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FARM BUSINESS NOTES

Prepared by the Divisions of Agricultural Economics and Agricultural Extension
Paul E. Miller, Director Agricultural Extension

NO. 296 UNIVERSITY FARM, ST. PAUL AUGUST 29, 1947

Farm Earnings in 1946

R. O. Olson and T. R. Nodland

The financial returns to farmers were at a record high in 1946. The farm management services in southern Minnesota provide information about sales, purchases, and financial progress for both owners and tenants. Since members of the farm management services are above the average of farmers in their areas in managerial ability and operate larger farms, their earnings are higher than the averages of their communities. However, these records show differences in receipts, expenses, and earnings between owners and tenants that may be reasonably representative of farmers in general in this area.

University Farm Radio Programs

HI-LIGHTS IN HOMEMAKING
10:45 a.m.

UNIVERSITY FARM HOUR—12:30 p.m.

Station KUOM—770 on the dial

Receipts, expenses, and returns to capital and family labor of 88 owners, 41 part owners, and 53 renters are presented in table 1. The returns to capital and family labor include the returns to the operators' labor and management, to their capital, and to the unpaid family labor used in operation of the farm business. It represents the net income from farm operation which the farmers have available for investment, savings, debt servicing, and household and personal spending. Returns to capital and family labor should not be confused with operator's labor earnings or other measures of financial returns.

The data presented represent only the operator's return. Some of the differences among owners, part owners, and renters occur because expenses and receipts from rented land are shared with the landlords. This fact must be considered in making any comparisons between the three groups.

Part owners are those farmers who own some of the land they are operating and rent additional land. On the average, of 289 acres in farms owned in partnership, 115 acres were rented and 174 acres were owned. The rented land was operated under cash leases by 19 part owners, under cash- and crop-share leases by seven, under crop-share leases by 12, and under livestock-share leases by the other three.

Thirteen of the tenants rented their farms for cash, 23 rented under cash- and crop-share leases, 16 operated under livestock-share leases, and one under a crop-share lease.

The higher farm sales, purchases, and returns of part owners were due primarily to their larger volume of business. Part owners operated more acres of land and kept more livestock than either renters or owners. Part owners, through their larger volume of business, obtained higher returns to their capital and family labor than owners even though they shared some of their returns with their landlords.

Although owners operated less acreage, they had larger farm businesses than renters because they kept more livestock and more intensive types of livestock. Crop yields and efficiency in livestock production were significantly higher on owner-operated farms than on either part-owner or rented farms. Owners were, however, less efficient in their use of labor and had considerably higher expenses for power, machinery, equipment, and buildings per work unit than renters.

Detailed net worth statements for the same farmers are presented in table 2. These statements indicate that the operator's investment in the farm business was quite low for renters in comparison with that of owners and part owners. The renters were marketing their labor and management primarily, whereas returns to owners and part owners included returns to a considerably larger amount of invested capital.

When earnings were computed on a full-owner basis for all farms, the differences were not so marked. Operator's labor earnings computed on a full-owner basis, for example, averaged $6,296 for owners, $7,897 for part owners, and $6,445 for renters. In computing the earnings on a full-owner basis each farm was considered as owned free of debt by the operator, all receipts were credited to him, and all expenses charged against him.

The net worth statements presented in table 2 indicate that these farmers made substantial financial progress in 1946.

The total farm capital represents the operator's investment in the farm business. Outside investments include war savings bonds, stocks, and real estate other

than the farm operated. Cash on hand and in the bank is included with household and personal assets. Liabilities include the indebtedness on outside investments and on personal accounts.

A large part of the increase in net worth for all groups was due to an increase in total farm capital. Some of the increase in farm capital represented new investment in the farm business, while part of it was a reflection of the higher prices for livestock and feeds at the end of the year.

All groups showed increases in nonfarm assets, especially in outside investments and household and personal assets. The increases in outside investments were due largely to bond purchases during the year. The increases in household and personal assets were mostly in the form of cash on hand or in the bank.

A substantial part of the increase in net worth was due to debt reduction. Owners reduced their indebtedness by 12.3 per cent, part owners by 8.9 per cent, and renters by 24.5 per cent during the year.

On the average, farmers in all groups were in a very favorable financial position at the end of the year. The average liabilities of owners amounted to 17.7 per cent of their total assets, of part owners, 14.7 per cent of their total assets, and of renters, only 10.2 per cent of their total assets. Liquid assets in the form of savings bonds and cash on hand and in the bank were sufficient to cover a substantial part of these debts.

