FARM BUSINESS NOTES

Prepared by the Divisions of Agricultural Economics and Agricultural Extension
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Returns to Tenants and Landlords during the War

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The financial returns to both tenants and landlords have increased during the past four years as the result of war prices. Records from the farm management services in southern Minnesota indicate the distribution of earnings during the war period under different types of leases. These farms are larger and more productive than the average farms of the area in which they are located, and the operators are much more capable managers than the average tenants in these communities. However, the ability of the tenants is sufficiently comparable among the different types of leases to provide a satisfactory basis of comparison.

University Farm Radio Programs

HOMEMAKERS' HOUR—10:45 a.m.

UNIVERSITY FARM HOUR—12:30 p.m.

THE FRIENDLY ROAD—1:00 p.m.

Station KUOM (WLB)—770 on the dial

The number and size of farms and the distribution of investment both as to kind and between tenant and landlord is shown in table 1. The farms are classified into groups representing the three common types of leasing in southern Minnesota. Under the cash lease the tenant furnishes all the working capital and pays a fixed cash rent for the entire farm. Under the crop share-cash lease the tenant also furnishes all the working capital, pays cash rent for meadow and pasture, but gives the landlord a share of the grain crops as rent. Under the livestock share lease the tenant furnishes the work stock, power, and machinery, but shares with the landlord the ownership of the productive livestock. No cash rent is paid under this type of lease, but the landlord receives one half of the receipts from the sales of crops, livestock, and livestock products.

Table 1. Number and Size of Farms, and Investment per Acre by Types of Leases, 1940-1944

	Type of lease		
	Cash	Crop share-cash	Livestock share
Number farms	34	35	27
Acres per farm	221	257	232
Land value per acre	$ 44.29	$ 53.95	$ 50.49
Improvement value per acre	25.54	22.10	27.70
Real estate value per acre	$ 69.83	$ 76.05	$ 78.19
Nonreal estate value per acre	51.79	38.12	44.89
Total value per acre	$121.62	$114.17	$123.08
Tenant's investment per acre	51.79	38.12	27.58
Landlord's investment per acre			
Real estate	69.83	76.05	78.19
Nonreal estate			17.31
Total	$ 69.83	$ 76.05	$ 95.50

The nonreal estate capital is less in case of the crop share-cash rented farms because of the difference in type of production. The difference was largely due to the fact that since the landlord usually sold his share of the crop on the market the tenant had less feed and hence maintained less livestock than the tenants operating under the other types of leases. Twenty-two per cent of the gross cash income was from the sale of crops on the crop share-cash farms as compared with 11 per cent for the cash-rented farms and 9½ per cent for the livestock share farms. This larger proportion of crop sales was the result of the landlord's sales of his share of the crop, since the tenants on the crop share-cash farms sold about the same proportion of their share of the crops as the tenants with other types of leases.

The income and expense per acre for both tenant and landlord under each type of lease, the return for the tenant's labor and management, and the rate earned on the landlord's investment are shown in table 2. Income and expense are computed on an accrual basis. The income does not, however, reflect increases in the value of capital assets such as real estate, machinery, and breeding stock due to increased prices. Except as any of these were purchased during the period, their values are based on prices at the beginning of the period. Only market livestock and feeds were valued each year at current prices. The years covered by these records were characterized by favorable weather and good prices that resulted in a higher level of income than could be expected over a longer period of years. However, there is no indication that this gave any advantage to tenants or landlords under any particular type of lease or that it distorted the normal relationships of returns among these three lease types.

The expense of the tenant includes no charge for the use of his capital or for his labor and management. The net income is the return for the use of these factors. By deducting an assumed charge for the use of the tenant's capital, an estimate of his return for labor and management

Table 2. Tenant and Landlord's Gross Income, Expense, and Net Income per Acre, Return for Tenant's Labor and Management, and Rate of Return on Landlord's Capital by Type of Lease, 1940-1944

	Type of lease		
	Cash	Crop share-cash	Livestock share
Tenant			
Gross income	$ 56.21	$ 41.44	$ 25.38
Expense	34.57	26.49	13.54
Net income	$ 21.64	$ 14.95	$ 11.84
Interest on capital at 5 per cent	2.59	1.91	1.38
Return to labor and management	$ 19.05	$ 13.04	$ 10.46
Landlord			
Gross income	$ 4.84	$ 7.24	$ 20.24
Expense	2.04	1.65	9.70
Net income	$ 2.80	$ 5.59	$ 10.54
Rate of return on landlord's capital, per cent	4.0	7.4	11.0

is derived. The landlord's expense in case of cash-rented farms includes taxes, insurance, and depreciation and upkeep on improvements. For the crop share-cash rented farms it includes in addition some crop expense, principally for seed. The livestock-share landlords incurred these same expenses and also shared the operating expenses except labor and machinery repair on a 50-50 basis. The cash landlord's income was entirely in the form of cash rent, the crop share-cash landlords received 22 per cent of their income as cash rent and the balance in a share of the crop, and the livestock-share landlords received their entire income as a share of crop and livestock sales and accruals.[1]

