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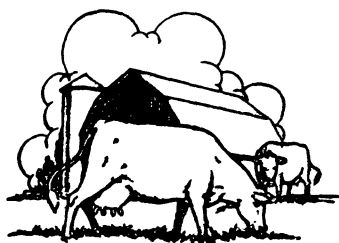
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# MINNESOTA farm business NOTES



NO. 384

ST. PAUL CAMPUS, UNIVERSITY OF MINNESOTA

JUNE 24, 1957

## Analyzing FHA Farm Ownership Loans in Minnesota

Reynold Dahl and Peter Helmberger

The farm ownership loan program of the Farmers Home Administration has now been in existence for about 20 years. This may be an appropriate time to analyze its scope and effectiveness.

What are the characteristics of these loans? On what size farms are the loans made? What is the income of borrowers relative to their debts? These are some of the questions which prompted a study by the Department of Agricultural Economics of Farmers Home Administration loans in the state.

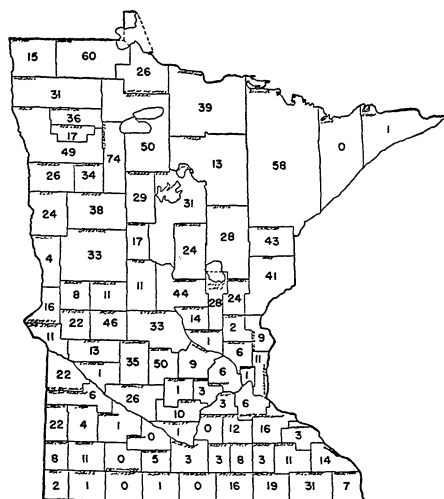
The Bankhead-Jones Farm Tenant Act was passed by Congress in 1937. It authorized government funds for loans to tenant farmers, croppers, and farm laborers for purchasing farms.

Changes in 1946 authorized loans to farm owners for farm enlargement or improvement, gave preference to veterans, and authorized a mortgage insurance system to attract private capital. In 1956, provision was made for loans to farm owners for debt refinancing.

FHA farm ownership loans are secured by real estate mortgages on farms and are made for a repayment period of 40 years with interest at 4½ percent. A unique feature is that a direct loan can be made for 100 percent of the appraised value of the farm. For insured loans, however, the borrower must have a down payment of 10 percent. Loans for the purchase or enlargement of a farm cannot exceed the average value of a family farm in the county.

These loans are supervised. That is, they are based on farm and home plans and the borrowers are required to keep records of income and expenses. Borrower eligibility is determined by a county committee consisting of three local people, at least two of whom are farmers. An important requirement for eligibility is inability to obtain adequate financing from private sources.

The Farmers Home Administration held only 2 percent of the Minnesota



Number of FHA Farm Ownership loans by counties, March 31, 1955.

farm mortgage debt on January 1, 1956. In the fiscal years 1948 through 1955 the amount of FHA farm ownership loans made in Minnesota has ranged from a high of \$1,852,126 in the fiscal year 1951 to \$453,280 in the fiscal year 1952. In the year ending June 30, 1955, 103 of these loans were made in the state totaling \$1,005,541.

A total of 1,532 farm ownership loans were outstanding in Minnesota on March 31, 1955. As shown in the figure,

**Table 1. Average Income and Expenses, 181 FHA Farm Ownership Loan Borrowers, for the Year Ending December 31, 1955\***

Cash farm income .....	\$5,936
Cash farm operating expense .....	3,806
Net cash farm income .....	2,130
Nonfarm income .....	883
Net cash income .....	3,013
Family living expense .....	1,674
Amount available for debt retirement and capital expenditures .....	1,339

\* Counties surveyed and number of borrowers are Becker 35, Clay 22, Kanabec 24, Mower 17, Murray 12, Olmsted 10, Pope 46, Renville 12, Winona 11. Income data of 8 borrowers were not available.

these loans tend to be more numerous in areas of lower land values than in better agricultural areas.

As a part of this study, an analysis was made of 189 farm ownership loans in nine Minnesota counties representing different types of farming. In 1955 the average cash farm income of these borrowers was \$5,936 (table 1). Cash farm operating expenses (excluding capital purchases) averaged \$3,806, leaving a net cash farm income of \$2,130. This figure is important because it shows the return of the farm business to the farm family.

Family living expenses of these borrowers averaged \$1,674. Subtracting this from net cash farm income leaves \$456 available for debt repayment and capital expenditures. This amount barely covers depreciation on \$4,000 investment in machinery and equipment on these farms. Thus, the average farm operation returned nothing for debt retirement. Nonfarm income of these borrowers, however, was substantial—averaging \$883. This then was roughly the average amount available for debt retirement.