Table 1. Farm Earnings in 1946

	Owners	Part owners	Renters
Number of cases	88	41	53
Sales:			
Dairy and dual-purpose cattle	$ 726	$ 651	$ 593
Dairy products	2,456	2,277	1,804
Beef cattle	2,087	2,643	843
Hogs	4,666	4,886	3,179
Sheep and wool	507	321	392
Poultry and eggs	1,815	1,593	1,771
Crops	1,446	3,012	1,025
Miscellaneous	779	840	625
Total farm sales	$14,482	$16,223	$10,236
Increase in farm capital	2,529	3,673	1,991
Family living from the farms	667	630	614
Total receipts	$17,678	$20,526	$12,841
Purchases:			
Livestock	1,789	2,263	1,222
Feed	2,437	2,420	1,693
Other livestock expense	203	178	146
Crop expense	545	802	454
Custom work hired	322	403	279
Power, machinery, and equipment bought	741	1,124	941
Power, machinery, and equipment upkeep	1,084	1,344	1,009
New buildings	766	933	73
Building upkeep	331	245	86
Hired labor	687	1,087	471
Taxes, insurance, and miscellaneous	453	411	147
Cash rent		338	531
Interest on indebtedness	288	248	74
Total purchases	$ 1,646	$11,796	$ 7,126
Board-furnished hired labor	130	135	92
Total expenses	$ 9,776	$11,931	$ 7,218
Return to capital and family labor	7,902	8,595	5,623

Table 2. Net Worth Statement

	Owners	Part owners	Renters
Acres per farm	208	289	225
Owned	208	174	.....
Rented	.....	115	225
January 1, 1946			
Total farm capital	$29,057	$28,520	$ 8,314
Accounts receivable	207	476	105
Outside investments	5,208	4,602	2,321
Household and personal assets	2,149	1,792	1,780
Total assets	$36,621	$33,390	$12,520
Real estate mortgages	6,390	4,347	74*
Chattel mortgages	958	646	687
Notes	652	994	1,072
Accounts payable	151	250	264
Total liabilities	$ 8,152	$ 6,237	$ 2,097
Net worth	$28,469	$27,153	$10,423
December 31, 1946			
Total farm capital	$31,586	30,193	10,305
Accounts receivable	255	485	261
Outside investments	5,704	5,038	2,643
Household and personal assets	2,771	2,824	2,316
Total assets	$40,316	$38,540	$15,526
Real estate mortgages	739	661	516
Notes	579	1,046	830
Accounts payable	145	236	164
Total liabilities	$ 7,149	$ 5,680	$ 1,584
Net worth	$33,167	$32,860	$13,942
Increase in net worth during year	$ 4,698	$ 5,707	$ 3,519

* A few renters owned some real estate.

High Yields—Low Costs

S. A. Engene

High crop yields are needed in order to hold down costs per bushel or ton. This is shown by the data in table 1. These data were obtained from detailed records kept by farmers in Winona and Nicollet counties. The farmers were better than average managers, and probably had lower costs than the typical farmers in their communities.

Costs differed widely among these farmers. As an average for nine years it cost 26 cents a bushel to produce oats on the most efficient farms. This was the average for the fifth of the farmers with the lowest cost per bushel. The cost was 53 cents a bushel, or twice as high, for the fifth of the farmers with the highest costs. Similar differences also held true for corn and alfalfa hay and for other crops raised on these farms.

Variations in the cost of raising and harvesting an acre accounted for only a small part of the difference in cost per bushel a ton. Farmers with the highest cost per bushel of oats actually had the lowest cost per acre. With lower yields their harvesting costs were smaller. The opposite relationship held true for corn—the farmers with the highest cost per bushel had the highest costs per acre, but the differences were not large.

Variations in yield per acre accounted for a large part of the difference in cost per bushel or ton. The farmers with the low cost per unit obtained yields approximately twice as high as the other group. This relationship also held true for the other crops raised on these farms.

What does this mean to farmers? They will want to watch the effect of their crop operations on their yields.

Table 1. Relationship of Cost and Yield per Acre to Cost per Bushel or Ton*

	Cost per acre	Yield per acre	Cost per bushel or ton
Oats			
Low cost per bushel	$13.45	50.8	$ .26
High cost per bushel	12.93	24.4	.53
Husked Corn			
Low cost per bushel	$16.17	62.6	$ .26
High cost per bushel	19.36	38.0	.51
Alfalfa Hay			
Low cost per ton	$13.17	3.4	$3.87
High cost per ton	13.33	1.5	8.88

* Source: Winona County Detailed Accounting Route, 1935-1940, and Nicollet County Detailed Accounting Route, 1941-1943.

They certainly want to hold down costs; they do not wish to waste labor, power, seed, fertilizer, or any other cost items. But if they lose more from reduced production than they save in cost it will be poor economy.

Commercial fertilizers will help to increase yields on many farms. These fertilizers, however, require cash outlays. On a large number of farms their use will be profitable; but it will be necessary to weigh the value of the increased crop against the cost.

