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UNIVERSITY OF MINNESOTA
Department of Agriculture
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
and
Resettlement Administration
Cooperating

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Report

of the

FARM MANAGEMENT SERVICE

for

FARM-BORROWERS

of

Rural Rehabilitation Division
of
The Resettlement Administration

For the Year
1936

(For tenant-operated farms with cash leases in Southern Minnesota)

Name: _____

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University of Minnesota, cooperating with U. S. Department of Agriculture.

Report of the Farm Management Service for Farmer-Borrowers
of the Rural Rehabilitation Division

(For tenant-operated farms with cash leases - Southern Minnesota)

Prepared by W. P. Ranney and G. A. Pond

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INTRODUCTION

The analysis of the records and the preparation of this report were under the direction of W. P. Ranney and G. A. Pond of the Division of Agricultural Economics, University of Minnesota. The records had been kept and closed under the general supervision of S. H. Rutford, former state director, and Lloyd I. Nelson, present state director, and the state personnel of the Rural Rehabilitation Division of the Resettlement Administration, with counsel and aid from S. B. Cleland and J. B. McNulty of the Division of Agricultural Extension, University of Minnesota. The above parties were aided in the closing and summarization of the records by the Division of Rural Sociology of the University of Minnesota and the Bureau of Agricultural Economics, United States Department of Agriculture.

The Rural Rehabilitation Division has made loans to several thousand farmers in Minnesota, who, on account of the recent depression and droughts, were having difficulty in obtaining and maintaining credit from other sources. Many of the farmers would not have been able to continue farming without the credit secured from Rural Rehabilitation. The latter organization has required their borrowers to keep a system of farm records as a means of helping them to increase their incomes and control their expenses in order that their debts may be liquidated. To further this purpose the Resettlement Administration arranged to have these records summarized and analyzed in order that they may be made more useful to these farmer-borrowers. The several divisions of the University of Minnesota mentioned previously and the Bureau of Agricultural Economics at Washington have cooperated in the summarization, analysis, and interpretation of these records, realizing that this is an opportunity to aid directly a large group of worthy farmers, and to obtain valuable information for research, teaching and extension purposes, thereby being enabled to serve many farmers in this state.

Note: Completion of this project was made possible by workers supplied on Works Progress Administration Project Number 4841, Sub-Project Number 420B, and Federal Students' Work Project Number 41-100.
Sponsor: University of Minnesota.

The records included in this report were kept by tenant operators who paid cash rent. These farms were located in the southern part of Minnesota in the following counties:

<u>County</u>	<u>No. of Farms</u>	<u>County</u>	<u>No. of Farms</u>	<u>County</u>	<u>No. of Farms</u>
Carver	3	Le Sueur	1	Rice	2
Dakota	13	McLeod	3	Rock	1
Dodge	5	Meeker	1	Scott	1
Fillmore	2	Mower	5	Sibley	1
Freeborn	1	Nicollet	2	Stearns	8
Goodhue	1	Olmsted	4	Steele	2
Grant	2	Pope	4	Washington	7
Hennepin	1	Renville	1	Winona	6
Houston	2			Wright	4

Although the predominant type of farming is not the same in all of the above counties, the system of farming did not vary greatly among the farms included in this report. Every farmer sold some dairy products, mostly in the form of cream for manufacture into butter. A few farms had special whole milk or retail cream markets. On nearly every farm there were, besides the dairy cows, young dairy cattle, and a few hogs and chickens. Part of the farmers had sheep, and a very small number had a few beef cattle. The proportion of total receipts that came from sales of livestock, and livestock products, varied from farm to farm. As all of these farms were affected by the severe drought of 1936, receipts from the sale of crops were much less than normal and purchases of feed above normal. The southeastern portion of the state was not affected by the drought as severely as the remainder of the state.

About 2,100 records were submitted by the borrowers of the Rural Rehabilitation Division in Minnesota. Of this number, 862 are included in the reports similar to this one.* The other records were either too incomplete or did not represent a full year's record because the loans were obtained late in the year 1936. Only full twelve months' records are included in these reports. The majority were started March 1, 1936, but many started February first and April first, and a few on January first.