Looking at individual borrowers, 13 percent of them had a net cash farm income of less than \$500, and about one-fourth had less than \$1,000. In these cases the farm did not cover even the cash family living expense. On the other hand, the top one-fourth of these borrowers had a net cash farm income of \$3,000 or more. Seven of the 189 had more than \$6,000.

Size of farm as measured by acres operated has an important bearing on farm earnings. Analysis of farm records in the Department of Agricultural Economics shows that the amount of land operated is the largest single factor accounting for variations in farm earnings.

As shown in table 2, more than one-fourth of these borrowers farmed less than 100 crop acres. Slightly less than one-third had between 100 and 140

(Continued on page 3)

# FARM PRODUCTION EXPENDITURES

R. W. Cox, R. A. Bodin  
and R. J. Schrimper<sup>1</sup>

Early in 1956, a survey was made of a representative group of Minnesota farmers to determine their production and living expenses in 1955.

The data on production expenditures will serve in part to provide a base for determining the net farm income and also as a base for determining the index of prices paid by Minnesota farmers. The index of prices paid on the national level is not adaptable for determining the parity ratio for Minnesota agriculture. (The parity ratio is the index of prices received divided by the index of prices paid.)

This survey was a joint project of the Department of Agricultural Economics, University of Minnesota; and the Crop and Livestock Reporting Service of the Minnesota and U. S. Departments of Agriculture.<sup>2</sup> The Bureau of the Census, U.S. Department of Commerce, assisted in the design of the sample and the analysis of survey data.

<sup>1</sup> R. A. Bodin and R. J. Schrimper are with the State-Federal Crop and Livestock Reporting Service, St. Paul, Minnesota.

<sup>2</sup> R. J. Schrimper and S. B. Cleland supervised the training of the enumerators and the conduct of the survey.

The data on cash production expenditures obtained from the survey have been expanded, and preliminary estimates for Minnesota farmers as a whole and by economic classes are given in table 1. It is recognized that these estimates are subject to some error because they are based on a sample of farmers. They, however, probably approach a higher degree of accuracy than previous estimates, particularly for those items which are not included in the periodic U. S. Census enumerations.

The economic classes are identified by the value of farm products sold in accordance with the following:

Class	Value of products sold
I .....	\$25,000 or more
II .....	10,000 to 24,999
III .....	5,000 to 9,999
IV .....	2,500 to 4,999
V .....	1,200 to 2,499
VI .....	250 to 1,199

Farms with a value of sales of farm products amounting to \$1,200 or more are classified as commercial. Farms with a value of sales of \$250 to \$1,199 are classified as commercial only if the farm operator worked off the farm less than 100 days or if the income of the

## MINNESOTA farm business NOTES

Prepared by the Department of Agricultural Economics and Agricultural Extension Service.

Published by the University of Minnesota Agricultural Extension Service, Institute of Agriculture, St. Paul 1, Minnesota.

farm operator and members of his family received from nonfarm sources is less than the total value of all farm products sold. The first five groupings, I-V include commercial farms exclusively, while the last grouping includes both commercial and noncommercial farms.

Expenditures of farm operators for production items averaged \$6,052 in 1955. The largest expenditure was for feed purchased which averaged \$1,112 or 18 percent of the total. The second largest expenditure was for the purchase of motor vehicles, machinery, and equipment. The third largest was for the purchase of livestock and poultry.

The mechanization of today's agriculture is well reflected in the comparatively low expenditure for hired labor and the relatively high expenditures for motor vehicles, machinery, equipment, petroleum products, repair and operating costs of motor vehicles

