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FARM BUSINESS NOTES

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

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Minnesota Farm Income

WARREN C. WAITE

This year brought to a close the magnificent war effort of Minnesota agriculture. Production was at a high level, prices were generally at their wartime peaks, and cash income from sales was consequently large. The gross cash income from the sales of the 19 principal agricultural products of the state appears to have been somewhat larger than the sales in 1944 and only slightly below the all-time peak of 1943. The income from sales in the last three years has been at a level more than two and one half times the average of the prewar years 1935-39. Total sales of livestock and livestock products this year approximated those of a year ago and total crop sales appear to have been larger. The index of Minnesota farm prices was higher than a year ago.

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

Estimates of the gross cash income from the sales of the 19 principal agricultural products of the state are given for a period of years in table 1 for purposes of comparison. These estimates have also been expressed as relatives, with the average of the five-year period 1935-39 taken as 100. The included commodities are wheat, corn, oats, barley, rye, flax, potatoes, hay, hogs, cattle, calves, lambs-sheep, butterfat, milk, farm butter, chickens, eggs, and turkeys. A number of the less important commodities are not included, but the sales of the included commodities constitute over 90 per cent of the sales by Minnesota farmers and are in consequence adequate for showing changes between years.

Table 1. Gross Cash Income from the Sale of the 19 Principal Minnesota Agricultural Products, 1930-1945

Year	Million dollars	Relative to 1935-39 average	Year	Million dollars	Relative to 1935-39 average
1930	345	111	1938	310	100
1931	247	79	1939	312	100
1932	167	54	1940	361	116
1933	190	61	1941	468	151
1934	213	68	1942	660	212
1935	259	83	1943	826	266
1936	332	107	1944	749	241
1937	341	110	1945	775*	250*

* Preliminary.

The principal changes in the agriculture of the state during the war were the enormous increases in the production and sales of livestock and their products. Table 2 shows indexes of the physical volumes of sales, with the average of the prewar years 1935-39 taken as 100. In 1943 sales of hogs were 2⅕ times their 1935-39 average. In 1945 sales of cattle and calves were nearly 50 per cent larger than, eggs 2½ times as great as, and milk more than 3 times the quantities sold in 1935-39. The only decline was that of butterfat, and this occurred because of the shift in farm sales from farm-separated cream to fluid milk. The volume of physical sales of livestock and their products was thus running 50 per cent larger at the close of the war than at its beginning.

Table 2. Index of Physical Volume of Sales of Selected Minnesota Agricultural Products, 1940-45

Year	Hogs	Cattle, calves	Chickens	Eggs	Milk	Butterfat
Avg. 1935-39	100	100	100	100	100	100
1940	164	113	115	138	112	106
1941	150	128	104	153	147	110
1942	170	135	136	201	185	108
1943	221	130	203	254	216	99
1944	194	135	172	271	295	79
1945	155*	148*	155*	266*	341*	76*

* Preliminary.

The returns in millions of dollars from the sales of the various sorts of livestock and their products are shown in table 3. The usual prewar pattern of sales for the commodities when arranged in order of magnitude was for butterfat and milk combined to exceed hog sales, and these in turn to be followed by the sales of cattle and calves. In the years 1942-44, hogs became the most important single source of income on Minnesota farms, and in 1943 and 1944 produced over 200 million dollars in income from sales. The other remarkable change among the livestock products has been the great growth of poultry and eggs as a source of income in the state. Since 1943 they have been third in importance, displacing cattle and calves which have dropped to fourth place.

Table 3. Income from the Sales of Specified Minnesota Agricultural Products, 1940-45

Year	Butterfat, milk	Hogs	Cattle, calves	Chickens, eggs
		(Million dollars)		
Avg. 1935-39	86	66	53	29
1940	91	69	66	31
1941	115	109	85	46
1942	142	178	107	78
1943	173	244	108	130
1944	177	207	106	117
1945	184*	175*	110*	120*

* Preliminary.

The total acreage in crops did not change materially during the war. There was an increase in the acreage of feed crops and a decline in the acreage of cash crops. The shifts among the individual crops were, however, quite large during the period. The largest increases in acreage in 1945 over the 1935-39 average acreage were those of 1.4 million acres in corn and 1.2 million acres of oats. On the other hand, the largest decline in acreage was that of 1.6 million acres in barley, which decline changed it from one of the principal crops of the state to a minor crop. Wheat acreage declined by 0.9 million acres, rye by 0.4 million acres, and potatoes by 0.1 million acres. Flax increased by 0.5 million acres and soybeans, which before the war had a very small acreage, reached nearly 0.4 million acres in 1945. The shifts in crop acreage were thus in the general direction of enabling farmers to support the increased livestock production occurring during the war.

