeans than on any other of the principal crops.

For the farmer who has plenty of labor available, these differences in hours are not important. He must give major consideration to the direct money costs of the crop and to the production he gets from the land. These differences are important to farmers whose workers already are busy full time. If he shifts to a crop which takes more time, he may have to hire extra workers, with a fairly large outlay in cash.

The farmer must consider the seasonal distribution of the labor as well as the total number of hours. For example, the difference in hours needed for husked corn and corn silage is largely in harvesting time. Silo filling will come during late August or September. On many farms work is rather slack at that time. Those farmers may be glad to

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put up silage, even if it takes more hours, in order to have less work at corn picking time. Their labor may be worth much less to them in September than in late October and November, when they are hurrying to get their crop in ahead of possible snows. A combination of small grains, corn, and hay tends to spread the labor load fairly evenly throughout the crop growing season.

The direct money cost or cash outlay is an important factor in selecting profitable crops. Most of the power needed for modern mechanized farming requires a cash outlay. Some of this must be paid each year, such as cash for gasoline or current repairs, and some of it is paid in large sums at intervals, such as cash for the purchase or rebuilding of tractors. Machinery also requires cash outlays. Spray materials, twine, baling wire, and commercial fertilizers must be purchased. Seed corn and hay crop seeds must usually be purchased. Oats, flax, and soybean seed are sometimes purchased and sometimes raised on the farm. Even if raised, its use constitutes a direct cost in that a farmer sacrifices the possibility of receiving an income from its sale.

Table 1. Cost of Producing an Acre of Crops  
Southern Minnesota—1941-1948\*

Crop	Yield per acre††	Hours of man labor	Money costs, other than labor and land†
Corn (husked) .....	52 bu.	8.5	\$ 8.10
Oats .....	44 bu.	6.6	8.75
Flax .....	11 bu.	7.0	10.80
Soybeans .....	14 bu.	5.7	11.30
Corn silage .....	8.6 ton	14.3	12.00
Alfalfa hay .....	2.4 ton	11.0	8.65
Other tame hay .....	1.3 ton	7.9	6.40

\* Source: A Preliminary Report of Data Secured on the Farm Accounting Route in Nicollet County, Minnesota; Mimeographed Report No. 158, Division of Agricultural Economics, University of Minnesota.

† Annual Report of a Study of Crop Production Costs and Returns in South Central Minnesota; Mimeographed publication of Minnesota Valley Canning Company, Le Sueur, Minnesota, and Division of Agricultural Economics, University of Minnesota.

†† Cost for power, machinery, seed, twine, and commercial fertilizer.

††† Ten-year average yields from the Southeastern Minnesota Farm Management Service.

These money costs are especially important when farm incomes are low—it may be hard to obtain the cash needed for the necessary purchases. Corn silage, flax, and soybeans will be at a slight disadvantage at such a time.

The money costs for the hay crops are approximately equal to those for husked corn and oats. When field choppers or balers are used, the direct outlays are even larger. The outlays become quite large when custom operators are hired to put up the crop.

The cost of the land, either as rent or as taxes and interest, has not been included in the above comparison, since it will be about the same regardless of the crops grown. In making his choice, the farmer will weigh the cost items which vary with the crops grown.

The variation among these crops in the cost per acre is sufficiently large to justify some consideration. In years of extremely low prices, it may be hard for farmers to meet these expenses and be able to provide a reasonable living as well. This may justify a shift to a lower cost crop. The major emphasis in the choice should usually be given to the production to be obtained. Under normal price and cost conditions this is a much bigger variation in production than in cost.

Most midwest farmers use a large part of their land for the production of feed crops to be fed on their farms. The most common feed crops are husked corn, corn silage, oats, and hay. The production of these crops can best be compared by their feeding value. On the basis of the yields shown in table 1, the production per acre would be:

Corn (husked)	2373	pounds total digestible nutrients
Oats	978	“ “ “ “
Corn silage	2890	“ “ “ “
Alfalfa hay	2450	“ “ “ “
Other tame hay	1280	“ “ “ “

Corn, corn silage, and alfalfa hay produce the most feed per acre. Alfalfa hay also produces a larger amount of protein and is valuable as a soil builder. Corn and alfalfa can well provide the backbone of the cropping system in the southern part of the state.

The comparison of these crops can be made more carefully and accurately by also considering the time, the amount of land, and the money cost needed to produce a ton of total digestible nutrients. This is shown in table 2. Here again corn, corn silage, and alfalfa hay are shown to be economical crops. Oats is a high-cost feed—the cost per ton of nutrients is almost twice as high as that of low-cost crops.