Table 1. Cash Expenditures for Production Items by Minnesota Farmers, 1955

Items	Expenditures											
	All farms			Class I and II			Class III, IV, and V			Class VI†		
	Total	Per farm	percent of total	Total	Per farm	percent of total	Total	Per farm	percent of total	Total	Per farm	percent of total
	million dollars	dollars	percent	million dollars	dollars	percent	million dollars	dollars	percent	million dollars	dollars	percent
Total .....	985	6,052	100.0	405	15,334	100.0	511	4,676	100.0	69	2,548	100.0
Cash wages .....	41	254	4.2	25	925	6.0	15	138	2.9	2	71	2.8
Machine hire and custom work .....	30	186	3.1	7	269	1.8	22	202	4.3	1	42	1.7
Livestock and poultry purchased .....	99	609	10.1	63	2,364	15.4	30	274	5.9	7	247	9.7
Feed for livestock and poultry .....	181	1,112	18.4	87	3,277	21.4	74	674	14.4	21	769	30.2
Seeds, plants, and trees .....	41	252	4.2	17	659	4.3	22	207	4.4	1	33	1.3
Fertilizer and liming materials .....	31	192	3.2	18	677	4.4	13	121	2.6	‡	5	.2
Petroleum products* .....	85	522	8.6	25	965	6.3	56	509	10.9	4	139	5.5
Repair and operating costs for motor vehicles and machinery .....	70	430	7.1	22	848	5.5	44	408	8.7	3	116	4.5
Marketing costs .....	35	214	3.5	11	427	2.8	19	173	3.7	5	172	6.7
Miscellaneous items .....	67	414	6.8	23	865	5.6	41	373	8.0	4	136	5.4
Cash rent .....	21	131	2.2	9	321	2.1	13	117	2.5	.....	.....	.....
Property taxes* .....	55	337	5.6	16	609	4.0	37	337	7.2	2	74	2.9
Interest* .....	25	153	2.5	7	271	1.8	15	134	2.9	3	112	4.4
Construction and land improvement .....	65	401	6.6	26	990	6.5	28	256	5.5	11	412	16.2
Purchase of motor vehicles, machinery, and equipment .....	138	845	14.0	49	1,867	12.2	82	753	16.1	6	220	8.7

\* Farm business share.

† Includes some part time and residential as well as commercial farmers.

‡ Less than \$500,000.

and machinery. The latter items taken as a group averaged \$1,797 per farm or almost 30 percent of the total.

Expenditures for property taxes and interest averaged \$490 per farm or 8 percent of all production expenses.

A comparison of the relative importance of the various expenditures of Minnesota farmers with those of U.S. farmers reveal both similarities and differences.<sup>3</sup> For example, expenditures for purchasing livestock and poultry and feed accounted for about the same proportion of the total expenditure for both groups.

Expenditure for wages paid hired labor averaged only 4.2 percent of the total expenditures of Minnesota farmers compared with about 11 percent of the total expenditure of U.S. farmers. While the expenditures for motor vehicles, farm machinery, equipment, pet-

roleum products, and repair by Minnesota farmers was 30 percent of the total, the corresponding figure for U. S. farmers was 25 percent.

The proportion accounted for by interest and taxes for Minnesota farmers was almost twice as high as for U. S. farmers.

#### Expenditures by Class of Farm

Production expenses differ materially by class of farm. As indicated earlier, farms are grouped according to value of products sold. Farms in Class I to V, inclusive, are considered to be of the commercial type. Some of the farms in the remaining group are noncommercial, and are operated by part-time operators. As indicated in table 1, farms with the largest sales are grouped as Classes I and II.

Expenditures for Classes I and II averaged \$15,334 per farm or more than twice the average for all farms and three times the corresponding amount for Classes III to V.

The main differences in the distribution of expenditures between Classes I and II and Classes III-V, were in the relative importance of expenditures for livestock and poultry, feed, and those involved in the mechanical operation of the farm. For example, expenditures for livestock, poultry, and feed for Classes I and II averaged \$5,641 per farm or more than one-third of the total. Similar expenditures for Classes III-V averaged \$948 or about one-fifth of the total for this group.

The outlay for petroleum products; repairs on motor vehicles and equipment; and purchases of motor vehicles, machinery, and equipment was \$3,680 for Classes I and II or more than twice the corresponding amount for Classes III-V. This group of items, however, accounted for 24 percent for classes III-V.

Two-fifths of the total outlay by Class VI farms were for feed, livestock, and poultry purchases.

<sup>3</sup> The data for U. S. are taken from Farmers Expenditures, A Special Cooperative Survey. U. S. Departments of Agriculture and Commerce. Dec. 1956.

## FHA LOANS—

(Continued from page 1)

acres. These were the crop acres farmed in 1955. Crop acres rented by some of the borrowers are included. Farms on which the initial loans were made were even smaller.

These farms are fairly typical of farms in the counties surveyed. About 20 percent of all farms in these counties had between 50 and 100 acres of cropland harvested in 1954. But, 21 percent of all farms had more than 200 acres of cropland, while only 7 percent of the farms of borrowers had more than 220 crop acres.