Many of the practices that increase yields do not add materially to costs. Well-balanced crop rotations help to maintain soil fertility and preserve good soil structure. Saving all manure and applying it to the fields adds very little to costs. Well-prepared seedbeds, timely work, control of weeds, and use of good seed promote high yields. These sound farming practices, followed year after year, will give high yields, reasonable costs per acre, and low costs per bushel or ton.

Compensating Tenants

J. B. McNulty

Compensating a tenant for the unexhausted value of his contributions in capital or labor, if he does not remain on the farm until he has received the full benefit of his investment, tends to encourage the use of practices and improvements that are profitable or desirable to both landlord and tenant.

The practice of compensating tenants for unexhausted improvements and landlords for damage due to negligence or carelessness has been required by statute in England for over 50 years.

The rate of depreciation of the tenant's investments varies for different practices or improvements. This rate should be established and recorded in the lease or in a rider attached to it.

Misunderstandings are more likely to develop if the depreciation is spread over a long period. It is therefore advisable to write off the investment in a period of not over four to five years, even though the unused value may continue longer.

Some commercial fertilizers contain only nitrogen or phosphate or potash; other fertilizers, two or more of the nutrients in varying proportions. However used, all the nitrogen disappears the first year. But phosphate and potash do not. The number of years that a fertilizer containing phosphate or potash or both will be beneficial to succeeding crops depends on the quantity applied per acre and on method of application.

For most mixed fertilizers, the value of the tenant's contribution is based on his cash costs plus the estimated value of his contributions in labor, if it is agreed that these should be included. But the unused value of mixed fertilizers high in nitrogen and containing phosphate, such as 16-20-0, 11-48-0, and 13-39-0, should be based on the price equivalent of 0-20-0. Since 16-20-0 and 0-20-0 each contains 20 pounds of phosphate, their unused values would be the same. But as 11-48-0 and 13-39-0, respectively, contain 48 pounds and 39 pounds of phosphate per 100 pounds, respective values for calculating unused benefits would be 48/20 and 39/20 of the cost of 100 pounds of 0-20-0. The rates of depreciation of unused values given in table 1 apply to these and all other mixed fertilizers. Compensation for unused values starts at the end of the first cropping season after the application of the mixed fertilizer.

The rate of depreciation for ground limestone varies with the type of soil, cropping system, hardness and fineness of limestone used, and other factors. Under average conditions limestone is likely to possess unused values for about 10 years. Limestone is not effective on the first crop following the application.

It is the tenant's responsibility to provide normal maintenance for terraces. If he fails to do this he should pay the landlord for the cost of repairing the damage. In case a terrace is destroyed by a cloudburst or other act of God the landlord should share in the cost for repairing the damage.

Since the tenant usually receives higher yields and saves power when intertilled crops are planted on the contour, it is not customary for the tenant to receive additional compensation for the unused value.

High crop yields have always been associated with soils high in organic matter. For most profitable results with commercial fertilizers a high level of organic matter must be maintained. Information on the kind and on the rate of application of commercial fertilizers may be obtained from your county agent or the Soils Division of the University of Minnesota.

Table 1. Unused Values per $100 Invested in Commercial Fertilizers, Ground Limestone, Grass Seedings, Terraces, and Contours*

	End of crop year					
	1st	2nd	3rd	4th	5th	6th
Fertilizer on corn in the hill or row up to 150 lbs. per acre	$20	$ 0	$ 0	$ 0	$ 0	$ 0
Fertilizer broadcast on corn at rate of 200-300 lbs. per acre	30	0	0	0	0	0
Fertilizer on small grain or flax up to 300 lbs. per acre	60	25	15	0	0	0
Fertilizer on hay and pasture seedings at rate of 300 lbs. or more per acre	60	40	20	0	0	0
Ground limestone	100	80	60	40	20	0
Alfalfa seed	34	33	33	0	0	0
Alfalfa-brome mixtures	25	25	25	25	0	0
Set of terraces kept in good condition by tenant	20	20	20	20	20	0
Intertilled crops on contour	0	0	0	0	0	0
Ditch or tile drainage	20	20	20	20	20	0

* The information in table 1 was obtained from the Divisions of Soils and of Agronomy and Plant Genetics, University of Minnesota.