The figures given here are averages for a group of farmers. As such they are valuable as a general guide.

**Table 2. Cost of Producing One Ton of Total Digestible Nutrients  
Southern Minnesota—1941-1948**

Crop	Hours of labor	Acres of land	Money costs
Corn (husked)	7.2	.8	\$ 6.80
Oats	13.5	2.0	17.90
Corn silage	9.9	.7	8.30
Alfalfa hay	9.0	.8	7.05
Other tame hay	12.3	1.6	10.00

There are, however, rather large variations among different farmers and among different areas of the state. For an accurate decision each farmer should determine the figures for his farm or locality. Farmers who keep records can determine this information accurately; others must estimate.

## Farm Building Costs

S. A. ENGINE

The cost of constructing and maintaining buildings is a significant farm expense. The outlays are high for those farmers who must erect a new building, and there are frequent complaints of high costs. But how high are the costs as an average over a period of years or over a group of farms?

Records kept by farmers and summarized at the University of Minnesota during the past 21 years provide a partial answer to the question. These data are summarized in the following table. Records were obtained in several areas and cover limited periods of time. Only one set of records covers the entire 21-year period. The expenses shown are for buildings, including dwelling, and for fences.

The farmers who kept these records were somewhat better operators than the average farmer in their communities. They were sufficiently interested in their farms to keep a record of their business. They operated slightly larger than average farms, and operated them at a slightly higher than average level of efficiency.

The lowest costs for buildings were for farms in the northeastern counties of Minnesota during the years 1931-1935. Most of those farms were relatively small, with correspondingly small buildings. With low incomes, as the result of the depression and drouth, these farmers postponed their building expenses as long as possible. Their buildings were deteriorating during this period.

**Table 1. Farm Building and Fencing Expenditures  
Based Upon Farm Records**

Area and year	Number of records per year	Expenditures for buildings and fences			Total sales	Per cent expenses are of sales
		New	Maintenance	Total		
<sup>1</sup> 1928-29	148	\$ 130	\$ 52	\$ 182*	\$ 4,753	3.8
<sup>1</sup> 1930-32	157	98	29	127*	3,678	3.4
<sup>1</sup> 1933-39	139	191	92	283	5,001	5.6
<sup>1</sup> 1940-46	175	333	202	535	9,996	5.4
<sup>1</sup> 1947-48	172	1,051	368	1,419	16,568	8.6
<sup>2</sup> 1940-46	160	355	172	527	14,035	3.8
<sup>2</sup> 1947-48	136	848	362	1,210	22,993	5.3
<sup>3</sup> 1929-31	22	.....	.....	208	7,585	2.7
<sup>3</sup> 1932-36	19	.....	.....	110	3,133	3.5
<sup>4</sup> 1935-40	22	.....	.....	367	5,372	6.8
<sup>5</sup> 1931-35	33	28	22	50	1,693	3.0
<sup>6</sup> 1940-46	83	313	169	482	9,860	4.9
<sup>6</sup> 1940-46	74	249	106	355	6,400	5.5

\* Expenses on farm house not included.

<sup>1</sup> Southeastern Minnesota Farm Management Service.

<sup>2</sup> Southwestern Minnesota Farm Management Service.

<sup>3</sup> Rock and Nobles Counties Detailed Accounting Route.

<sup>4</sup> Stevens County Farm Accounting Route.

<sup>5</sup> Winona County Detailed Accounting Route.

<sup>6</sup> Northern Minnesota Farm Management Service.

<sup>7</sup> Farm Management Service for T.V.A. Phosphate-Test Demonstration Cooperators—Southwestern counties.

<sup>8</sup> Farm Management Service for T.V.A. Phosphate-Test Demonstration Cooperators—Northwestern counties.

The highest building costs were incurred by farmers in southeastern Minnesota in 1947 and 1948. These were dairy farmers, with rather large barns and other buildings. During recent years of good income, they did much rebuilding and repairing, often to correct for neglect in past years.

The percentage of the farm income used for buildings varies somewhat among the areas and years. In general, it has been from 3 to 5 per cent of total sales. That is, out of each dollar the farmer took in from the sale of farm products he paid out 3 to 5 cents for buildings and fences.

The amount spent for buildings and fences varies as the farmer's income changes from year to year. This can be seen most effectively from the data for southeastern Minnesota. These farmers reduced their building and repair work from 1928-29 to 1930-32, as prices fell with the deepening of the depression. Money was scarce, and they were able to get along with old buildings or buildings in poor repair. As their incomes increased, they spent more for buildings. They spent more dollars and also a larger percentage of their income. The same trend occurred among the farmers in southwestern Minnesota.