There are three phases of the analysis on the following pages: (1) The Farm receipts, expenses, and earnings (only the operator's share is included); (2) The non-farm income and household and personal expenses; (3) The farmer's net worth and financial progress. All are somewhat interrelated, and dependent on each other. The data show that in all of these matters there are wide differences among farms. For example, the average operator's labor earnings for the farms in this report are \$649. The lowest is \$-691, and the highest is \$5144. There is a similar range for household and personal expenses, for net worth, and for financial progress (change in net worth).

The data have been compiled so as to show the average figures for all of the 83 farmers included in this report, the average of 17 farmers highest in operator's labor earnings, and the average of 17 farmers lowest in operator's labor earnings. Each farm included herein received a report with his own figures copied in the "your farm" column, and his estimated budget also copied. He can compare his own figures with the averages of all farms and the most successful and least successful groups.

*See Footnote, page 11.

SUMMARY OF FARM EARNINGS

Items	Your budget (RA-RR-14)	Your farm	Average of 83 farms	17 most profitable farms	17 least profitable farms
Cash Farm Expenses					
Operating					
Tractor	_____	_____	\$ 12	\$ 11	\$ 10
Auto(farm share) & truck	_____	_____	59	63	71
General machinery & equip.	_____	_____	30	35	29
Hired labor	_____	_____	35	50	26
Feed for livestock	_____	_____	155	158	182
Veterinary	_____	_____	2	5	2
Other expense for livestock	_____	_____	25	17	25
Seed	_____	_____	27	31	41
Fertilizer	_____	_____	0	0	1
Threshing	_____	_____	12	16	7
Twine	_____	_____	6	9	4
Other crop expense	_____	_____	16	20	12
Cash rent	_____	_____	265	430	221
Taxes	_____	_____	5	4	6
Insurance	_____	_____	7	4	3
Interest	_____	_____	13	24	23
General farm	_____	_____	7	11	8
Money loaned out*	_____	_____	17	26	11
Total cash farm oper. exp.	_____	_____	\$693	\$914	\$682
Capital Goods					
Tractor	_____	_____	32	44	42
Auto (farm share) & truck	_____	_____	32	66	27
General machinery & equip.	_____	_____	103	169	85
Horses	_____	_____	94	129	63
Cows	_____	_____	165	208	207
Other cattle	_____	_____	13	22	20
Hogs	_____	_____	35	71	31
Sheep	_____	_____	4	2	4
Poultry	_____	_____	20	18	32
Payments on debts(Rur.Reh.)	_____	_____	132	219	86
Payments on debts(other)	_____	_____	106	99	81
Total cash farm cap. pay.	_____	_____	\$736	\$1047	\$678
(1) Total cash farm expenses *	_____	_____	\$1429	\$1961	\$1360
(2) Decrease in net farm capital	_____	_____	-	-	-
(3) Board for hired labor	_____	_____	20	24	18
(4) Total farm expenses (to page 4)	_____	_____	\$1449	\$1985	\$1376
<hr/>					
% actual expenses were of farm budget (Form RA-RR-14)	No. of Farms:		30 ^x	8 ^x	9 ^x
Total cash farm operating expenses	_____		110%	88%	135%
Total cash farm capital payments	_____		96%	111%	91%

*Includes amount to offset credit sales, and amount of premiums paid on insurance for future years.

xNumbers specify how many farms are included in these groups. Only those farms are included for which Forms RA-RR-14 were provided.

These numbers of farms apply also for the following pages where "per cent of budget" is considered.