Some indications of the factors underlying these increases are provided by the indexes shown in table 4. The crop yield index includes the seven crops of corn, oats, barley, rye, flax, wheat, and potatoes. It indicates that the state has been favored by a series of unusual crop years during the war, with the years 1940, 1942, and 1945 especially outstanding. The oat crop this year was the largest ever harvested in Minnesota, and the corn crop among the largest. Much of this corn, however, is soft, and the feeding value of the crop is considerably less than is indicated by its bushel size. This must be kept in mind in comparing the indexes with other years. The index of the production of feed grains is the combined tonnage output of corn, oats, and barley. It tends to follow, although not exactly, the index of yields, and represents the relative supply of concentrates from the new crop. The index of the carry-over of feeds is the relative tonnage of corn, oats, and barley on farms from the old crop. Farm stocks toward the close of 1940 and 1941 were more than twice the average of the 1935-39 period, but before the harvest of 1944 were smaller than in the prewar years. At the end of 1945 they were again above prewar levels. Total feed supplies, because of the character of the corn crop, are, however, probably no more than adequate to support the present level of livestock production during the coming year. Livestock numbers, expressed in terms of animal units, increased rapidly during the early war period, and on January 1944 reached a peak where they were 165 per cent of the prewar average. Livestock numbers were reduced during 1944 but began increasing in 1945, and the January 1946 index will undoubtedly show an increased farm inventory.

Table 4. Indexes of Crops and Animal Units on Farms in Minnesota, 1939-45

Year	Index of crop yield	Index of carry-over of feeds	Index of production of feed grains	Animal units January 1
1935-39	100	100	100	100
1939	116	176	123	93
1940	123	263	116	127
1941	108	221	106	122
1942	129	156	126	137
1943	110	135	113	156
1944	110	88	126	165
1945	124	119	131	138

Minnesota agriculture ends the war with a considerably higher level of production than at the beginning, with the largest increase in the production of livestock and livestock products. The prospects are good for a continuation of production at a high level. The livestock and livestock products upon which Minnesota agriculture depends for the bulk of its income are the kinds of products for which the demand changes greatly as consumer incomes fluctuate. Their price levels during the coming year will thus depend a great deal upon the level of business activity and employment in the United States. With the announced levels of price supports and close to the present levels of production, it does not appear probable that cash income from sales could drop below 650 million dollars during the next two years.

Financial Structure of Minnesota Agriculture

R. W. Cox

The agricultural economy of Minnesota consists of thousands of farms or business units in which the individual assets, or items of wealth, and the liabilities, or debt, can be identified and segregated. When the assets, liabilities, and proprietors' equities of individual farms in Minnesota are summarized, the result is a balance sheet which provides a picture of the financial structure of the agricultural economy as a whole. Such a balance sheet has been prepared for Minnesota agriculture as of January 1 for the years 1935-1945 (table 1). The primary contribution of the summary represented by a balance sheet is that it segregates the items of wealth in use or available for use in agriculture and shows the financial obligations and equity arising from the ownership of wealth. In addition, successive balance sheets portray the changes in assets, liabilities, and equity occurring over a period of years and facilitate an analysis of the amount and utilization of farm income.

During World War I and the immediate postwar period, agriculture experienced a boom which was accompanied by much speculative activity in land and inflation in commodity prices. Although the debt rose rapidly, agriculture was in a fairly liquid condition until the early 1920's, when the large accumulation of debt and reduced prices brought about financial difficulties. The latter persisted for many years, and became greatly intensified in the 1930's, when the financial structure of agriculture was characterized by devaluation of assets, a low level of liquidity, and a decline in the farmers' equity.

During the war period recently ended, Minnesota agriculture has again experienced circumstances which have given rise to a marked improvement in the financial status

Table 1. Comparative Balance Sheet of Minnesota Agriculture, January 1, 1939-1945

	Average 1935-39	1939	1940	1941	1942	1943	1944	1945
	1,000,000 dollars							
Assets								
Physical								
Real estate	1,434	1,441	1,443	1,443	1,510	1,678	1,846	2,000
Nonreal estate*	494	548	593	615	789	1,015	1,023	1,028
Total physical	1,928	1,989	2,036	2,058	2,299	2,693	2,869	3,028
Financial								
Deposits and currency†	134	140	149	160	182	233	294	340
Bonds	3	6	10	16	25	55	116	190
Other investments	26	27	29	32	34	38	45	47
Total financial	163	173	188	208	241	326	455	577
Total assets	2,091	2,162	2,224	2,266	2,540	3,019	3,324	3,605
Liabilities								
Real estate mortgages	388	376	376	384	396	386	365	355
Nonreal estate debt†	98	123	146	183	187	160	134	139
Total liabilities	486	499	522	567	583	546	499	494
Proprietors' equity	1,605	1,663	1,702	1,699	1,957	2,473	2,825	3,111
Total liabilities and proprietors' equity	2,091	2,162	2,224	2,266	2,540	3,019	3,324	3,605

* Includes inventory of crops, livestock, machinery, and motor vehicles.

