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UNIVERSITY OF MINNESOTA  
Department of Agriculture  
and the  
TENNESSEE VALLEY AUTHORITY  
and the  
County Extension Services  
of  
Brown, Jackson, Kandiyohi, Martin, Murray, Nobles,  
Stevens, Swift, Watonwan, and Yellow Medicine Counties  
Cooperating

- 0 -

Annual Report  
of the  
Farm Management Service  
for T.V.A. Phosphate-Test  
Demonstration Cooperators  
in Southwestern Minnesota  
1944

- 0 -

Cooperator \_\_\_\_\_

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Division of Agricultural Economics  
University Farm  
St. Paul Minnesota  
June 1945

FOURTH ANNUAL REPORT OF THE FARM MANAGEMENT SERVICE  
TO THE DIVISION OF AGRICULTURAL ECONOMICS AND THE DIVISION OF AGRICULTURAL EXTENSION  
OF THE UNIVERSITY OF MINNESOTA, THE TENNESSEE VALLEY AUTHORITY AND THE COUNTY EXTENSION SERVICES

OF SEVERAL SOUTHWESTERN MINNESOTA COUNTIES FOR THE YEAR 1944

This report will be issued to farmers in a selected group of farms in southwestern Minnesota. It is designed to help the operators adapt their farm business to the new conditions created by the phosphate test demonstration project and to furnish them with information on the operation of their farms.

Prepared by T. B. Nodland and G. A. Pond

In the first paper will be found

an account of the costs of production

and expenses of farm operations and the value of various products produced and

the cost of labor and materials.

19481 of phosphate history.

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INTRODUCTION

The purpose of this annual report is to furnish the farmer with a record of his farm operations and to assist him in improving his farm management. The Division of Agricultural Economics and the Division of Agricultural Extension of the University of Minnesota, the Tennessee Valley Authority and the county extension services of several southwestern Minnesota counties are cooperating in a phosphate test demonstration project and in a farm management service. This service is offered to a selected group of farmers who have agreed to demonstrate the value of phosphate fertilizer and who have also agreed to keep farm business records. The phosphate is provided by the T.V.A. and the fieldman is provided by the T.V.A. and the Agricultural Extension Service. Each farmer pays the freight and other miscellaneous expenses that may occur between the point of shipment and the farm on all the fertilizer phosphate furnished and \$10.00 per year to pay the summer work of the cooperators and about miscellaneous expenses. The balance of the cost is carried by the University of Minnesota.

The analysis of the farm business records and the preparation of the reports are handled by the Division of Agricultural Economics under the direction of G. A. Pond and T. R. Nodland. The field organization is handled by the Division of Agricultural Extension with P. M. Burson in charge of this work. R. S. Harris was the field agent on this project. County agricultural agents who cooperated in this project include Paul Kunkel, Roland Abraham, Ronald McCamus, S. B. Simpson, A. B. Hagen, C. E. Stover, John Maier, Vern Baldwin, Wayne Hanson, Ed Kaeder, and George Gehant.

The following tabulation shows by counties the number of cooperators who completed records in 1944:

Brown	10	Nobles	11
Jackson	11	Stevens	5
Kandiyohi	5	Swift	7
Martin	13	Watonwan	7
Murray	3	Yellow Medicine	8
		Total	80

The tables on page 4 and succeeding pages show data for 79 farms. One farm was omitted from all the averages in the tables because the record was not sufficiently complete for a full analysis.

The records kept by the cooperators include inventories at the beginning and end of the year; cash receipts and expenses and a record of the farm produce used by the farm family. Complete household and personal records were also kept by 29 cooperators. Supplementary information was secured during the year regarding crop and livestock production and practices.

Because the farmers included in this study are, in general, above the average in managerial ability and operate larger and more productive farms, they have returns materially higher than the average for this section of the state. There were, nevertheless, wide variations in the methods and practices followed by these men. It is reasonable to assume that similar variations occur among all farmers in the area. To the extent that this is true, this report should be of value to all farmers and to others interested in agriculture in that it illustrates how farm records may be used as a basis for making an analysis of a farm business and for improving the management of a farm.

#### TYPE OF FARMING

The farms in this area have a wide diversity of enterprises. All classes of livestock are important although livestock kept for meat production tends to predominate. The sale of crops constitutes an important source of income. The principal feed crops grown are corn, oats, barley and hay. In addition wheat, flax, sweet corn, hybrid seed corn, sugar beets, and canning peas are grown to a limited extent as cash crops.

#### TOPOGRAPHY, SOILS AND WEATHER

The soils range from dark brown to heavy black loam. The major part of the area is undulating to gently rolling land interspersed with almost level tracts. In the southwestern part of the area the surface ranges from undulating to sharply rolling and in the northwestern part the surface is nearly level. Nearly all the land is tillable and well drained.

The spring of 1944 was cooler and considerably wetter than usual. Weather conditions were very unfavorable for early spring farm activities. The seeding of small grains was seriously delayed and by the end of May some lowlands were still too wet for seeding. A considerable amount of buckwheat and millet was planted in these wet areas. Haying and cultivating were delayed by heavy rains during the latter part of June and early in July. There was some loss from hail storms during July. Weather conditions in August and September were generally favorable for haying, harvesting and maturing corn and other late crops. The months of September and October were very dry. Killing frosts occurred early in October. A considerable amount of corn at harvest time contained excessive moisture for storage.

Table 1. Monthly and Annual Precipitation

	Worthington	Fairmont	Willmar	Morris				
	Precip- itation from normal	Depar- ture from normal	Precip- itation from normal	Depar- ture from normal	Precip- itation from normal	Depar- ture from normal	Precip- itation from normal	Depar- ture from normal
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches
January	0.94	+0.31	0.92	+0.12	0.65	+0.11	0.61	-0.16
February	1.35	+0.58	0.98	+0.01	1.01	+0.28	0.25	-0.43
March	0.81	-0.45	0.75	-0.66	0.91	-0.27	0.91	-0.05
April	2.38	+0.30	2.57	+0.34	3.34	+1.12	2.56	+0.61
May	4.83	+0.89	5.91	+1.99	6.01	+3.00	4.75	+1.85
June	5.00	+0.71	6.42	+2.28	4.69	+0.61	6.51	+2.47
July	6.04	+2.65	4.47	+0.91	3.13	-0.07	2.47	-1.09
August	6.90	+3.14	6.33	+2.78	3.40	+0.17	1.97	-1.04
September	2.41	-1.00	1.92	-1.40	1.34	-1.43	2.66	+0.24
October	0.52	-1.17	0.34	-1.51	0.12	-1.66	0.25	-1.39
November	1.56	+0.39	0.65	-0.74	1.48	+0.42	0.80	-0.10
December	0.09	-0.62	0.28	-0.62	0.05	-0.49	0.04	-0.62
1944 Total	32.83	+5.73	31.54	+3.50	26.13	+1.79	23.78	+0.29
1943 Total	35.15	+6.05	36.64	+3.60	26.24	+1.90	25.95	+2.46
1942 Total	33.47	+6.39	25.98	+2.06	34.42	+10.08	30.50	+7.01
1941 Total	28.22	+1.12	32.92	+4.88	28.91	+4.57	25.61	+2.12
1940 Total	22.50	-4.60	28.72	+0.68	21.89	-2.45	23.72	+0.23
1939 Total	24.27	-2.83	21.92	-6.12	18.99	-5.35	21.70	-1.79
Normal								
Annual Prec.	27.10		28.04		24.34		23.49	