Farmers are able to adjust their building construction and repair to their income. Much repair or construction can be postponed for a few years. Unfortunately, many farmers borrow money for their major buildings. Their expenses will continue until the debts are paid, even if incomes fall.

With incomes high at the present time, this is a good time for building, or for setting aside funds to be used in the future when costs may be lower. With prices falling, and with possibilities for further declines, this seems to be a poor time to borrow money for buildings.

## Fencing Is Big Business

J. R. NEETZEL<sup>1</sup> and S. A. ENGENE

Minnesota farmers have about 150 million fence posts standing on their farms. They probably replace at least 10 million of these each year. They spend about 15 million man hours each year to build, repair, and replace their fences. On the basis of the number of hours worked in a year by farmers, that would keep at least 5000 men busy throughout the year. A large but unknown sum is spent for fencing materials.

Even though fencing is big business, relatively little accurate information is available. The above figures are only approximations. In 1936, the Forest Survey estimated that about 150 million posts were in use on Minnesota's farms. This estimate was based upon sample areas measured in various parts of the state.<sup>2</sup>

A similar estimate is obtained from farm management research studies conducted in the state. Data obtained on farms in three sections of the state are summarized in the following table. The number of rods of fencing per acre was similar for all three areas—about 4.5 rods per acre.

Rods of Fencing Per Farm and Per Acre

	Stevens County	Winona County	Nicollet County
Year .....	1932	1935	1941
Number of farms .....	22	21	26
Acres per farm .....	348	322	210
Rods of fence per farm			
Barbed wire .....	754	856	652
Woven wire .....	720	746	202
Electric .....	0	0	100
Total .....	1,474	1,602	954
Rods of fence per acre .....	4.24	4.98	4.54

The data in this table are conservative estimates as only the line and field fences were counted. Most farmers also have considerable fencing within their farmsteads. Also, the farms studied were bigger than the average in the areas. The figure for rods of fencing per acre was higher on the small farms than on large farms. This will probably be offset, at least in part, by smaller amounts of fencing in the northwestern part of the state. An estimate of 4½ rods of field fencing per acre is probably reasonable for the state.

According to the 1945 federal census there are 33 million acres in farms in Minnesota. Multiplying by 4.5 rods per acre gives approximately 150 million rods of fencing. With one post per rod, that is 150 million posts. The estimate is rough, but it checks closely with the estimate made previously by the Forest Survey and seems reasonable.

The number of posts replaced each year is even harder to estimate. Some posts last only a few years. Others, such as steel, concrete, or treated wood, last for 20 years or more. For the state as a whole, an average of 10 to 15 years seems reasonable, with 10 to 15 million posts replaced yearly.

The farmers who supplied the data for the table also kept records of the time spent in building and repairing fences. They averaged an hour a year for every 10 rods of fencing. One-quarter to one-third of this time was spent in building or rebuilding fencing, and the rest was used for repairing. On 150 million rods of farm fences in the state, this means 15 million hours of work each year.

It is interesting to see what this means on a farm of 160 acres. There will be about 720 rods of fencing and 720 posts. From 50 to 70 posts will be replaced each year. The farmer will spend about 72 hours, or one week of each year in building and repairing his fences. Considering only the field season from April 1 to November 1, about one-thirtieth of the farmer's time is spent on his fences.

Much of the time spent in repairing or rebuilding fences and much of the cost of fencing material is due to rotting of posts. Modern barb and woven wire lasts longer than most of the wooden posts in use in the state. If the posts lasted longer, much cash outlay and labor could be saved.

Many farmers are using steel posts in order to reduce the frequency of replacement. With modern methods of treatment, wood posts can be made to last for 25 years or more. Besides reducing the cost of replacement, the use of preservatives makes it possible to use posts with a small diameter. That means lower costs for buying and setting. Three-inch treated posts will serve most farm needs.

<sup>1</sup>Forester, Lake States Forest Experiment Station; Research Associate School of Forestry, University Farm.

<sup>2</sup>Lake States Forest Experimental Station, Technical Note No. 111, University Farm, St. Paul, May, 1936.

## Minnesota Farm Prices For June, 1949

Prepared by W. C. WAITE and ARNOLD B. LARSON

The index number of Minnesota farm prices for June, 1949, is 235.9. This index expresses the average of the increases and decreases in farm product prices in June, 1949, over the average of June, 1935-39, weighted according to their relative importance.