SUMMARY OF FARM EARNINGS (continued)

Items	Your budget (RA-RR-14)	Your farm	Average of 83 farms	17 most profitable farms	17 least profitable farms
Cash Farm Receipts					
Horses			\$ 5	\$ 13	\$ 0
Cows			34	31	60
Dairy products			494	669	338
Other cattle			34	45	25
Hogs			231	477	165
Sheep			3	0	2
Wool			2	0	0
Poultry			39	28	82
Eggs			70	105	70
Small grain			71	128	20
Corn			36	99	13
Hay			8	2	3
Root crops			13	57	4
Other crops			18	16	20
Miscellaneous			27	54	12
Machinery & horses hired out			8	0	1
Income from work off the farm			108	199	89
AAA adjustment payments			16	50	10
Payments from old debts			7	13	15
Money borrowed (Rur.Rehab.)			376	388	340
Money borrowed (elsewhere)*			103	122	83
(5) Total cash farm receipts			\$1703	\$2496	\$1352
(6) Increase in net farm capital			315	957	23
(7) Farm perquisites			295	334	238
(8) Total farm receipts (sum of (5), (6) & (7))			2313	3787	1613
(4) Total farm exp. (from page 3)			1449	1985	1376
(9) Ret. to cap. & fam. labor (8) minus (4)			864	1802	237
(10) 5% interest on net farm capital			31	43	18
(11) Family labor earnings (9) minus (10)			833	1759	219
(12) Unpaid family labor			184	129	310
(13) Operator's earnings (11) minus (12)			649	1630	-91

/labor

% actual total cash farm receipts were of the budget for cash farm receipts (Form RA-RR-14)

139% 135% 119%

Summary of Farm Perquisites	Quantities			Values				
	Your Farm	Ave. of 83 farms	17 most profitable	17 least profitable	Your farm	Ave. of 48 farms	17 most profit. farms	17 least profit. farms
Whole milk, qts.		853	924	661	\$ 44	\$ 54	\$ 38	
Cream, pts.		156	162	157	19	18	18	
Farm made butter, lbs.		31	62	32	11	20	11	
Eggs, doz.		113	119	60	20	24	12	
Poultry, number		25	27	25	11	12	11	
Cattle, lbs.		65	97	85	4	7	4	
Hogs, lbs.		284	378	207	26	36	18	
Potatoes, bu.		17	15	15	18	18	16	
Vegetables & fruit		-	-	-	26	20	28	
Fuel, cds.		6	5	7	28	29	23	
House rental		-	-	-	88	96	59	
Total value of farm perquisites					\$295	\$334	\$238	

*Includes amount to offset credit purchases.

SUMMARY OF INVENTORIES AND NET WORTH STATEMENT

	Your Farm			Average of 83 farms	17 most profit. farms	17 least profit. farms
	Beginning Inventory	Ending Inventory	Average			
Farm Inventories						(Ending Inventory)
Machinery and equipment				\$ 281	\$ 340	\$ 237
Tractors				42	45	53
Trucks				7	10	10
Auto (farm share)				78	102	64
Gas engine				4	8	3
Electric equipment				4	0	17
Miscellaneous supplies				1	2	2
Feeds and seeds				236	460	122
Horses				314	346	291
Cows				502	602	411
Other cattle				119	140	82
Hogs				117	214	78
Sheep and wool				13	4	6
Poultry				60	72	85
Accounts and notes receiv.				19	28	27
Other farm assets				6	2	6
(34) Total farm assets				\$1803	\$2575	\$1494
Farm Liabilities						
Chattal mtgs. & crop liens				64	43	107
Rural Rehabilitation loans				820	863	794
Past due cash rent				28	25	23
Other debts				134	120	130
(35) Total farm liabilities				\$1046	\$1051	\$1054
(36) Net farm capital(34)-(35)				\$ 757	\$1324	\$ 440
Personal Assets						
Auto (personal share)				\$ 35	\$ 48	\$ 24
Cash on hand and in bank				20	9	13
Household goods				215	212	223
Cash surrender value of life insurance				5	0	0
Miscellaneous				92	35	20
(37) Total personal assets				\$ 367	\$ 304	\$ 280
(38) Total personal liabilities				74	37	45
(39) Total assets (34)+(37)				\$2170	\$2679	\$1774
(40) Total liabilities(35)+(38)				1120	1088	1099
Farmer's net worth(39)-(40)				\$1050	\$1591	\$ 675
Change in net worth				\$1276	\$1990	\$- 23
% R.R. loan is of total liabilities (end inventory)				78%	85%	79%
% Total liabilities are of total assets(end inv.)				57%	43%	62%
Age of proprietor				38	38	38
Formal schooling of proprietor, yrs.				8	9	8