Table 2. Monthly Temperatures, 1944

	Worthington	Fairmont	Willmar	Morris				
	Temper- ature from normal	Depar- ture from normal	Temper- ature from normal	Depar- ture from normal	Temper- ature from normal	Depar- ture from normal	Temper- ature from normal	Depar- ture from normal
(Degrees Fahrenheit)								
January	27.3	+13.2	26.4	+12.6	24.2	+13.1	25.8	+17.5
February	20.0	+2.8	20.5	+3.4	15.9	+1.0	16.9	+4.4
March	23.6	-6.4	25.0	-5.1	22.7	-4.8	23.4	-3.5
April	40.3	-5.0	41.4	-4.6	41.0	-3.2	40.5	-3.6
May	61.0	+3.8	61.0	+2.9	59.4	+2.6	58.3	+2.1
June	67.8	+2.9	68.9	+1.1	66.9	+0.8	66.2	+0.1
July	69.6	-2.3	71.0	-1.9	70.6	-0.4	68.2	-2.8
August	68.2	-1.4	68.8	-1.4	68.8	-0.1	67.6	-0.9
September	59.8	-1.5	60.6	-1.2	60.2	+0.3	58.7	-0.8
October	49.8	+1.0	50.2	+0.8	49.7	+2.6	50.4	+3.5
November	35.8	+3.2	35.9	+2.9	36.0	+6.4	35.4	+5.7
December	18.8	-1.0	17.6	-2.9	17.8	+1.3	18.3	+2.2

Table 3. Net Worth Statement for Those Farmers Who Kept a Complete Record of All Assets and Liabilities, 1944 (Operator's Share)

	Your Farm		31 Owners	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Total acres in farm			209.4	
Owned			209.4	
Rented			-	
Total farm capital			\$25935	\$25606
Accounts receivable			122	102
Stocks and bonds			1070	2181
Life insurance			761	801
Outside real estate			-	-
Other outside investments			65	70
Total outside investments			1896	3052
Cash on hand and in bank			759	899
Other household & personal assets			1119	1054
Total cash, household & personal assets			1878	1953
<b>TOTAL ASSETS</b>			29831	30713
Federal Land Bank Mortgage			1652	1536
Land Bank Commissioner			201	160
Other mortg. on land operated			3888	2998
Production Credit Association			117	85
Other chattel mortgages			356	167
Notes payable			565	702
Accounts payable			49	22
<b>TOTAL LIABILITIES</b>			6828	5670
Farmer's net worth			23003	25043
Gain in net worth			+2040	

	14 Part Owners*	
	Jan. 1	Dec. 31
Total acre's in farm	279.2	
Owned	202.2	
Rented	77.0	
Total farm capital	\$26072	\$27252
Accounts receivable	117	71
Stocks and bonds	1199	2917
Life insurance	423	394
Outside real estate	1021	1143
Other outside investments	87	164
Total outside investments	2730	4618
Cash on hand and in bank	1335	1011
Other household & personal assets	1345	1396
Total cash, household & personal assets	2680	2407
<b>TOTAL ASSETS</b>	31599	34348
Federal Land Bank Mortgage	1262	711
Other mortg. on land operated	2185	1385
Production Credit Assoc.	94	-
Other chattel mortgages	200	21
Notes payable	842	994
Accounts payable	82	7
<b>TOTAL LIABILITIES</b>	4665	3118
Farmer's net worth	26934	31230
Gain in net worth	+4296	

\*5 Rented for cash, 5 cash and crop share, and 4 crop share.

Table 4. Summary of Farm Earnings by Tenure, 1944 (Operator's Share)

	Your farm	31 owners	14 part-owners
<b>FARM EXPENSES</b>			
Dairy and dual purpose cows bought	\$ 137	\$ 52	
Other dairy and dual purpose cattle bought	35	112	
Beef cattle bought (including feeders)	110	900	
Hogs bought	126	398	
Sheep bought (including feeders)	35	198	
Poultry bought (including turkeys)	74	253	
Horses bought	17	9	
Misc. livestock expenses	99	177	
Misc. crop expenses	483	489	
Feed bought	857	1567	
Custom work hired	200	382	
Mech. power mach. (farm share) (new)	176	134	
Mech. power mach. (farm share) (upkeep)	143	126	
Mech. power (farm share) (gas, oil, etc.)	399	495	
Crop and general mach. (new)	241	246	
Crop and general mach. (upkeep)	105	140	
Livestock equipment (new)	84	110	
Livestock equipment (upkeep)	62	36	
Buildings and fencing (new)	133	192	
Buildings and fencing (upkeep)	212	232	
Hired labor	419	393	
Taxes (real estate & personal property)	181	242	
General farm and insurance	82	115	
Cash rent	-	131	
Interest paid	291	170	
(1) Total farm purchases	\$ 4701	\$ 7299	
(2) Decrease in farm capital	329	-	
(3) Board furnished hired labor	81	65	
(4) Interest on farm capital	998	1163	
(5) Unpaid family labor	282	400	
(6) Total farm exp. (Sum of (1) to (5))	\$ 6391	\$ 8927	
<b>FARM RECEIPTS</b>			
Dairy and dual purpose cows	\$ 212	\$ 149	
Dairy products	824	1099	
Other dairy and dual purpose cattle	294	380	
Beef cattle (including feeders)	837	2033	
Hogs	3227	3648	
Sheep and wool (including feeders)	230	265	
Poultry (including turkeys)	295	1447	
Eggs	628	555	
Horses	12	10	
Corn	509	868	
Small grain	635	589	
Other crops	345	730	
Machinery & equipment sold	131	166	
Agricultural adjustment payments	94	101	
Income from work off the farm	210	398	
Misc.	17	28	
(7) Total farm sales	\$ 8500	\$ 12466	
(8) Increase in farm capital	-	1180	
(9) Family living from the farm	617	654	
(10) Total farm receipts (7) + (8) + (9)	\$ 9117	\$ 14300	
(6) Total farm expenses	6391	8927	
(11) Operator's labor earnings (10) - (6)	2726	5373	
(12) Ret. cap. & family labor (4) + (5) + (11)	4006	6936	

Table 5. Summary of Farm Inventories, 1944\*

Items	Your Farm		Average of 79 Farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)			242	242
Size of business (work units)**			509	509
Productive livestock (total)			\$4805	\$4577
Dairy and dual purpose cows			814	868
Other dairy & dual purpose cattle			512	502
Beef cattle (incl. feeders)			1038	1160
Hogs			1807	1398
Sheep (including feeders)			340	395
Poultry (including turkeys)			294	254
Horses			365	242
Crop, seed, and feed			3754	4035
Mach. & equipment (total)			3108	3172
Power mach. (farm share)			1211	1168
Crop & general mach. (farm share)			1404	1489
Livestock equipment & supplies			493	515
Buildings, fences, etc.			6465	6290
Land			10922	10922
Total farm capital			29319	29238

	16 most profitable farms		16 least profitable farms	
	Jan. 1	Dec. 31	Jan. 1	Dec. 31
Size of farm (acres)	295	217		
Size of business (work units)**	705	454		
Productive livestock (total)	\$6704	\$6998	\$4906	\$3341
Dairy & dual purpose cows	864	866	978	967
Other dairy & dual purpose cattle	480	605	544	534
Beef cattle (incl. feeders)	1758	1957	671	880
Hogs	2304	2161	1414	579
Sheep (including feeders)	947	1154	104	90
Poultry (including turkeys)	351	255	295	291
Horses	315	280	215	208
Crop, seed, and feed	6090	6700	2402	2410
Mach. & equipment (total)	4043	4135	2846	2830
Power mach. (farm share)	1600	1535	1211	1151
Crop & general mach.	1849	1980	1160	1226
Livestock equipment & supplies	594	620	475	453
Buildings, fences, etc.	8092	7857	5690	5582
Land	14607	14607	9805	9805
Total farm capital	39851	40577	24964	24176

\*For the purpose of comparison, all the data shown in this report with the exception of Tables 3 and 4 are presented on a full-owner basis. The assets, expenses and receipts of the landlord were included in the records from rented farms.

\*\*See page 20 for an explanation of "work units."