Minnesota Farm Prices For July, 1947

Prepared by W. C. Waite and H. W. Halvorson

The index number of Minnesota farm prices for July, 1947, is 268.1. This index expresses the average of the increases and decreases in farm product prices in July, 1947, over the average of July, 1935-39, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, July 15, 1947, with Comparisons*

	July 15, 1947	June 15, 1947	July 15, 1946		July 15, 1947	June 15, 1947	July 15, 1946
Wheat	$2.46	$2.38	$1.96	Hogs	$23.10	$23.50	$16.80
Corn	1.87	1.72	1.85	Cattle	19.50	19.50	15.90
Oats	.91	.89	.81	Calves	21.10	21.00	15.90
Barley	1.88	1.80	1.39	Lambs-sheep	19.50	19.07	15.39
Rye	2.72	2.87	1.85	Chickens	.228	.207	.249
Flax	5.75	5.93	3.45	Eggs	.400	.380	.324
Potatoes	1.45	1.30	1.40	Butterfat	.730	.680	.720
Hay	11.50	13.00	8.00	Milk	3.050	2.950	3.600
				Wool†	.380	.370	.450

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

† Not included in the price index number.

Minnesota farm prices rose by 3 per cent from June to July. This increase was the result of a 9 per cent increase in crop prices, a 7 per cent increase in livestock product prices, and a 1 per cent decrease in livestock prices.

A comparison of the 17 items reported on this page monthly shows that one year after most price controls were removed, chickens, milk, and wool were quoted at lower prices. Of the 14 remaining items corn, potatoes, and butterfat are less than 5 per cent higher than a year ago; oats are 12 per cent over a year ago; wheat, barley, hogs, cattle, calves, lambs-sheep, and eggs 20 to 40 per cent above a year ago; and rye, flax, and hay are more than 40 per cent higher than they were immediately after price controls were removed.

Indexes and Ratios for Minnesota Agriculture*

	July 15, 1947	July 15, 1946	July 15, 1945	Average July 1935-39
U. S. farm price index	258.4	228.5	192.9	100
Minnesota farm price index	268.1	229.8	183.1	100
Minn. crop price index	322.1	258.3	186.3	100
Minn. livestock price index	273.4	211.4	172.9	100
Minn. livestock product price index	242.2	234.5	190.6	100
U. S. purchasing power of farm products	139.8	143.5	134.0	100
Minn. purchasing power of farm products	145.1	144.3	127.2	100
Minn. farmers' share of consumers' food dollar	63.9†	60.0	66.1	47.0
U. S. hog-corn ratio	11.7	8.6	12.5	11.9
Minnesota hog-corn ratio	12.4	8.9	14.0	14.3
Minnesota beef-corn ratio	10.4	9.0	12.9	12.0
Minnesota egg-grain ratio	11.3	10.4	16.5	14.4
Minnesota butterfat-farm-grain ratio	22.5	25.6	33.9	29.8

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

† Figure for April, 1947.

Ranking Minnesota Counties

The three leading counties in Minnesota for various items of inventory in 1945 or production in 1944 are presented in table 1 along with the rank of each county among all counties in the United States. This material is made available by a report of the U. S. Census of Agriculture for 1945.

Table 1. U. S. Rank of Three Leading Minnesota Counties for Specified Census Items, 1945

	State Rank First		Second		Third	
Value of farm products sold	Polk	59	Otter Tail	66	Stearns	77
Horses and colts on farms	Otter Tail	1	Stearns	2	Todd	29
Cattle and calves	Otter Tail	14	Stearns	21	Fillmore	35
Cows milked	Otter Tail	9	Stearns	10	Wright	43
Milk produced	Stearns	21	Otter Tail	28	Wright	56
Value of dairy products sold	Stearns	67	Otter Tail	69	Wright	79
Hogs and pigs on farms	Faribault	42	Martin	47	Renville	55
Chickens on farms	Stearns	13	Otter Tail	14	Renville	20
Chickens raised	Otter Tail	46	Renville	47	Stearns	50
Chicken eggs produced	Stearns	16	Otter Tail	17	Renville	24
Turkeys raised	Kandiyohi	20	Otter Tail	22	Blue Earth	36
Corn harvested for grain, acres	Renville	35	Martin	37	Redwood	40
All wheat harvested, acres	Polk	77	*		*	
Oats threshed for grain, acres	Otter Tail	1	Stearns	2	Polk	10
Barley threshed or combined, acres	Polk	11	Marshall	36	Kittson	39
Flax harvested on farms, acres	Lyon	2	Roseau	3	Redwood	5
Soybeans grown alone	Mower	60	*		*	
All hay harvested on farms, acres	Otter Tail	7	Polk	10	Stearns	18
Alfalfa hay, acres	Otter Tail	4	Polk	28	Stearns	52
Potatoes, acres	Polk	7	Clay	18	Marshall	33
Sweet corn, acres	Faribault	5	Martin	6	Sibley	12

* Not included in first 100 counties.

County size is of considerable significance in the rank of any county. The continued reappearance of Otter Tail, Polk, and Stearns counties among the first three in Minnesota is due in part to their relatively large areas. A ranking on a per person or per acre basis would probably yield considerably different results.

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