The net income of tenants under the three types of leases is roughly proportional to the capital contributed and risk taken. Cash tenants have the largest amount of working capital and carry the entire price and production risk. Crop share-cash tenants also furnish the working capital but share the price and production risk with the landlord for the acreage for which the crop is divided. The livestock-share tenant furnishes only a little over half as much capital per acre as the cash tenant. He shares with the landlord the price and production risk for both crops and livestock.

The net income of landlords as shown in table 2 is not strictly comparable in that the expense items listed include only cash outlay and depreciation. The landlord with a cash lease incurs no price or production risk, contributes no working capital, and gives a minimum of supervision to the farm. The crop share-cash landlord shares in the production and price risk, usually has a part in planning the cropping system, and has to supervise the collection, marketing, and selling of his share of the crop. The livestock-share landlord received a much larger net income per acre but shared in the ownership of working capital, contributed to operating expense, carried his share of price and production risks for both crops and livestock, and spent considerable time in supervision of the farm operations. In general, the income of the landlord increased with his increased contributions to the operation and management of the farm. There is no satisfactory way to measure the landlord's management in monetary terms. However, in appraising the rates of return on the investment as shown in table 2 the differences in the landlord's contributions not included in the expenses listed and the differences in risks involved among different types of leases should be considered. The net advantages of the landlords with the higher percentage returns are not as great as these figures might suggest on superficial observation.

No particular trend of advantage for either landlord or tenant for any of these types of leases is apparent for this five-year period. The percentage of the net farm income received by the tenant is shown in table 3. The rent per acre under the cash lease increased from $4.12 in 1940 to $5.53 in 1944, but in the latter year the tenant had about the same share of the net income as in 1940. There is always a tendency for cash rent to lag behind the prices of farm products whether these prices are trending upward or downward. Apparently price changes during this five-year period have not greatly disturbed the relative equity of the different leases used on these farms.

[1] Livestock-share landlords received 50 per cent of the gross income except in case of poultry. On some farms the tenant received all the income from poultry. This accounts for the fact that the share of the gross income received by livestock share tenants slightly exceeded 50 per cent (see table 3).

Table 3. Percentage of Net Farm Income Received by Tenant under Different Types of Leases, 1940-1944

	Type of lease		
Year	Cash	Crop share-cash	Livestock share
1940	85.3	73.7	55.9
1941	88.7	73.8	52.2
1942	90.7	76.8	52.9
1943	90.8	70.9	50.6
1944	84.6	67.4	54.6
Average	88.0	72.5	53.1

Creamery Cost Changes During the War

E. Fred Koller

Comparison of the 1940 and 1944 operating statements of 75 identical Minnesota cooperative creameries shows that creamery operating costs have increased by approximately 30 per cent during the war. As shown in table 1 the average cost per pound of butter manufactured by this group of plants rose from 2.426 cents in 1940 to 3.133 cents in 1944. Another indication of the rise in costs is that only one of these plants had costs in excess of 4 cents a pound in 1940, while in 1944 the costs of 12 plants exceeded this level.

Analysis of the component cost items indicates that the largest increase occurred in plant labor and management outlays which rose approximately 48 per cent. Some of this increase has resulted from higher wage rates. Experienced creamery helpers who were receiving $125 a month four years ago are now averaging $175. Salaries of creamery operators also have increased as the scarcity and turnover of well-qualified men has risen. Labor costs have also tended to rise because of the additional work involved as plants have shifted from the cream to the whole milk basis of operation.

Manufacturing expense items including packing and general supplies, fuel, power, taxes, insurance, repairs, and

Table 1. Operating Costs of 75 Minnesota Creameries, 1940 and 1944

	Cents per pound of butter made*		Increase or decrease, per cent
	1940	1944	
Labor and management expense	0.808	1.193	+47.6
Manufacturing expense	1.288	1.511	+17.3
General and administrative expense	.312	.414	+32.7
Interest on loans	.018	.015	−16.7
Total operating costs	2.426	3.133	+29.1

* In calculating per unit costs, the pounds of butter made were adjusted to include the amount of butter which could have been made from butterfat sold as fluid cream.

depreciation have increased about 17 per cent on the average. Some of these costs being relatively fixed have risen slowly, others have been held in check by price ceilings.