Table 6. Family Living from the Farm, 1944

Items	16 most Your farm			16 least of 79 farms			16 most Your farm			16 least of 79 farms		
	Average farms	profit- able	profit- able	farms	Average farms	profit- able	farms	Average farms	profit- able	farms	Average farms	profit- able
No. of persons (Family)	3.3	3.6	3.2									
adult equiv. (Other*)	.4	.8	.3									
Whole milk	1088 qts.	1724	1064	\$	\$61.22	\$111.57	\$57.12					
Skim milk	304 qts.	53	98		2.61	.53	.54					
Cream	270 pts.	333	279		47.18	58.51	46.93					
Farm made butter	16 lbs.	7	4		6.61	3.22	2.17					
Eggs	184 doz.	240	197		56.37	72.71	60.73					
Cattle	562 lbs.	463	496		62.40	55.25	55.19					
Hogs	581 lbs.	787	432		79.49	101.46	58.71					
Sheep	4 lbs.	18	-		.41	2.03	-					
Poultry	103 lbs.	95	129		21.45	18.30	27.14					
Potatoes	18 bu.	24	11		24.50	30.63	17.25					
Vegetables & fruits					86.83	97.71	73.13					
Farm fuel					18.11	14.56	9.38					
Rental value of house					195.08	228.02	180.22					
Total				\$	\$662.26	\$794.50	\$588.51					

Table 7. Household and Personal Expenses for Those Farms Which Kept Complete Accounts of These Expenses, 1944

Items	10 most Your farm			10 least of 29 farms		
	Average farms	profit- able	profit- able	farms	Average farms	profit- able
Number of persons - family		4.2	4.4		4.2	4.2
Number of persons, (Family adult equivalent (Other*)		3.3	3.7		3.3	3.3
Food and meals bought	\$	\$437	\$533		\$366	
Operating and supplies		154	240		91	
Clothing and clothing materials		242	325		148	
Personal care, personal spending		66	112		36	
Furnishings and equipment		68	81		62	
Education, recreation and development		124	235		62	
Medical care and health insurance		132	135		130	
Church, welfare, gifts		144	162		97	
Income tax		140	242		69	
Personal share of auto expense		36	48		30	
Household share of elect. & gas eng. exp.		35	34		33	
Household and personal share of new autos bought		6	16		2	
Life insurance and other investments		1568	2763		658	
Total household and personal cash expenses	\$	\$3152	\$4926		\$1784	
Food furnished by the farm		\$453	\$616		\$300	
Fuel furnished by the farm		19	20		21	
House rental		184	190		176	
Total household and personal expenses	\$	\$3808	\$5752		\$2281	

\*Hired help or others boarded

Table 8. Summary of Farm Earnings (Cash Statement), 1944

Items		Average Your farm	16 most profitable farms	16 least profitable farms
<b>FARM EXPENSES</b>				
Dairy and dual purpose cows bought	\$ ____	\$ 83	\$ 67	\$ 43
Other dairy & dual purpose cattle bought		52	109	36
Beef cattle bought (including feeders)		332	483	67
Hogs bought		174	328	120
Sheep bought (including feeders)		153	607	31
Poultry bought (including turkeys)		172	397	149
Horses bought		15	33	10
Misc. livestock expense		129	245	75
Misc. crop expenses		436	526	381
Feed bought		1263	2007	970
Custom work hired		254	399	214
Mech. power mach. (farm share) (new)		168	190	179
Mech. power mach. (farm share) (upkeep)		152	195	159
Mech. power (farm share) (gas, oil, etc.)		454	552	458
Crop and general mach. (new)		275	327	220
Crop and general mach. (upkeep)		130	163	124
Livestock equipment (new)		97	154	45
Livestock equipment (upkeep)		52	62	62
Buildings and fencing (new)		135	98	140
Buildings and fencing (upkeep)		194	193	155
Hired labor		394	485	245
Taxes		246	302	225
General farm and insurance		89	103	63
(1) Total farm purchases	\$ ____	\$ 5449	\$ 8025	\$ 4171
(2) Decrease in farm capital		81	-	788
(3) Board furnished hired labor		100	154	76
(4) Interest on farm capital		1464	2011	1228
(5) Unpaid family labor		432	691	516
(6) Total farm exp. (sum of (1) to (5) )	\$ ____	\$ 7526	\$ 10881	\$ 6779
<b>FARM RECEIPTS</b>				
Dairy and dual purpose cows	\$ ____	\$ 206	\$ 225	\$ 242
Dairy products		984	1262	1025
Other dairy & dual purpose cattle		303	371	282
Beef cattle (including feeders)		1121	1725	334
Hogs		3475	5107	2181
Sheep and wool (including feeders)		320	906	87
Poultry (including turkeys)		832	2595	571
Eggs		779	837	849
Horses		15	28	5
Corn		649	1244	218
Small grain		649	1158	374
Other crops		459	691	102
Machinery & equip. sold		146	209	174
Agricultural adjustment payments		93	106	65
Income from work off the farm		253	607	87
Misc.		26	59	2
(7) Total farm sales	\$ ____	\$ 10310	\$ 17130	\$ 6598
(8) Increase in farm capital		-	726	-
(9) Family living from the farm		662	795	589
(10) Total farm receipts (7) + (8) + (9)	\$ ____	\$ 10972	\$ 18651	\$ 7187
(6) Total farm expenses		7526	10881	6779
(11) Oper. labor earnings (10) - (6)		3446	7770	408

Table 9. Summary of Farm Earnings (Enterprise Statement), 1944\*

Items		Average Your farm	16 most profitable farms	16 least profitable farms
<b>EXPENSES AND NET DECREASES</b>				
Total power	\$ 981	\$1214		\$954
Horses	182	244		136
Tractor	395	451		424
Truck	53	91		38
Auto (farm share)	192	205		215
Gas engine (farm share)	3	6		4
Electric plant or current (farm share)	49	58		45
Hired power	107	159		92
Crop and general machinery	296	375		273
Livestock equipment	118	173		115
Buildings, fencing and tiling	403	396		314
Misc. productive livestock expense	128	245		75
Labor	1009	1464		901
Real estate taxes	203	247		193
Personal property tax	43	55		32
Insurance	34	34		22
General farm	55	69		41
Interest on farm capital	1464	2011		1228
(1) Total expenses & net decreases	\$ 4734	6283		4148
<b>RETURNS AND NET INCREASES</b>				
All productive livestock	\$ 7236	\$11880		\$4827
Dairy and dual purpose cows	1153	1468		1181
Other dairy & dual purpose cattle	514	626		503
Beef breeding herd	530	824		220
Feeder cattle	367	686		241
Hogs	2971	4737		1285
Sheep - farm flock	170	285		42
Sheep - feeders	53	223		-
Turkeys	454	1904		270
Chickens	1024	1127		1085
Crops, seed and feed	555	1390		481
Income from labor off the farm	167	470		53
Agricultural conservation payments	93	106		65
Miscellaneous	129	207		92
(2) Total returns & net increases	\$ 8180	14053		4556
(1) Total expenses & net decreases	\$ 4734	6283		4148
(3) Oper. labor earnings (2) - (1)	\$ 3446	7770		408

\*Cash receipts and expenses are adjusted for changes in inventory for each enterprise and for each item of expense in order to show total receipts and net increases, and total expenses and net decreases. The operator's labor earnings are the same as those in page 8.

### ANALYSIS OF THE REASONS FOR DIFFERENCES IN OPERATOR'S EARNINGS

The operator's labor earnings varied widely among the farmers included in this study. The average labor earnings of those farmers ranking in the upper 20 per cent in the range according to earnings was \$7,770 and of those in the lower 20 per cent was \$408. This is a range of \$7,362 between the average earnings of these two groups. Some of the causes for these differences in earnings may be beyond the control of the farmer. However, all of these farmers could make some changes in their farming operations which would increase earnings. A farmer can secure some ideas as to changes that could profitably be made on his farm by studying the facts about his business as presented in this report and comparing his accomplishments with other farmers following the same general type of farming. The more important management factors affecting earnings and their relationships with earnings are presented in the following tables. These factors vary from year to year in their relative influence on earnings.

Table 10. Relation of Crop Yields to Farm Earnings

Per cent crop yields were of the average for all 80 farms	Group	Average	No. of farms	Average operator's labor earnings
Below 90		78	23	\$2,630
90-113		101	36	3,647
114 and above		124	20	4,022

High production per acre, up to certain limits, tends to lower the cost per bushel of grain or per ton of hay. Any possible method of management that will increase crop yields and therefore lower cost of production more than the extra expense incurred in securing the higher yields should be given consideration.

Table 11. Relation of Choice of Crops to Farm Earnings

Per cent of tillable land in high return crops*	Group	Average	No. of farms	Average operator's labor earnings
Below 47.0		41.5	18	\$2,373
47.0 - 60.9		53.7	40	3,669
61.0 & above		67.7	21	3,941

\*Crops are marked on page 16 as (A), (B), (C), and (D). All of acres in (A) crops, 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.