**Average Farm Prices Used in Computing the Minnesota Farm Price Index, June, 1949, with Comparisons\***

	June 15, 1949	May 15, 1949	June 15, 1948		June 15, 1949	May 15, 1949	June 15, 1948
Wheat .....	\$ 2.01	\$ 2.05	\$ 2.26	Hogs .....	\$18.00	\$17.70	\$22.00
Corn .....	1.09	1.09	2.05	Cattle .....	20.60	19.80	24.50
Oats .....	.54	.59	1.05	Calves .....	24.50	24.00	26.50
Barley .....	1.00	1.00	2.05	Lambs-Sheep ..	22.96	23.30	22.09
Rye .....	1.12	1.18	1.94	Chickens .....	.20	.22	.223
Flax .....	3.43	3.68	5.84	Eggs .....	.399	.398	.383
Potatoes .....	1.50	1.50	1.60	Butterfat .....	.65	.65	.90
Hay .....	14.20	14.50	14.00	Milk .....	2.80	2.70	3.95
				Wool† .....	.44	.44	.45

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

† Not included in the price index number.

Farm prices of products sold by Minnesota farmers did not change greatly from May to June. The most important increases were in the prices of livestock, where the index rose about 3 per cent. Crop prices were generally lower; this index declined 2 points. Milk and butterfat, for which sales are large, did not change materially in price.

In contrast to the Minnesota situation, prices for farmers in the United States as a whole fell about 2 per cent during the month, as a result of falling prices for truck crops and food grains. The sales of these are more important during this period for the whole country than for Minnesota.

**Indexes and Ratios for Minnesota Agriculture\***

	June 15, 1949	June 15, 1948	June 15, 1947	Average June 1935-39
U. S. farm price index .....	239.1	279.9	257.1	100
Minnesota farm price index .....	235.9	303.5	262.1	100
Minn. crop price index .....	205.8	339.3	317.9	100
Minn. livestock price index .....	255.0	304.0	280.0	100
Minn. livestock product price index .....	227.7	293.6	232.2	100
U. S. purchasing power of farm products .....	122.2	139.6	140.0	100
Minn. purchasing power of farm products .....	120.5	151.4	142.7	100
Minn. farmers' share of consumers' food dollar .....	56.6†	61.3	60.5	45.5
U. S. hog-corn ratio .....	15.5	10.6	12.6	12.0
Minnesota hog-corn ratio .....	16.5	10.7	13.7	15.2
Minnesota beef-corn ratio .....	18.9	12.0	11.3	12.8
Minnesota egg-grain ratio .....	16.2	10.6	11.3	14.6
Minnesota butterfat-farm-grain ratio .....	35.1	25.4	22.0	30.9

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

† Figure for April, 1949.

## The June Pig Crop Report

W. C. WAITE

Farmers are rapidly increasing the size of their hog enterprise. The number of pigs saved this spring in the United States was 59,040,000 head, as estimated by the Bureau of Agricultural Economics from farmers' reports on June 1. This is about 15 per cent larger than the number of pigs saved last spring. The increases, as would be expected from the large corn crop, are greatest in the north central states. The increase in these states and in Minnesota was 17 per cent. The smallest increase, 5 per cent, occurred in the south Atlantic states.

There was a marked shift toward earlier farrowings. By April 1 this year, 45.1 per cent of the spring farrowings in the United States had already occurred, as compared with 41.3 per cent a year ago. With ample feed supplies on farms, the earlier farrowings suggest that the fall movement of hogs to market will begin earlier than usual. Minnesota farmers also had earlier farrowings. By April 1, 31.8 per cent of the farrowings had taken place, as compared with 25.8 per cent a year ago. Minnesota farrowings are later than the average for the United States.

Farmers indicate plans for a continued expansion in pig production during the fall. For the country as a whole 5,832,000 sows are estimated as being kept for fall farrowing. This is 13 per cent over the number farrowed last fall. With this number of sows and with a number of pigs per sow equal to the ten-year average, the fall pig crop will be about 9 per cent larger than a year ago. Minnesota farmers indicated that they were keeping 22 per cent more sows for farrowing than a year ago.

The spring pig crop, together with the indicated intentions for fall farrowings, would result in a total crop of 96 million head for the United States. A pig crop of this size exceeds the 1948 pig crop by 13 per cent and the 10-year average crop of the period 1939-1948 by 8 per cent.

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Cooperative Extension Work in Agriculture and Home Economics,  
University of Minnesota, Agricultural Extension Division and United States  
Department of Agriculture Cooperating, Paul E. Miller, Director. Published  
in furtherance of Agricultural Extension Acts of May 8 and June 30, 1914.