† Some of the data on deposits and short-term debt obtained from Division of Agricultural Finance, Bureau of Agricultural Economics.

of farmers. The most significant indications of this improvement are the increase in the financial assets, including farmer-owned bank deposits, currency, U. S. bonds, and other investments, and the decline in debt. The financial assets more than doubled from January 1, 1942, to January 1, 1945, and the combined real estate mortgage debt and the nonreal estate obligations declined 15 per cent. The increase in financial assets and the decline in debt accounted for about 37 per cent of the increase of 1,154 million dollars in the proprietors' equity during the three-year period. While the rise in the valuation of farm real estate was 32 per cent, accounting for more than two fifths of the change in equity, the increase was the result of higher prices of land. The additional valuation of 30 per cent in nonreal estate physical assets was due to both larger inventories and higher prices of the individual items, although the larger proportion of the increase resulted from a change in prices. The increase in the valuation of these assets, which are of a more liquid nature compared with land, was responsible for 21 per cent of the change in the proprietors' equity. Although data are not available for indicating the probable balance sheet on January 1, 1946, prospects are that the over-all financial situation of Minnesota agriculture will be as good if not better than at the beginning of this year.

The evidence indicates that the high cash income of the past few years has been utilized in building up reserves and in the retirement of debt. In consequence, Minnesota agriculture is in a very liquid condition at present and is in a position to make postwar adjustments without the financial difficulties encountered in the period following World War I. A reversal of the favorable outlook can easily take place if farmers incur heavy debts in the purchase of land at inflated values.

Tenant's and Landlord's Investment Under a Livestock Share Lease

TRUMAN R. NODLAND

According to the 1940 census, one third of the farms in Minnesota are operated by tenants. Approximately one out of every seven rented farms is operated under a livestock share lease. Records of the farm management services in southern Minnesota indicate the distribution of the operator's and landlord's investment under this type of lease. The records cover an average of 27 farms during the five-year period 1940-1944.

The average investment per farm on January 1 and the amount and proportion contributed by the operator and owner are shown in the accompanying table. With the exception of poultry most of the investment in productive livestock was shared equally between tenant and landlord. The average investment in cattle per farm amounted to $2,553, hogs $1,325, sheep $360, and poultry $134. Occasionally the landlord owned more than one half of the dairy cattle and sheep. On the other hand, 75 per cent of the poultry was owned by the operator. Poultry is largely a family enterprise, so many landlords allowed the tenant to keep a small flock without contributing to the investment or expecting to receive a portion of the income derived from that enterprise. Feed and seed were owned jointly, except commercial poultry feeds on farms where the tenant owned the poultry.

The average investment in power, machinery, and equipment per farm was $2,858. A large portion of this was owned by the tenant. Under the ordinary livestock share leasing arrangement the tenant contributes all the power and the crop and general machinery. The investment in livestock equipment is owned jointly. Actually the landlord may leave some machinery on the farm and own less than 50 per cent of the livestock equipment. On these farms the landlord contributed 18 per cent of the investment in livestock equipment.

The landlord furnished buildings and land amounting to $18,185 per farm. The total investment per farm, including nonreal estate capital, was $28,197; the operator furnished 21.6 per cent or $6,096, and the landlord furnished 78.4 per cent or $22,101. In other words, the tenant contributed approximately $1 out of every $5 invested in the farm business. This suggests that the livestock share may be especially advantageous to tenants with a limited amount of capital.

Tenant's and Landlord's Investment Under a Livestock Share Lease, January 1 Averages for 27 Southern Minnesota Farms, 1940-1944

	Total farm investment	Operator's share		Landlord's share	
		Amount	Per cent	Amount	Per cent
Livestock	$ 4,372	$2,176	49.8	$ 2,196	50.2
Seed and feed	2,782	1,409	50.6	1,373	49.4
Power	1,267	1,140	90.0	127	10.0
Machinery and equipment	1,591	1,371	86.2	220	13.8
Real estate improvements	6,429			6,429	100.0
Land	11,756			11,756	100.0
Total	$28,197	$6,096	21.6	$22,101	78.4

Minnesota Farm Prices For November, 1945

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

The index number of Minnesota farm prices for November, 1945, is 172. This index expresses the average of the increases and decreases in farm product prices in November, 1945, over the average of November, 1935-39, weighted according to their relative importance.