Farmers' earnings are affected by the choice of crops as well as by the yield of crops. As a rule, on these farms, such crops as alfalfa, clover, canning crops, sugar beets, corn, and flax bring a higher net return per acre than other crops usually grown. Additions can be made to earnings by putting as high a percentage as possible of the tillable land into these higher return crops.

Table 12. Relation of Returns from Productive Livestock to Farm Earnings

Index of gross returns from productive livestock*	Number of farms	Average operator's labor earnings
Group	Average	
Below 89	77	\$2,103
89 - 109	99	3,494
110 and above	122	4,641

\*Feed records were not kept on most of these farms. The index represents gross returns and is weighted by the number of animal units of each class of livestock.

The majority of these farms are livestock farms. High gross returns from livestock are accompanied by high farm income. A large proportion of the crops raised are fed on the farm and some additional feed is purchased. Feed is the major item of cost in livestock production and livestock constitute an important source of income on these farms. There are a number of reasons for differences among farms in livestock returns. High productivity per animal and economy in the use of feed and labor are important. Other factors of considerable importance are kind of feed used, quality of pastures, balance of ration, degree of sanitation, and kind of shelter and equipment.

Table 13. Relation of Amount of Productive Livestock to Farm Earnings

Productive livestock units per 100 acres*	Number of farms	Average operator's labor earnings
Group	Average	
Below 13.0	9.9	\$2,715
13.0 - 25.9	19.1	3,253
26.0 and above	33.2	4,578

\*Acres in timber not pastured, roads, waste and farmstead were not included.

The information in Table 13 shows the relationship of amount of livestock maintained on these farms to operator's labor earnings. On some farms the returns from livestock are so low that they do not cover labor, feed and other costs. Such livestock is unprofitable, especially if there is more than enough to utilize what would otherwise be waste feed. If the livestock is yielding a net return, an increased amount of livestock adds to size of business and the opportunity to increase the farm earnings. Livestock produces manure and aids in keeping up the fertility of the land, and utilizes waste products on the farm. Livestock also helps to provide productive employment throughout the year. Any method that aids in utilizing the available resources to full and efficient capacity should add to the farm income.

Table 14. Relation of Size of Business (Work Units) to Farm Earnings

Number of work units	Number of farms	Average operator's labor earnings
Group	Average	
Below 325	261	\$1,876
325 - 649	479	3,314
650 and above	846	5,405

Average farm earnings tend to increase with an increase in size of business. For farmers operating their farms at a loss, the larger the volume of business, the larger will be the loss, but a farmer who is making a profit could make a larger profit if he increased his size of business, providing that in so doing he does not lower materially the efficiency in some one or more important branches of his business. Those farmers who have large businesses usually have more flexibility of their organization than does the man with a small business, and can utilize more efficiently and to better advantage available labor, power, machinery and buildings. The size of the farm business may be increased by farming more land, by keeping more livestock, or by keeping livestock or growing crops of a more intensive type.

Table 15. Relation of Amount of Work Accomplished per Worker to Farm Earnings

Work units per worker Group	Average	Number of farms	Average operator's labor earnings
Below 220	175	17	\$2,322
220 - 319	270	46	3,207
320 and above	393	16	5,326

More units of work accomplished per worker reduces the labor charge per unit of business. Higher labor accomplishment can be secured in several ways. In the first place, the business must be large enough so that there will be at least sufficient work available for the family labor. The farm should be so organized that the labor requirements are well distributed throughout the year. Handling pastures in such a way that as large a proportion as possible of the year's feed for livestock may be obtained from them helps to reduce labor requirements. Proper planning of the farm work and economical use of labor-saving machinery help to increase the work accomplished per worker.

Table 16. Relation of Power, Machinery, Equipment & Bldg. Expense to Farm Earnings\*

Expense per work unit Group	Average	Number of farms	Average operator's labor earnings
\$4.50 and above	\$5.43	20	\$2,674
\$2.90 - \$4.49	3.76	37	3,542
Below \$2.90	2.36	22	3,986

\*Includes building, fencing, all crop machinery and livestock equipment, horse feed, and miscellaneous horse expense.

The expense factor does not show as high relationship with earnings when prices are high as when they are low. Some farms are under-equipped. On a few farms, excessive expenses constitute the main factor causing earnings to be very low.

Some of the cash expenses can be kept down by careful management. Oftentimes necessary repairs and improvements can be made by using the available farm labor rather than by hiring extra help. Repairs and overhauling should be done before spring work begins insofar as possible; or on rainy days or in other spare time during the summer. Reducing the number of horses to the minimum required for efficient operation of the farm helps reduce the power expense. In some cases, farmers can offset some or all of the power and machinery expense by using their equipment for outside work.

#### CUMULATIVE EFFECT OF EXCELLING IN A NUMBER OF MANAGEMENT FACTORS

The relation of several management factors to operator's labor earnings has been shown in the preceding section. Because of the large number of interrelationships between these factors the exact relationship between one factor and earnings could not be determined. However, when the combined or cumulative influence of seven management factors on earnings is shown, the relationship becomes more marked. This is illustrated in Table 17. These seven factors alone are responsible for a considerable proportion of the variation among farmers in the returns secured from the farm business. Insofar as these factors are within the farmer's control, he will be well paid for his efforts to improve his efficiency in them.

Table 17. Relation of Operator's Labor Earnings to the Number of Factors in Which the 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 labor earnings
None or one	11	_____	XXXXXXXXXXXX	\$1,604
Two	16	_____	XXXXXXXXXXXX	1,946
Three	13	_____	XXXXXXXXXXXXXX	3,118
Four	21	_____	XXXXXXXXXXXXXXXX	4,387
Five	9	_____	XXXXXXXXXXXXXXXX	4,525
Six	6	_____	XXXXXXXXXXXXXXXXXXXX	5,328
Seven	3	_____	XXXXXXXXXXXXXXXXXXXXXX	6,031

The array in Table 17 indicates that it will be worth-while for each cooperator to study carefully his ranking on pages 14 and 15, and learn his standing in respect to each of the above factors and the elements of strength and weakness in his farm business.

Table 18. Measures of Farm Organization and Management Efficiency, 1944

Measures used in chart on page 15	Your farm	Average of 79 farms	16 most profit- able farms	16 least profit- able farms
Operator's labor earnings	\$	\$3,446	\$7,770	\$408
(1) Crop yields*		100	108	89
(2) % of tillable land in high return crops**		54.6	58.0	50.0
(3) Gross returns from prod. livestock***		100	110	85
(4) Prod. livestock units per 100 acres****		20.4	22.9	20.2
(5) Size of business - work units		509	705	454
(6) Work units per worker		268	320	252
(7) Power, mach., equip.& bldg. exp. per work unit \$		\$3.80	\$3.20	\$4.04

Items related to some of the above measures:

(3) Index of gross returns from -				
Dairy cattle		100	122	80
Dual purpose cattle		100	129	87
Beef cattle - breeding herd		100	109	70
Beef cattle - feeders		100	95	91
Hogs		100	103	96
Sheep - farm flock		100	108	72
Sheep - feeders		100	100	-
Turkeys		100	97	-
Chickens		100	105	96
(5) Work units on crops		160	212	136
Work units on productive livestock		316	399	307
Other work units		33	94	11
(6) Total number of workers		1.9	2.2	1.8
Number of family workers		1.4	1.6	1.5
Number of hired workers		.5	.6	.3
(7) Power expense per work unit	\$	\$2.09	\$1.78	\$2.34
Crop machinery expense per work unit		.61	.54	.62
Livestock equipment expense per work unit		.23	.26	.27
Buildings and fencing expense per work unit		.87	.62	.81

\*Given as a percentage of the average.

\*\*Crops are marked on page 16 as (A), (B), (C) and (D). All of acres in (A) crops, 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.

\*\*\*An index weighted by the animal units of livestock.

\*\*\*\*Acres in timber not pastured, roads, waste and farmstead were not included.