The comparison of creamery costs has been affected by the shift of 25 of this group of plants to the whole milk basis between 1940 and 1944. The average costs of these 25 plants rose from 2.519 cents in 1940 to 3.286 cents in 1944. The costs of the 50 plants which remained on the cream basis rose from 2.371 to 3.024 cents in the same period. While the unit cost of plants which shifted to milk showed a larger increase than those of cream plants, it was not as large as might be expected. Total expenditures of the milk plants increased about 50 per cent in this period as compared to 21 per cent in the cream plants. On a pound basis, the difference is small because the average volume of output of the milk plants increased by 15 per cent during the period while that of the 50 cream plants declined by 5 per cent. Thus, the milk plants were able to offset much of the additional cost of handling skim milk by the advantage from the additional volume of business gained.

The rise in creamery costs during the war poses a difficult problem for the postwar period. Costs are difficult to reduce and are likely to lag behind the decline of prices which may occur after the war. Among the more effective measures to effect reductions in these costs will be by further enlarging of the volume of business of each creamery to make more effective use of personnel and facilities, by rearranging plant equipment and work procedures to save time and motion, and by installing the type of equipment which will increase the efficiency of operation.

Investment in Farm Capital in Martin County by Size of Farm

AUSTIN A. DOWELL

For a given type of farming, the total capital invested in a farm increases with the size of the farm. The investment per acre, at least in the better farming areas, however, tends to decrease as the size increases.

The figures on investment per acre in Martin County, Minnesota, as shown in column 1 of table 1, are adapted from the 1940 Census. This census shows the investment in land and buildings combined and in implements and machinery by size of farm. The investment in buildings and in livestock, however, is not reported by size of farm. It is assumed that the difference between the estimated value of land and buildings combined and of buildings alone for Martin County represents the value of farm land and that the 80, 160, and 320 acre farms are uniformly distributed over the county so that the value of the land per acre averages the same for each size of farm. The building investment is assumed to be the difference between the investment in land and buildings combined for each size group and the county average value of land alone. It is probable that the investment per acre in livestock in this county is greater for small than for large farms, but in the absence of specific data, county average figures were used for each size of farm.

The estimated combined investment per acre in 1940 in land, buildings, implements and machinery, and livestock declined from $115 for 80-acre farms to $108 for 160-acre farms, and to $101 for 320-acre farms. This was due to a decline in the per acre investment both in buildings and in implements and machinery. The per acre investment in buildings declined about 38 per cent and in implements and machinery about 25 per cent as the size of farm increased from 80 to 320 acres.

The 1940 investment per farm in land, buildings, implements and machinery, and livestock for each size group is shown in the second column of the table. Investment in buildings, implements, and machinery increased sharply with increased farm size but not in direct proportion owing to the decline in the per acre investment in these items.

The estimated total investment in the kinds of farm property included in the table for 80-acre farms increased from about $9,200 in 1940 to about $12,900 in 1945. For 160-acre farms the estimated increase during this five-year period was from about $17,300 to about $24,300, and for 320-acre farms from about $32,200 to $45,300. These figures understate total farm capital requirements, for they do not include feed, other supplies, and operating capital.

Table 1. Investment per Acre and per Farm in Different Kinds of Farm Property in Martin County, by Size of Farm, 1940 and 1945

Size of farm	Kind of property	Investment		
		1940		1945
		Per acre	Per farm	Per farm
Acres				
80	Land	$ 64.00*	$ 5,120	.....
	Buildings	30.47	2,438	.....
	Land and buildings	$ 94.47	$ 7,558	$10,203†
	Implements and machinery	10.36	829	1,243†
	Livestock	9.87*	789	1,421†
	Total	$114.70	$ 9,176	$12,867
160	Land	$ 64.00*	$10,240	.....
	Buildings	25.21	4,034	.....
	Land and buildings	$ 89.21	$14,274	$19,269†
	Implements and machinery	9.23	1,477	2,215†
	Livestock	9.87*	1,579	2,843†
	Total	$108.31	$17,330	$24,327
320	Land	$ 64.00*	$20,480	.....
	Buildings	18.94	6,061	.....
	Land and buildings	$ 82.94	$26,541	$35,830†
	Implements and machinery	7.81	2,499	3,749†
	Livestock	9.87*	3,158	5,685†
	Total	$100.62	$32,198	$45,264

* County average.
† Estimated on the basis of available data.