The U. S. Census of Agriculture shows the incomes for farms with various acreages of cropland harvested. Of all farms classified as commercial, most of those with less than 50 acres of cropland harvested had a gross income of less than \$5,000. Of the farmers with

**Table 3. Average Financial Statement of 185 FHA Farm Ownership Borrowers, Nine Minnesota Counties, June 1, 1956**

Assets	dollars	percent
Cash, bonds, etc. ....	225	1.0
Crops, seed and feed .....	1,526	6.7
Livestock .....	3,793	16.8
Machinery and equipment .....	3,985	17.6
Land and buildings .....	11,764	52.0
Household goods .....	1,338	5.9
<b>Total assets</b> .....	<b>22,631</b>	<b>100.0</b>
<b>Liabilities and net worth</b>		
FHA land debt .....	8,544	37.8
Other land debt .....	50	.2
FHA chattel debt .....	578	2.5
Other secured debt .....	1,881	8.3
Unsecured debt .....	601	2.7
<b>Total debts</b> .....	<b>11,654</b>	<b>51.5</b>
<b>Net worth</b> .....	<b>10,977</b>	<b>48.5</b>
<b>Total liabilities and net worth</b> .....	<b>22,631</b>	<b>100.0</b>

50 to 99 acres of cropland harvested, more than two-thirds had less than \$5,000 gross income.

On the average, about two-thirds of this income is needed to pay farm expenses. Of a \$5,000 income, about \$1,700 would be left after farm expenses are paid. This is about what these borrowers spent for family living. These data indicate that the debt repayment capacity on a farm of less than 100 acres of cropland is likely to be limited.

The farm business of a substantial proportion of these 189 borrowers probably is not producing enough to retire debts appreciably. In 1955, 45 percent of these borrowers had a gross farm income of less than \$5,000. These folks must have income from other sources if repayments on debts are to be made.

How heavy is the debt load these borrowers are carrying? As shown in table 3, the average borrower had total assets of \$22,631 of which \$10,977 represented owner equity and \$11,654 was debt. Thus the average borrower had an equity in his farm business of about 50 percent.

There was considerable variation in the owner-equity ratios of individual borrowers. For example, 14 percent of the borrowers had an equity of less than 30 percent. One-fourth of the borrowers had an equity of 60 percent or larger. FHA land debt was the largest single debt averaging \$8,544.

The average borrower also had \$578 of FHA chattel debt. Borrowers having both FHA land and chattel debts had the lowest owner equity ratios. Of 1,493 active FHA farm ownership borrowers in Minnesota on June 30, 1956, 241 or 16 percent also were indebted to the FHA for operating loans.

#### Summary

As indicated above, the debt load of the average FHA borrower in the nine counties surveyed is high relative to farm income. Borrowers with less than \$5,000 gross income are likely to have difficulty in paying their debts unless they have substantial nonfarm income. On farms of less than 100 crop acres the probability is fairly high that gross farm income will be less than \$5,000.

Careful selection of both the borrowers and the farms are important in a loan program such as this. Capital cannot serve as a substitute for inherent low productivity of man or land.

**Table 2. Number of Crop Acres Farmed, 188 FHA Borrowers, Nine Minnesota Counties, January 1, 1956**

Crop acres	Borrowers		
	number	percent	cumulative percent
less than 70 .....	20	10.6	10.6
70- 99 .....	31	16.5	27.1
100-139 .....	59	31.4	58.5
140-179 .....	42	22.4	80.9
180-219 .....	22	11.7	92.6
220-259 .....	7	3.7	96.3
260-499 .....	7	3.7	100.0
500-over .....	0	0	
<b>Total</b> .....	<b>188</b>	<b>100.0</b>	

# Minnesota Farm Prices April and May 1957

Prepared by R. A. Andrews

**Average Farm Prices for Minnesota April 1957, May 1955, 1956, 1957\***

	April 1957	May 1957	May 1956	May 1955
Wheat .....	\$ 2.07	\$ 2.01	\$ 2.12	\$ 2.28
Corn .....	1.07	1.10	1.32	1.30
Oats .....	.64	.64	.56	.65
Barley .....	.92	.91	.95	1.07
Rye .....	1.10	.97	.98	1.00
Flax .....	2.84	2.84	3.61	3.02
Potatoes .....	.45	.39	2.45	1.80
Hay .....	15.90	15.60	16.20	15.50
Soybeans† .....	2.16	2.12	2.96	2.26
Hogs .....	17.50	17.00	15.80	15.90
Cattle .....	16.60	17.80	15.40	16.50
Calves .....	19.10	20.00	19.30	17.80
Sheep-lambs .....	19.79	19.26	19.68	16.34
Chickens .....	.107	.103	.163	.166
Eggs .....	.250	.220	.330	.280
Butterfat .....	.630	.630	.630	.620
Milk .....	3.10	3.10	3.15	2.950
Wool† .....	.47	.51	.40	.41

\* Average prices as reported by the USDA.