Thermometer Chart

Using your figures from page 14, locate your standing with respect to the various measures of farm organization and management efficiency. The averages for the 79 farms included in this summary are located between the dotted lines across the center of this page.

Oper. labor earn- ings	Crop yields	High return crops	Return from pro- ductive livestock	Pr. l. s. units	Work units per 100 A.	Work units per worker	Pow., mach., eq., & bldg. exp. per work unit
\$8250	140	74.5	140	36.5	830	390	\$1.65
7650	135	72.0	135	34.5	790	375	1.95
7050	130	69.5	130	32.5	750	360	2.25
6450	125	67.0	125	30.5	710	345	2.55
5850	120	64.5	120	28.5	670	330	2.85
5250	115	62.0	115	26.5	630	315	3.15
4650	110	59.5	110	24.5	590	300	3.45
4050	105	57.0	105	22.5	550	285	3.75
3450	100	54.5	100	20.5	510	270	4.05
2850	95	52.0	95	18.5	470	255	4.35
2250	90	49.5	90	16.5	430	240	4.65
1650	85	47.0	85	14.5	390	225	4.95
1050	80	44.5	80	12.5	350	210	5.25
450	75	42.0	75	10.5	310	195	5.55
-150	70	39.5	70	8.5	270	180	5.85
-750	65	37.0	65	6.5	230	165	6.15

Table 19. Distribution of Acres in Farm, 1944

Crop: (A), (B), (C), and (D), refer to ranking used in calculating % of till- able land in High Return Crops (see page 14)	No. growing this crop	Average Your farm	16 most profit- able farms	16 least profit- able farms	Acres per farm growing crop
Canning peas	(A) 6	.6	.3	1.7	7.4
Flax	(C) 39	11.2	17.2	10.4	22.7
Barley	(D) 8	2.6	6.3	2.5	25.1
Barley and oats	(D) 3	.8	1.6	-	21.7
Wheat	(B) 18	3.1	3.1	1.5	13.6
Oats (incl. oats & wheat)	(D) 79	39.0	48.3	38.3	39.0
Soybeans for grain	(D) 17	4.8	9.8	2.3	22.3
Misc. (rye, millet & buck- wheat)	(D) 11	2.0	1.2	1.9	14.7
Total small grain & peas	79	64.1	87.8	58.6	64.1
Sugar beets, hybrid seed corn, potatoes & truck crops	(A) 11	2.8	10.8	-	20.1
Corn, grain	(A) 78	68.3	94.3	49.5	69.2
Corn silage	(B) 49	8.7	9.6	9.9	14.1
Sweet corn	(B) 4	.4	-	1.0	7.1
Corn fodder	(D) 11	.9	.2	.7	6.4
Total cultivated crops	79	81.1	114.9	61.1	81.1
Alfalfa hay	(A) 75	18.0	23.4	13.5	19.0
Soybean hay	(C) 11	1.2	.7	2.0	8.6
Mixed legumes & non-legumes	(C) 18	2.3	1.3	1.8	10.0
Legumes for seed	(C) 5	.6	-	.3	9.5
Tim. and/or brome hay	(D) 12	1.4	1.0	.9	9.0
Other animal hay	(D) 8	.7	-	.5	7.0
Total tillable land in hay	79	24.2	26.4	19.0	24.2
Alfalfa and mixtures incl. alfalfa	(A) 37	8.9	5.2	12.1	18.9
Sweet clover pasture	(B) 17	4.5	11.9	3.1	20.8
Other legumes and mixtures	(C) 14	4.4	7.5	2.6	25.1
Sudan grass or rape pasture	(C) 8	1.0	1.3	-	10.0
Other tillable pasture	(D) 20	4.2	3.7	4.2	16.6
Total tillable land in pasture	66	23.0	29.6	22.0	27.5
Tillable land not cropped	(D) 38	10.8	5.6	16.9	22.4
Total tillable land		203.2	264.3	177.6	203.2
Phalaris & wild hay (non-tillable)	24	4.6	.6	6.8	15.0
Non-tillable pasture	44	14.6	9.0	12.1	26.3
Timber (not pastured)	14	1.4	1.5	1.8	7.9
Roads and waste		9.8	10.7	9.2	
Farmstead		8.3	8.8	9.0	
Total acres in farm		241.9	294.9	216.5	
% land tillable		84.0	89.6	82.0	
% tillable land in high return crops		54.6	58.0	50.0	

Table 20. Crop Yields per Acre, 1944

Crop	Your farm	Average of 79 farms	16 most profitable farms	16 least profitable farms
Canning peas, value above seed cost.	\$	\$14.14	-	-
Flax, bu.		6.6	6.3	4.6
Barley, bu.		17.7	-	-
Barley and oats, bu.		34.4	-	-
Wheat, bu.		14.9	27.5	8.5
Oats, bu.		40.4	41.7	34.3
Soybeans for grain, bu.		19.2	19.1	16.5
Millet, bu.		15.1	-	-
Buckwheat, bu.		18.9	-	-
Corn grain, bu.		53.0	61.5	46.5
Corn silage, tons		8.0	7.4	7.3
Sweet corn, tons		2.7	-	-
Corn fodder, tons		2.2	-	-
Alfalfa hay, tons		2.4	2.2	2.4
Soybean hay, tons		1.5	2.2	1.8
Mixed legume & non-legume hay, tons		1.8	2.2	1.7
Legumes for seed, lbs.		51.5	-	-
Timothy and/or bromegrass hay, tons		1.5	-	-
Wild hay or phaleris hay		1.0	1.4	1.1

Table 21. Summary of Amount of Livestock, 1944

Items		Average Your farm	16 most of 79 profitable farms	16 least profitable farms
No. of horses		3.1	3.5	2.6
No. of colts		.4	.5	.2
No. of dairy & dual purpose cows		9.8	9.7	11.9
Head of other dairy & dual purpose cattle		10.8	9.8	13.5
Head of cattle in beef breeding herd		9.5	12.0	4.9
Pounds of feeder cattle produced		1974	4034	1423
Pounds of feeder sheep produced		173	853	0
Litters of pigs		11.4	15.9	6.5
Pounds of hogs produced		21267	32995	9820
Head of sheep (2 lambs = 1 head)		22.7	40.1	10.1
No. of hens		218	221	244
Total no. of prod. livestock animal units		43.7	58.7	36.8
% of total that are:				
Dairy cows		14.8	10.9	21.8
Other dairy cattle		7.9	5.5	12.5
Dual purpose cows		10.3	5.3	11.8
Other dual purpose cattle		6.6	3.2	6.2
Beef breeding herd		13.9	16.7	10.4
Feeder cattle		6.5	9.4	6.4
Hogs		25.4	27.0	18.9
Sheep - farm flock		6.9	9.4	3.8
-- feeders		.6	2.0	0
Turkeys		1.5	5.8	1.3
Hens		5.6	4.8	6.9

Table 22. Feed Costs for Horses and Misc. Power and Machinery Expense, 1944

Items		Average Your farm	15 most of 75 profitable farms*	14 least profitable farms*
Feed per horse, ** lbs.:				
Grain		986	1080	1008
Hay		3387	3085	3790
Feed costs per horse:				
Grain	\$	\$20.49	\$22.64	\$21.59
Roughage		22.53	24.53	23.84
Pasture		4.67	5.13	4.55
TOTAL FEED COSTS	\$	\$47.69	\$52.30	\$49.98
Number of work horses		3.3	3.7	2.9
Number of colts		.4	.5	.3
Crop acres per farm		174.0	229.7	145.5
Tractor and horse exp. per crop acre	\$	\$3.45	\$3.13	\$4.24
Crop & general mach. exp. per crop acres	\$	1.76	1.68	1.93

\*Four farmers did not have horses. The crop acres and expenses per crop acre are averages of 79 farms.

\*\*Two colts equal one horse.

Table 23. Returns from Productive Livestock, 1944.