EFFECT OF FARM EARNINGS ON FINANCIAL PROGRESS ON THESE FARMS

The data on page 6 indicate that the 17 farmers highest in earnings managed to increase their net worth, while those with the lowest earnings were worth less at the end of the year than at the beginning. Hence, the wide range in operator's labor earnings has a great significance.

EFFECT OF WELL-BALANCED EFFICIENCY ON FARM EARNINGS

On page 4 it was shown that the average operator's labor earnings for the 17 most profitable farms was \$1630, and for the 17 least profitable farms \$-91. The difference between the averages of these two groups was \$1721. Some of the causes for these differences in earnings may be beyond the control of the farmer. It is significant, however, that the data in this report indicate that there are several factors which show definite relationship with operator's labor earnings and which suggest opportunities for increased earnings. The more important of these factors are the following:

1. Butterfat production per cow.
2. Returns from other productive livestock.
3. Productive livestock units per 100 acres.
4. Crop yields.
5. Percentage of tillable acres in high return crops.
6. Size of business.
7. Amount of work accomplished per worker.
8. Control of power and machinery expense.

Size of business tends to be a disadvantage to those who show a loss, for greater size is a factor serving to increase the loss. However, for those who excel in most of the other factors and received some return for their labor and management, the latter tends to be increased by size of business. Likewise, it is an advantage to have more livestock per hundred acres when the stock shows a profit and a disadvantage when it shows a loss. Hence, a high-balanced standing in the above eight factors is quite essential in order to secure the highest possible earnings.

In Chart I is shown the effect of the number of these eight factors in which the farmer excels on his labor earnings. The 24 farmers who excelled in 5 or more of the 8 factors had earnings of \$880 above the average of 14 farmers who did not excel in more than 2 factors.

CHART I. Relation of Earnings to Number of Factors in which Farmer is Above Average

No. of factors in which farm excels	No. of farms	Your farm	The length of the shaded lines are in proportion to the average operator's labor earnings.	Average operator's earnings.
5 or more	24	_____	XXXXXXXXXXXXXXXXXXXXXXXXXXXX	\$1085
3 or 4	47	_____	XXXXXXXXXXXX	512
2 or less	14	_____	XXXXX	205

The array in Chart I suggests that it will be worth-while for each cooperator to study carefully his ranking on pages 8 and 9, and learn through his standing in respect to each of the above factors the elements of strength and weakness in his farm business.

MEASURES OF FARM ORGANIZATION AND MANAGEMENT EFFICIENCY

Measures used in chart on page 9.	Your budget (RA-RR-14)	Your farm	Average of 83 farms	17 most profitable farms	17 least profitable farms
Operator's labor earnings			\$ 649	\$1630	\$ -91
(1) Pounds of butterfat per cow			191	225	196
(2) Ret. per a.u.(pr.lvst.other than cows)*			\$ 112	\$ 158	\$ 134
(3) Pr. lvst. units per 100 acres			13.0	12.1	12.8
(4) Crop yields**			100	142	83
(5) % of tillable land in high ret. crops***			28.9	27.0	26.3
(6) Size of business - days of pr. work****			312	402	259
(7) Days of prod. work per worker			222	278	169
(8) Power & eq.exp. per day of prod. work*****			\$.64	\$.57	\$.96