Minnesota Farm Prices for July, 1945

Prepared by W. C. WAITE and R. W. Cox

The index number of Minnesota farm prices for July, 1945, is 183.1. This index expresses the average of the increases and decreases in farm product prices in July, 1945, 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, 1945, with Comparisons*

	July 15, 1945	June 15, 1945	July 15, 1944		July 15, 1945	June 15, 1945	July 15, 1944
Wheat	$1.54	$1.54	$1.45	Hogs	$14.00	$14.10	$12.70
Corn	1.00	.98	1.02	Cattle	12.90	13.00	12.00
Oats	.62	.62	.72	Calves	13.80	13.90	13.40
Barley	1.02	.99	1.13	Lambs-Sheep	13.03	12.80	12.35
Rye	1.32	1.30	1.03	Chickens	.25	.24	.21
Flax	2.91	2.91	2.85	Eggs	.35	.33	.30
Potatoes	2.00	1.80	1.10	Butterfat	.53	.53	.53
Hay	8.90	9.70	8.60	Milk	2.65	2.60	2.70
				Wool†	.45	.43	.44

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

† Not included in the price index number.

With the exception of potatoes and hay, there were no marked changes in the price of the principal Minnesota farm products from June to July. The drop in hay price represents a seasonal change. The Minnesota farm price index in July is 8.3 points higher than one year ago and is the highest July index since 1920. Of the various commodity group indexes, the livestock price index shows the largest advance over last year, increasing almost 14 points. The livestock product price index is up 6.7 points but the crop price index is only slightly higher.

All of the feed ratios show an increase over July, 1944 as a result of lower prices of feed grains and higher prices received for livestock and eggs. The producers of butterfat received a feed payment of 13 cents per pound in July. If this amount is added to the reported price of this product, the butterfat-farm-grain ratio would be raised to 33.9.

Indexes and Ratios for Minnesota Agriculture*

	July 15, 1945	July 15, 1944	July 15, 1943	Average July 1935-39
U. S. farm price index	192.9	179.8	180.7	100
Minnesota farm price index	183.1	174.8	171.8	100
Minn. crop price index	186.3	185.9	160.8	100
Minn. livestock price index	172.9	159.3	163.5	100
Minn. livestock product price index	190.6	183.9	183.3	100
U. S. purchasing power of farm products	134.0	127.7	133.6	100
Minn purchasing power of farm products	127.2	124.1	127.1	100
Minn. farmers' share of consumers' food dollar	66.6†	61.3	62.8	47.0
U. S. hog-corn ratio	12.5	10.9	12.2	11.9
Minnesota hog-corn ratio	14.0	12.5	13.8	14.3
Minnesota beef-corn ratio	12.9	11.8	13.2	12.0
Minnesota egg-grain ratio	16.5	14.1	18.2	14.4
Minnesota butterfat-farm-grain ratio	27.2	24.4	27.6	29.8

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

† Figure for May, 1945.

Minnesota Potato Shipments

Minnesota potatoes, both table and seed stock, are shipped to many states. This is shown by data obtained from the War Food Administration for the Red River Valley. During the period February 15 to April 15, 1945, this organization maintained a record of each shipment of potatoes from the area. Shipments from Minnesota stations to the various states for the period are given in table 1.

Table 1. Shipments of Potatoes from Minnesota Stations in the Red River Valley, February 15-April 15, 1945*

Destination	All shipments	Table stock	Seed	
			Certified	War approved
	cars	cars	cars	cars
All states	2,415	642	1,032	741
Minn.	516	213	216	87
Ia., Mo., Kan., Neb.	726	130	305	291
N.D., S.D.	51	8	18	25
Ill., Ind., Ohio	685	195	269	221
Mich., Wis.	50	15	22	13
Ky., Tenn.	111	16	64	31
La., Miss., Ala., Ga., N.C.	25	9	9	7
Ark., Tex., Okla., N.M., Ariz.	159	38	70	51
Oreg., Ida., Wash., Colo., Wyo., Mont.	70	18	40	12
Va., N.Y., W.Va., Me.	22	.....	19	3

* Includes truck shipments reduced to a carlot basis. Most of the truck shipments were table stock and destined for Minnesota localities.

The group of states to the south of Minnesota forming a tier extending from Nebraska to Ohio was the heaviest receiver of both the table and seed potatoes shipped from Minnesota stations. This group received a total of 1,411 cars or almost three fifths of the total shipments during the period. A large number of cars was also shipped to Kentucky, Tennessee, and the Southwest. The distribution of seed potatoes is more extensive than that of table stock.

Minnesota war approved seed is a recent designation. Potatoes so classified are allowed a 50 cent premium per 100 pounds over ceiling prices for table potatoes f.o.b. farm, as compared with a premium of $1.00 per 100 pounds for certified seed. The common opinion is that many cars of potatoes purchased originally as war approved seed were sold later for table use.

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