Average 16 highest 16 lowest  
Year of 79 in livestock in livestock  
farm farms returns returns

Items	No. of farms	Gross returns per dairy cow	Pounds of butterfat per cow	No. of head of cows	Gross returns per head other dairy cattle	No. head of other dairy cattle*	Gross returns per an. unit all da. cattle	No. of animal units all dairy cattle	
<b>DAIRY CATTLE</b>									
No. of farms	34							8	7
Gross returns per dairy cow	\$ 130.29				\$ 177.58			\$ 77.20	
Pounds of butterfat per cow		213				281			146
No. of head of cows			13.5			13.2			16.2
Gross returns per head other dairy cattle	\$ 46.83				\$ 68.47				\$ 42.00
No. head of other dairy cattle*			15.3			12.7			14.8
Gross returns per an. unit all da. cattle	\$ 110.49				\$ 156.36				\$ 71.24
No. of animal units all dairy cattle			20.9			19.9			24.2
<b>DUAL PURPOSE CATTLE</b>									
No. of farms	25							4	4
Gross returns per dual purpose cow	\$ 111.44				\$ 138.50				\$ 76.15
Pounds of butterfat per cow		166				208			118
No. of head of cows			11.8			15.2			18.6
Gross ret. per head other du. pur. cattle	\$ 48.17				\$ 80.76				\$ 33.01
No. head other dual purpose cattle**			17.0			23.2			32.4
Gross ret. per an. unit all du. pur. cattle	\$ 100.92				\$ 131.57				\$ 63.79
No. of an. units all dual purpose cattle			19.6			24.4			35.4
<b>PRICE RECEIVED PER LB. BUTTERFAT SOLD</b>									
All butterfat (cents)		59.5				59.8			58.5
Manufacturing cream (cents)		58.4				59.4			58.5
Retail milk or cream (cents)		82.0				80.2			-
<b>BEEF-BREEDING HERD</b>									
No. of farms	22					5			5
Gross returns per animal unit	\$ 82.56				\$ 115.55				\$ 60.02
No. animal units		22.9				23.3			15.2
No. beef cows and bulls			12.2			11.7			8.2
<b>FEEDER CATTLE</b>									
No. of farms		16				2			0
Gross returns per cwt. produced	\$ 18.12				\$ 17.72				-
Lbs. of cattle produced		9627				10200			-
Price received per cwt. sold	\$ 13.49				\$ 13.62				-
Price paid per cwt. bought in 1944	\$ 11.21				\$ 10.11				-
<b>HOGS</b>									
No. of farms		76				15			14
Gross returns per cwt. produced	\$ 13.90				\$ 14.98				\$ 12.37
Lbs. hogs produced		22105				26014			15043
No. spring litters		10.0				10.7			9.2
No. fall litters		1.8				1.9			1.4
Total number litters raised		11.8				12.6			10.6
Pigs born per litter		8.1				8.2			8.0
Pigs weaned per litter		6.4				6.7			6.2
Price received per cwt. sold	\$ 13.09				\$ 13.52				\$ 13.46
<b>SHEEP-FARM FLOCK</b>									
No. of farms		25				5			4
Gross returns per head***	\$ 8.29				\$ 11.14				\$ 4.56
No. head of sheep		70.9				73.3			123.8
No. ewes kept for lambing		50				50			77
% lamb crop****		97				108			80
% death loss*****		7.8				3.7			8.9
Lbs. wool per sheep sheared		7.9				9.0			6.5
Price received per lb. wool sold (cts.)		41.9				42.1			41.2
Price received per cwt. lambs sold	\$ 13.06				\$ 13.08				\$ 12.24

Table 23. Returns from Productive Livestock, 1944 (Cont.)

Items	No. of farms	Average	16 highest	16 lowest
	Your of 79	in livestock	in livestock	farms
SHEEP - FEEDERS	farm	farms	returns	returns
No. of farms		3	0	1
Gross returns per cwt. produced	\$	\$26.04	-	-
Lbs. produced		4547	-	-
Price received per cwt. sold	\$	\$16.12	-	-
Price paid per cwt. bought in 1944	\$	\$12.59	-	-
% death loss		1.8	-	-
TURKEYS		4	0	1
No. of farms		4	0	1
Gross returns per cwt. produced	\$	\$29.90	-	-
Lbs. produced		30949	-	-
Price received per lb. sold (cts.)		34.9	-	-
CHICKENS		71	14	14
No. of farms		71	14	14
Gross returns per hen	\$	\$4.87	\$4.87	\$4.80
No. hens		242	237	333
Eggs per hen		150	156	148
Price rec'd. per doz. eggs sold (cts.)		30.5	31.3	30.2

\*Three farmers having both a dairy herd and a beef herd used a beef bull and included all the young stock in the beef herd.

\*\*Three farmers having both a dual purpose herd and a beef herd used a beef bull and included all the young stock in the beef herd.

\*\*\*Two lambs under 6 mos. of age are considered as one head.

\*\*\*\*Lambs which die during month of birth are not included.

#### EXPLANATION OF "WORK UNITS"

The total "work units" for any one farm is a measure of the size of that farm business. A work unit as used in this report is the average accomplishment of a farm worker in a ten-hour day working on crops and productive livestock at average efficiency or ten hours of work off the farm for pay. The number of work units for each class of livestock and each acre of crop are presented in Table 24.

Table 24. Number of Work Units for Each Class of Livestock and Each Acre of Crop

Item	No. of work units	Item	No. of work units
Dairy and dual purpose cows	13.5 per cow	Small grain	.7 per acre
Other dairy & du pur. cattle	4.0 per an. unit*	Sugar beets	3.0 per acre
Beef breeding herd	4.0 per an. unit*	Sweet corn	2.3 per acre
Feeder cattle	.35 per 100 lbs.	Corn, husked	1.0 per acre
Sheep - fair flock	1.6 per an. unit*	Corn, hogged	.6 per acre
Sheep - feeders	.4 per 100 lbs.	Corn, shredded	2.1 per acre
Hogs	.25 per 100 lbs.	Corn silage	1.7 per acre
Turkeys	.7 per 100 lbs.	Corn fodder	.9 per acre
Hens	26.0 per 100 hens	Alfalfa hay	1.0 per acre
Canning peas	2.0 per acre	Soybean hay	1.4 per acre
Soybeans for grain	.9 per acre	Other hay crops	.6 per acre

\*Animal unit represents one cow, one bull, one feeder steer or heifer, two head of other cattle, seven head of sheep, fourteen lambs, five hogs, ten pigs, 100 hens or 1400 pounds of turkeys produced.

Table 25. Miscellaneous Information for Brown and Waukesha Counties, 1940-1944

		1940	1941	1942	1943	1944
Operator's labor earnings	\$1676	\$3160	\$4343	\$3036	\$1824	
Farm capital - beginning of year	25510	25410	28003	27881	27972	
<b>MEASURE OF FARM ORGANIZATION AND MGT. EFFICIENCY</b>						
Crop yields - % of average	105	99	108	94	93	
% high return crops*	37.7	39.6	40.9	42.6	50.7	
Index return from livestock	96	99	96	97	92	
Animal units per 100 acres	21.1	22.9	23.4	24.2	23.3	
Work units	473	491	484	483	458	
Work units per worker	240	248	257	236	247	
Expenses per work unit	\$2.03	\$2.01	\$2.81	\$3.47	\$3.63	
<b>DIST. OF ACRES IN FARM</b>						
Small grain	79.1	71.5	68.2	56.8	48.6	
Cultivated crops	48.7	47.4	49.3	60.5	63.8	
Tillable hay	23.0	23.5	28.6	18.6	23.2	
Tillable pasture	20.2	21.9	17.5	22.3	17.6	
Tillable land not cropped	.5	3.9	3.5	3.8	20.8	
Total tillable land	171.5	168.2	167.1	162.0	174.0	
Total land in farm	206.8	205.3	206.8	204.4	221.5	
% land tillable	83	82	81	79	79	
<b>CROP YIELDS PER ACRE</b>						
Flax, bu.	14.1	10.8	11.8	17.5	5.2	
Barley, bu.	37.8	26.0	26.6	35.6	-	
Oats, bu.	65.0	25.4	53.7	32.8	36.3	
Soybeans for grain, bu.	-	15.7	10.2	14.7	-	
Corn grain, bu.	49.8	62.3	64.5	43.3	49.3	
Corn silage, tons	9.0	9.9	10.8	9.7	8.4	
Alfalfa, tons	2.2	2.8	2.7	2.9	2.2	
Total	11.1	11.2	10.2	10.4	10.5	
<b>AMOUNT OF LIVESTOCK</b>						
No. dairy and dual purpose cows	10.9	13.4	11.2	19.4	10.0	
No. other dairy and dual purpose cattle	7.6	5.4	6.5	7.2	8.7	
Head in beef-breeding herd	2136	2736	2025	752	291	
Lbs. feeder cattle produced	14.2	15.5	16.0	22.2	11.1	
Litters pigs raised	21420	22320	25547	27083	19040	
Lbs. hogs produced	23.9	28.6	25.0	30.1	47.9	
Head sheep in farm flock	113	144	178	192	206	
No. hens	39.8	41.9	41.3	43.9	41.3	
Total number livestock units	30.8	28.8	27.1	25.6	28.4	
% of total that are	17.0	18.6	15.7	13.5	15.0	
Milk cows	10.3	6.5	8.5	8.6	10.4	
Other dairy and dual purpose cattle	5.8	8.2	5.9	3.6	.8	
Beef-breeding cattle	6.0	8.0	7.8	10.1	15.0	
Feeder cattle	1.5	1.1	1.4	1.8	0	
Sheep-farm flock	25.3	25.0	28.8	31.9	24.1	
Sheep-feeders	.1	.2	.1	.3	.5	
Hogs	3.2	3.6	4.7	4.6	5.8	
Turkeys						
Chickens						