Average Farm Prices Used in Computing the Minnesota Farm Price Index, November 1945, with Comparisons*

	Nov. 15, 1945	Oct. 15, 1945	Nov. 15, 1944		Nov. 15, 1945	Oct. 15, 1945	Nov. 15, 1944
Wheat	$1.55	$1.54	$1.44	Hogs	$14.00	$14.00	$13.50
Corn	.98	1.02	.91	Cattle	9.00	10.50	11.00
Oats	.64	.57	.57	Calves	13.00	13.10	12.80
Barley	1.08	1.06	.92	Lambs-Sheep	12.07	12.24	11.46
Rye	1.65	1.45	1.00	Chickens	.21	.20	.21
Flax	2.91	2.91	2.91	Eggs	.40	.35	.37
Potatoes	.95	.95	1.25	Butterfat	.53	.53	.53
Hay	7.60	7.20	10.50	Milk	2.80	2.80	2.80
				Wool†	.46	.48	.41

* These are the average prices for Minnesota as reported by the United States Department of Agriculture.
† Not included in the price index number.

There were no marked changes in Minnesota farm prices of crops from October to November with the exception of the 20 cent advance in the price of rye. The most significant change in livestock prices was the decline of $1.50 per hundredweight of cattle. Egg prices declined 5 cents per dozen but prices of other livestock products remained at their October levels. The Minnesota farm price index is about the same as one year ago, but the crop price index is 12.2 points higher and the livestock price index, 3.8 points lower. The change in the crop price index is due to higher prices received for cereals and the decline in the livestock price index is primarily the result of lower cattle prices.

Among the Minnesota feed ratios, the beef-corn ratio shows the largest change, reflecting the lower prices received for cattle and the higher prices of corn.

Indexes and Ratios for Minnesota Agriculture*

	Nov. 15, 1945	Nov. 15, 1944	Nov. 15, 1943	Average Nov. 1935-39
U. S. farm price index	192.7	184.2	182.3	100
Minnesota farm price index	172.4	172.2	170.0	100
Minn. crop price index	200.4	187.2	188.3	100
Minn. livestock price index	166.8	170.6	165.3	100
Minn. livestock product price index	165.4	166.5	167.3	100
U. S. purchasing power of farm products	131.3	129.0	132.2	100
Minn. purchasing power of farm products	117.4	120.6	123.3	100
Minn. farmers' share of consumers' food dollar	62.9†	61.7	62.1	47.1
U. S. hog-corn ratio	12.8	12.7	12.3	14.4
Minnesota hog-corn ratio	14.3	14.8	13.7	17.3
Minnesota beef-corn ratio	9.2	12.1	12.4	15.1
Minnesota egg-grain ratio	18.6	18.6	20.5	24.6
Minnesota butterfat-farm-grain ratio‡	35.0	35.4	28.0	39.7

* Explanation of the computation of these data may be had upon request.
† Figure for September, 1945.
‡ Includes an allowance for dairy production payments.

Marketing Subsidies

Government subsidies or payments to marketing agencies cover a substantial portion of the total payments received by these agencies in moving farm products from farmers to consumers. Until these payments were introduced in 1942 the marketing charges were identical with the marketing margins, or the spread between the retail price paid by consumers and payments to farmers for equivalent produce. However, since their introduction, the charges of marketing agencies have been covered by the farm-retail price spread plus the amount of government payments. In September 1945 these payments represented the following proportions of the total marketing charges for various products: beef, 41 per cent; pork, 29 per cent; butter, 39 per cent; cheese, 24 per cent; fluid milk, 14 per cent; and flour, 11 per cent. For the first eight months in 1945, government payments to marketing agencies averaged $16 on quantities of food contained in a market basket for a family of three, or 7 per cent of the total charges.

The farm-retail price relationship is determined by the marketing margin. When government payments to marketing agencies are removed, the maintenance of marketing charges at prevailing levels will require a compensating expansion of the farm-retail price spread, which in turn will mean higher retail prices or lower prices paid farmers. The extent to which subsidy offsets are passed on to consumers will depend on the strength of consumer demand, the civilian supply situation, and policies related to retail price ceilings. The butter subsidy of 5 cents per pound to processors ended November 1. The ceiling price of butter was relaxed sufficiently to permit an offsetting increase in farm-retail margins. The slaughter subsidy paid to meat packers of 95 cents per hundredweight of lambs and sheep was terminated in August. Most of the increase in the marketing margin was passed back to the farmer, although the latter was more than compensated by direct government payments.

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