Other related measures

Gross returns per cow			\$ 72.12	\$ 93.23	\$ 57.26
" " " head of other cattle			24.51	32.14	26.40
" " " litter pigs raised			87.76	137.87	54.63
" " " cwt. hogs produced			11.52	13.10	8.41
" " " head of sheep			8.00	4.90	6.86
" " " hen			3.68	6.53	4.32
Number of pigs raised per litter			5.6	5.2	5.5
Number of eggs laid per hen			107	121	102
Number of cows per worker			3.8	5.8	4.3
Crop acres per horse			18	29	21
Power exp. per day of productive work			\$.37	\$.32	\$.59
Machinery exp. per day of " "			.27	.25	.37
Days of productive work on crops			97	124	76
" " " " " prod. lvst.			186	240	156
" " other productive work			29	38	27
Number of workers, total			1.1	1.6	1.6
" " " , family			1.0	1.5	1.5
" " " , hired			.1	.1	.1

*Returns are calculated by subtracting beginning inventory and purchases from the sum of end inventory, sales of animals and their products, and value of home used animals and animal products. Animal unit represents one cow, one bull, two head of young cattle, seven head of sheep, fourteen lambs, five hogs, ten pigs and one hundred hens.

**Given as a percentage of the average.

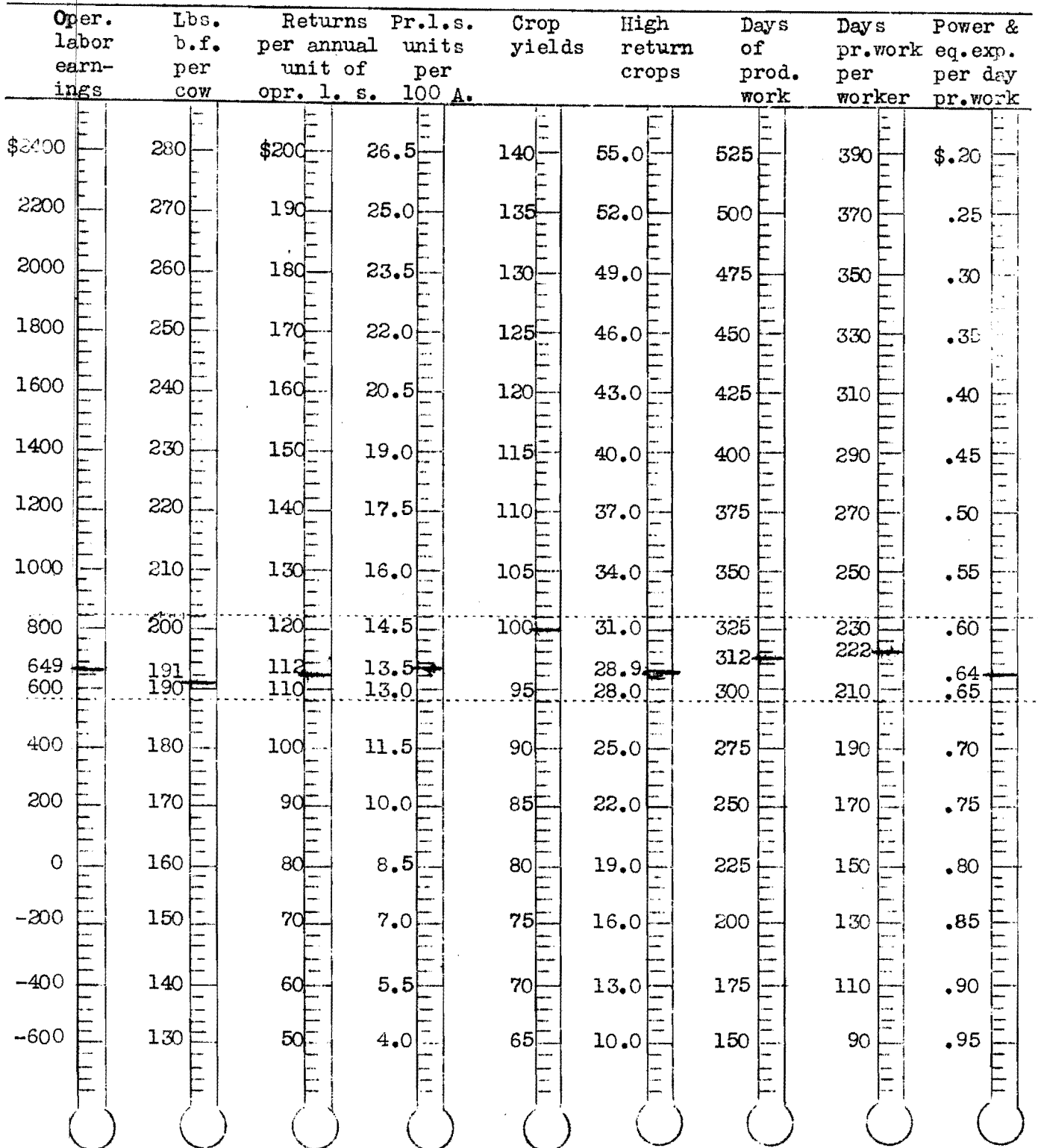
***Crops are marked on page 10 as (A), (B), (C), (D). All of acres in (A) crop, one-half of acres in (B) crops, and one-fourth of acres in (C) crops are used in calculating per cent of tillable land in high return crops.