\*The crop rating used in calculating the percentage of tillable land in high return crops was changed considerably in 1944.

Table 26. Miscellaneous Information for Jackson County, 1940-1944

	1940	1941	1942	1943	1944
Operator's labor earnings	\$2606	\$3944	\$5971	\$5513	\$4708
Farm capital - Beginning of year	29359	30748	33396	35774	36259
<b>MEASURE OF FARM ORGANIZATION AND MGT. EFFICIENCY</b>					
Crop yields - % of average	112	114	106	112	116
% high return crops*	34.9	37.7	36.9	43.3	57.6
Index return from livestock	107	103	113	103	108
Animal units per 100 acres	19.0	23.1	25.3	24.9	21.4
Work units	500	491	546	588	496
Work units per worker	268	259	296	257	257
Expenses per work unit	\$2.21	\$2.44	\$3.03	\$3.31	\$4.45
<b>DIST. OF ACRES IN FARM</b>					
Small grain	99.2	88.6	93.4	82.4	74.2
Cultivated crops	64.3	61.1	61.2	80.3	94.6
Tillable hay	19.4	19.0	19.2	17.5	15.5
Tillable pasture	21.8	23.1	21.2	37.5	27.7
Tillable land not cropped	0	0	1.8	2.3	11.3
Total tillable land	204.7	191.8	196.8	207.8	213.3
Total land in farm	232.6	218.7	286.4	234.7	246.3
% land tillable	88	88	89	89	87
<b>CROP YIELDS PER ACRE</b>					
Flax, bu.	16.1	12.7	11.0	11.2	15.1
Barley, bu.	49.7	31.8	22.0	-	-
Oats, bu.	67.4	29.6	48.7	41.1	47.1
Soybeans for grain, bu.	16.8	21.7	15.9	20.2	22.8
Corn grain, bu.	54.6	66.1	65.4	46.7	67.3
Corn silage, tons	10.3	12.0	11.5	7.5	8.1
Alfalfa, tons	2.2	2.8	3.1	3.1	3.1
<b>AMOUNT OF LIVESTOCK</b>					
No. dairy and dual purpose cows	8.9	8.3	8.5	8.6	8.2
No. other dairy and dual purpose cattle	4.9	7.3	7.5	8.1	7.3
Head in beef-breeding herd	14.2	12.4	10.3	16.8	15.1
Lbs. feeder cattle produced	2777	5043	10150	2529	2877
Litters pigs raised	14.6	16.9	19.9	22.9	16.5
Lbs. hogs produced	25441	27915	33344	38766	27367
Head sheep in farm flock	14.3	12.1	9.0	11.5	8.0
No. hens	156	166	213	199	220
Total number livestock units	38.9	43.2	49.7	50.6	43.9
% of total that are					
Milk cows	23.5	20.8	19.4	19.6	21.4
Other dairy and dual purpose cattle	7.5	10.7	9.6	10.5	10.7
Beef-breeding cattle	22.3	18.6	18.0	17.8	18.3
Feeder cattle	11.2	15.4	18.8	10.7	13.9
Sheep-farm flock	4.2	2.6	2.8	3.3	2.5
Sheep-feeders	1.0	1.5	2.5	2.5	0
Hogs	26.0	26.1	29.4	31.4	27.9
Turkeys	0	0	0	0	0
Chickens	4.3	4.3	4.5	4.2	5.3

\*The crop rating used in calculating the percentage of tillable land in high return crops was changed considerably in 1944.

Table 27. Miscellaneous Information for Kandiyohi, Stevens & Swift Counties, 1940-44

	1940	1941	1942	1943	1944
Operator's labor earnings	\$1586	\$2194	\$3987	\$3551	\$3378
Farm capital - beginning of year	16887	17970	19762	20385	21139
<u>MEASURE OF FARM ORGANIZATION AND MGT. EFFICIENCY</u>					
Crop yields - % of average	73	93	89	82	96
% high return crops*	29.6	33.8	35.8	35.2	53.1
Index return from livestock	97	91	94	102	101
Animal units per 100 acres	17.4	16.4	15.1	14.0	12.9
Work units	515	501	537	537	512
Work units per worker	256	251	261	285	280
Expenses per work unit	\$1.68	\$2.21	\$2.32	\$3.03	\$3.77
<u>DIST. OF ACRES IN FARM</u>					
Small grain	111.1	109.0	130.0	115.8	89.6
Cultivated crops	48.5	49.1	56.2	62.5	84.8
Tillable hay	23.8	23.3	26.0	26.5	33.3
Tillable pasture	28.6	35.8	32.7	27.3	26.7
Tillable land not cropped	3.5	8.4	7.6	8.5	6.4
Total tillable land	215.5	225.6	252.5	240.6	240.8
Total land in farm	245.7	269.1	293.2	287.6	291.7
% land tillable	88	84	86	84	83
<u>CROP YIELDS PER ACRE</u>					
Flax, bu.	8.8	8.7	9.1	6.7	8.1
Barley, bu.	31.6	34.5	33.7	17.5	14.1
Oats, bu.	41.0	30.5	46.9	29.5	44.9
Corn grain, bu.	38.2	42.1	38.4	34.9	46.9
Corn silage, tons	6.9	8.3	8.6	6.3	7.4
Alfalfa, tons	1.5	1.9	2.2	2.4	2.1
<u>AMOUNT OF LIVESTOCK</u>					
No. dairy and dual purpose cows	13.2	12.7	13.5	12.6	12.1
No. other dairy and dual purpose cattle	13.7	14.6	14.4	15.2	14.5
Head in beef-breeding herd	8.1	6.2	3.8	2.5	3.4
Lbs. feeder cattle produced	59	1351	1530	1139	1312
Litters pigs raised	8.4	9.6	11.6	11.9	7.8
Lbs. hogs produced	13197	12123	17844	18182	12719
Head sheep in farm flock	27.0	26.1	19.8	16.0	14.7
No. hens	71	80	127	205	267
Total number livestock units	36.1	37.7	39.4	38.2	35.2
% of total that are					
Milk cows	38.3	35.7	35.4	33.6	33.2
Other dairy and dual purpose cattle	20.3	21.9	19.8	21.4	19.9
Beef-breeding cattle	13.4	10.8	5.6	5.4	8.0
Feeder cattle	4	5.4	7.5	2.7	3.6
Sheep-farm flock	9.8	9.4	6.0	4.8	5.4
Sheep-feeders	0	0	0	0	0
Hogs	15.0	14.6	22.1	25.9	23.0
Turkeys	7	4	3	5	0
Chickens	2.1	2.8	3.5	5.7	6.9

\*The crop rating, used in calculating the percentage of the tillable land in high return crops was changed considerably in 1944.

Table 28. Miscellaneous Information for Martin County, 1940-1944.