† Not included in Minnesota farm price indexes.

May 1957 egg prices dropped to the lowest point since December 1954. However, lower feed prices in May 1957 mean a higher egg-grain ratio than the 7.8 point reached in December 1954. Low May corn prices paved the way for the May 1957 beef-corn ratio to reach its highest level since November 1952.

The livestock products price index fell to the lowest May level since 1946.

## Comparison of April and May Prices

Commodity class	Average May prices as a percentage of average April prices
Crops .....	98
Livestock .....	103
Livestock products .....	98
All commodities .....	100

## Indexes for Minnesota Agriculture\*

	Average May 1935-39	May 1957	May 1956	May 1955
U. S. farm price index .....	100	228.4	227.4	229.3
Minnesota farm price index .....	100	207.6	212.1	209.5
Minnesota crop price index .....	100	185.8	215.9	219.9
Minnesota livestock price index .....	100	237.2	213.8	219.7
Minnesota livestock products price index .....	100	191.8	210.1	198.5
Purchasing power of farm products				
United States .....	100	97.1	100.0	102.3
Minnesota .....	100	88.2	93.3	93.5
U. S. hog-corn ratio .....	10.7	14.0	11.2	11.7
Minnesota hog-corn ratio .....	14.6	15.5	12.0	12.2
Minnesota beef-corn ratio .....	12.7	16.2	11.7	12.0
Minnesota egg-grain ratio .....	14.6	8.7	12.2	9.8
Minnesota butterfat-farm-grain ratio .....	29.7	32.1	32.2	31.9

\* Minnesota index weights are the average of sales of the five corresponding months of 1935-39. U. S. index weights are the average sales for 60 months of 1935-1939.

# The Outlook Corner—Labor and Machinery Costs

Although production costs have more than doubled since 1940, some items have increased more than others. As the table indicates, farm wage rates have risen by more than 300 percent, whereas prices of motor power and machinery have advanced about 76 and 130 percent respectively.

The greatest changes in these relationships took place during World War II and early postwar years. From 1940 to 1947 wage rates increased 223 percent, but prices paid for machinery and power increased less than 50 percent.

Since the war period, these relationships have held and changed little with all these costs trending upward. Wages have increased 25 percent since 1947-49 compared to 38 and 25 percent for machinery and motors respectively.

Full employment and increasing non-farm wage rates have pulled labor from farm areas to industrial employment, with consequent upward pressures on farm wages.

These changes in cost rates coupled with improvements in power, machinery, and equipment have made it profitable for farmers to substitute these for labor.

This has meant increasingly higher capital requirements for farm investment and operating capital. Capital requirements per worker and per hour of labor on Corn Belt farms have increased 200 percent and 280 percent respectively since 1940, even after adjusting for the change in the value of the dollar.

This increase in cost rates has also meant that total production expenses per farm have increased greatly in the

same period. The major increases have been for depreciation and operation of capital items such as machinery and equipment. These have increased 380 and 260 percent respectively. Even though wage rates more than tripled since 1940, expenditures for labor have only doubled. This further indicates the substitution of machinery for labor.

With a high level of employment in the general economy we can expect this differential to continue in the future although the rate of increase in cost rates has slowed down. This will mean that the trend toward greater commercialization in agriculture will continue, with high cash costs of farming and high investment requirements per farm and farm worker to replace labor.

## Index of Selected Cost Rates Paid by Farmers, United States,\* 1947-49=100

Year	Labor	Motor power	Machinery
1940 .....	30	63	64
1945 .....	83	78	74
1947 .....	97	91	86
1950 .....	99	108	115
1953 .....	119	118	130
1956 .....	125	125	138
March 1957 .....	131	131	143

\* The Farm Cost Situation, Agricultural Research Service, United States Department of Agriculture, May, 1957.

## UNIVERSITY OF MINNESOTA, INSTITUTE OF AGRICULTURE, ST. PAUL 1, MINN.

Cooperative Extension Work in Agriculture and Home Economics, University of Minnesota, Agricultural Extension Service and United States Department of Agriculture Co-operating, Skuli Rutford, Director. Published in furtherance of Agricultural Extension Acts of May 8 and June 30, 1914.

UNIVERSITY OF MINNESOTA  
Institute of Agriculture  
Agricultural Extension  
St. Paul 1, Minn.

SKULI RUTFORD, Director  
Minn. 7-6-57-2250  
Permit No. 1201

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