****The total "days of productive work" for any one farm are a measure of size of that farm business. The average number of "ten-hour days" of man labor (as shown in Minn. Tech. Bul. 44) are as follows per animal unit: cows, 16.6; other cattle, 7.6; sheep, 2.7; hens, 20.1; per 100 lbs. hogs produced, .55; per acre of crops: alfalfa, 1.5; other hay, .6; small grain, 1.0; canning peas, 2.5; corn husked, 2.1; corn silage, 2.6; corn fodder, 1.8; sweet corn, 3.0; potatoes, 6.4; sugar beets, 4.0.

*****The expense for any one item, as machinery, is calculated by subtracting the sum of end inventory, sales, and hire from the sum of beginning inventory, purchases, repairs, and fuel.

Thermometer Chart

Using your figures from page 8, locate your standing with respect to the various measures of farm organization and management efficiency. The averages for 83 farms included in this summary are located between the two dotted lines across the center of this page.



DISTRIBUTION OF ACRES IN FARM

Crop (A) (B) (C) (D) refer to ranking used in calculating % of tillable land in High Return Crops (see page 8)	No. of farms growing this crop	Your budget (RA-RR-14)	Your farm	Average of 83 farms	17 most profitable farms	17 least profitable farms
Winter wheat	(B) 9	_____	_____	1.2	.1	.7
Spring wheat	(C) 14	_____	_____	1.8	1.7	1.5
Oats	(D) 58	_____	_____	14.9	19.0	12.4
Barley	(B) 39	_____	_____	7.5	10.1	4.5
Rye	(D) 6	_____	_____	.8	.3	0
Flax	(B) 4	_____	_____	1.5	1.2	.7
Wheat and oats	(C) 11	_____	_____	2.6	4.2	.6
Oats and barley	(C) 4	_____	_____	1.1	.5	1.0
Miscellaneous	(C)	_____	_____	.2	.2	0
Total grain and peas				31.6	37.3	21.4
Corn, grain	(B) 58	_____	_____	13.1	20.4	9.8
Corn, silage	(C) 15	_____	_____	2.3	1.7	1.8
Corn, fodder	(D) 32	_____	_____	5.1	8.7	5.1
Sweet corn	(B) 4	_____	_____	.5	.3	.2
Sugar beets	(A) 1	_____	_____	.2	.9	0
Potatoes	(A) 31	_____	_____	.5	.3	.5
Miscellaneous	(A)	_____	_____	.5	.1	.4
Total cultivated crops				22.2	32.4	17.8
Alfalfa	(A) 27	_____	_____	2.7	1.5	2.8
Red clover	(B) 9	_____	_____	1.7	1.3	2.3
Other legumes and mix.	(C) 13	_____	_____	2.1	1.6	1.7
Timothy	(D) 4	_____	_____	.7	1.2	2.9
Annual hay	(D) 26	_____	_____	3.3	3.3	5.5
Miscellaneous hays & seed crops	(C)	_____	_____	.5	0	.1
Phalaris (non-tillable land)		_____	_____	.2	.2	0
Wild hay (non-tillable land)		_____	_____	8.3	15.9	4.8
Total hay				19.5	25.0	20.1
Total crop acreage				73.3	94.7	59.3
Sweet clover pasture	(B)	_____	_____	.3	.4	1.2
Alfalfa pasture	(A)	_____	_____	0	0	0
Red clover or rape pasture (hogs)	(B)	_____	_____	.1	0	0
Misc. legume pasture	(C)	_____	_____	0	0	0
Other tillable pasture	(D)	_____	_____	1.2	0	1.9
Non-tillable pasture		_____	_____	32.7	25.0	30.1
Total pasture				34.3	25.4	33.2
Tillable land not cropped		_____	_____	3.8	3.3	1.2
Timber (not pastured)		_____	_____	3.4	3.5	.7
Roads and waste		_____	_____	3.3	2.4	2.8
Farmstead		_____	_____	3.2	3.1	2.8
Total acres in farm				121.3	132.4	100.0
% of tillable land in high return crops				28.9	27.0	26.3

CROP YIELDS

	Your budget (RA-RE-14)	Your farm	Average of 83 farms	17 most profitable farms	17 least profitable farms
Winter wheat, bu.	_____	_____	10.1	23.3	1.6
Spring wheat, bu.	_____	_____	9.1	10.1	9.8
Oats, bu.	_____	_____	17.9	26.5	14.9
Barley, bu.	_____	_____	10.9	14.8	6.9
Rye, bu.	_____	_____	10.3	12.3	2.5
Flax, bu.	_____	_____	2.9	5.3	4.2
Wheat and oats, bu.	_____	_____	14.4	9.0	24.2
Oats and barley, bu.	_____	_____	21.2	13.0	-
Corn, grain, bu.	_____	_____	19.0	24.5	18.4
Corn, silage, tons	_____	_____	3.7	4.3	2.5
Corn, fodder, tons	_____	_____	2.0	1.8	1.1
Potatoes, bu.	_____	_____	44.4	48.7	31.6
Alfalfa, tons	_____	_____	1.7	2.0	1.5
Red clover, tons	_____	_____	1.1	1.6	1.5
Clover and timothy, tons	_____	_____	.9	.9	1.0
Timothy, tons	_____	_____	.8	1.0	.8

SUMMARY OF LIVESTOCK

Number of horses	_____	2.8	3.3	2.7
Number of colts	_____	.2	.1	.2
Number of cows	_____	7.9	9.0	6.9
Head of other cattle	_____	4.5	4.7	4.1
Litters of pigs raised	_____	3.1	4.8	2.8
Pounds of hogs produced	_____	3917.4	9778.3	2360.7
Head of sheep (2 lambs = 1 head)	_____	1.5	.3	.4
Number of hens	_____	68.2	87.4	54.7
Total a.u. of productive livestock*	_____	13.0	15.2	11.1
% of total that are cows	_____	62.7	60.9	62.9
% " " " " other cattle	_____	17.9	16.0	18.9
% " " " " hogs	_____	12.0	17.1	11.7
% " " " " sheep	_____	1.5	.6	.8
% " " " " hens	_____	5.9	5.4	5.7

Footnote: The remainder of the records that were summarized are included in the following reports:

- No. 88, Owner-operated farms - Southern Minnesota
- No. 90, Tenant-operated farms - crop-share and cash leases - Southern Minnesota
- No. 91, Owner-operated farms - Northern Minnesota
- No. 92, Tenant-operated farms - cash leases - Northern Minnesota
- No. 93, Tenant-operated farms - crop-share and cash leases - Northern Minnesota
- No. 94, A general and comprehensive summary and analysis of all the records included in the above reports