	1940	1941	1942	1943	1944
Operator's labor earnings	\$1968	\$3875	\$6397	\$5249	\$3506
Farm capital - beginning of year	28878	31092	35633	37558	35441
<b>MEASURE OF FARM ORGANIZATION AND MGT. EFFICIENCY</b>					
Crop yields - % of average	106	101	116	107	104
% high return crops*	34.6	35.8	40.3	42.6	56.3
Index return from livestock	105	111	104	100	106
Animal units per 100 acres	23.4	24.8	24.4	25.2	21.7
Work units	527	564	581	565	552
Work units per worker	270	277	286	293	296
Expenses per work unit	\$1.91	\$2.21	\$3.11	\$3.50	\$3.96
<b>DIST. OF ACRES IN FARM</b>					
Small grain	73.2	73.8	70.5	78.9	60.2
Cultivated crops	67.8	74.5	80.2	86.8	89.2
Tillable hay	21.1	20.3	19.7	20.8	15.1
Tillable pasture	27.0	27.6	33.0	22.7	25.2
Tillable land not cropped	.3	2.4	0	.4	3.0
Total tillable land	189.4	198.6	203.4	204.6	193.2
Total land in farm	210.4	217.6	221.8	225.3	213.8
% land tillable	90	91	92	91	90
<b>CROP YIELDS PER ACRE</b>					
Flax, bu.	14.3	10.7	12.4	9.7	6.0
Oats, bu.	61.7	28.9	54.3	37.7	37.1
Soybeans for grain, bu.	-	16.6	16.4	16.8	14.4
Corn grain, bu.	53.4	59.5	71.0	49.1	58.2
Corn silage, tons	9.2	9.8	10.3	11.1	9.4
Alfalfa, tons	2.3	3.0	3.6	2.3	2.5
<b>AMOUNT OF LIVESTOCK</b>					
No. dairy and dual purpose cows	11.2	11.6	12.4	11.5	10.8
No. other dairy and dual purpose cattle	14.4	13.7	11.8	11.0	11.8
Head in beef-breeding herd	7.2	7.8	6.2	9.2	5.6
Lbs. feeder cattle produced	865	2783	3392	1951	1333
Litters pigs raised	18.4	24.5	22.9	25.4	13.7
Lbs. hogs produced	26996	31636	39208	39553	28114
Head sheep in farm flock	25.5	18.3	10.7	11.0	13.8
No. hen's	157	176	159	171	197
Total number livestock units	44.5	50.1	51.1	52.9	42.9
% of total that are					
Milk cows	25.6	24.4	25.6	22.5	26.6
Other dairy and dual purpose cattle	17.2	14.9	13.3	11.0	15.2
Beef-breeding cattle	11.7	10.2	9.1	10.8	8.9
Feeder cattle	2.6	8.6	10.6	5.2	5.2
Sheep-farm flock	5.5	4.2	1.7	2.4	3.8
Sheep-feeders	2.4	.6	.1	2.5	1.3
Hogs	30.4	31.7	34.3	41.9	32.6
Turkeys	1.0	1.6	1.9	.5	1.5
Chickens	3.6	3.8	3.5	3.4	4.9

\*The crop rating used in calculating the percentage of the tillable land in high return crops was changed considerably in 1944.

Table 29. Miscellaneous Information For Nobles and Murray Counties, 1940-1944

	1940	1941	1942	1943	1944
Operator's labor earnings	\$2484	\$4150	\$6174	\$6111	\$4629
Farm capital - beginning of year	25115	27536	38800	34492	32982
<u>MEASURE OF FARM ORGANIZATION AND MGT. EFFICIENCY</u>					
Crop yields - % of average	103	107	89	105	95
% high return crops*	38.5	42.1	44.3	44.7	57.3
Index return from livestock	104	102	99	98	100
Animal units per 100 acres	22.0	23.8	28.1	31.9	26.3
Work units	515	542	683	656	615
Work units per worker	261	275	300	312	322
Expenses per work unit	\$1.99	\$1.94	\$2.47	\$2.83	\$3.49
<u>DIST. OF ACRES IN FARM</u>					
Small grain	80.8	81.7	98.2	80.5	56.5
Cultivated crops	59.2	62.0	84.7	83.7	84.8
Tillable hay	26.4	30.2	34.6	37.5	31.3
Tillable pasture	23.2	24.5	35.3	30.1	20.9
Tillable land not cropped	.3	0	2.0	2.6	11.3
Total tillable land	189.9	198.4	254.8	234.4	204.8
Total land in farm	211.0	220.3	285.0	259.0	236.8
% land tillable	90	90	89	91	86
<u>CROP YIELDS PER ACRE</u>					
Flax, bu.	15.5	14.3	11.1	10.3	5.5
Barley, bu.	40.7	29.5	17.5	-	-
Oats, bu.	60.6	34.7	38.4	45.0	38.1
Soybeans for grain, bu.	-	17.7	11.1	13.9	20.5
Corn grain, bu.	49.1	54.5	50.6	43.2	48.8
Corn silage, tons	9.3	12.0	9.5	10.5	7.0
Alfalfa, tons	1.9	1.9	2.6	2.5	2.4
<u>AMOUNT OF LIVESTOCK</u>					
No. dairy and dual purpose cows	8.9	7.1	6.8	7.8	8.4
No. other dairy and dual purpose cattle	9.2	10.5	10.7	10.5	11.2
Head in beef-breeding herd	14.2	12.0	11.9	15.8	12.3
Lbs. feeder cattle produced	420	3071	13753	10833	5181
Litters pigs raised	12.9	15.0	16.4	22.0	13.0
Lbs. hogs produced	20960	24106	31233	38416	26503
Head sheep in farm flock	25.1	23.3	17.9	20.6	29.6
No. hens	203	246	258	252	232
Total number livestock units	43.2	48.8	84.6	77.4	58.1
% of total that are					
Milk cows	22.6	16.7	12.6	11.3	14.5
Other dairy and dual purpose cattle	14.6	13.2	9.0	9.4	11.0
Beef-breeding cattle	20.1	17.4	21.7	18.7	17.6
Feeder cattle	1.4	9.9	17.4	16.6	11.6
Sheep-farm flock	3.5	5.4	4.0	4.8	6.7
Sheep-feeders	2.6	2.1	3.3	3.6	2.2
Hogs	21.0	21.3	21.1	27.4	24.4
Turkeys	9.0	8.3	6.6	4.2	7.1
Chickens	5.3	5.8	4.3	4.0	4.9

\*The crop rating used in calculating the percentage of tillable land in high return crops was changed considerably in 1944.

Table 30. Miscellaneous Information for Yellow Medicine County, 1940-1944

	1940	1941	1942	1943	1944
Operator's labor earnings	\$2011	\$2881	\$4773	\$4953	\$3282
Farm capital - beginning of year	19188	20838	21131	22818	24119
<b>MEASURE OF FARM ORGANIZATION AND MFT. EFFICIENCY</b>					
Crop yields - % of average	104	90	104	114	103
% high return crops*	33.6	36.5	40.6	43.1	54.9
Index return from livestock	95	94	102	94	93
Animal units per 100 acres	14.0	16.3	16.8	18.2	17.4
Work units	415	436	409	412	388
Work units per worker	235	231	252	228	234
Expense per work unit	\$2.19	\$2.39	\$2.70	\$3.35	\$3.53
<b>DISTRIBUTION OF ACRES IN FARM</b>					
Small grain	107.7	98.8	93.1	79.0	46.1
Cultivated crops	53.2	53.6	55.3	61.8	72.6
Tillable hay	22.1	24.5	21.3	24.9	22.6
Tillable pasture	17.3	22.4	20.6	16.8	20.0
Tillable land not cropped	2.4	2.9	2.5	2.6	23.9
Total tillable land	202.7	202.2	192.8	185.1	185.2
Total land in farm	235.7	238.3	229.1	227.0	227.0
% land tillable	86	85	84	82	82
<b>CROP YIELDS PER ACRE</b>					
Flax, bu.	13.2	13.4	11.7	10.3	8.9
Barley, bu.	45.0	28.9	32.8	-	-
Oats, bu.	58.9	20.6	57.5	50.8	39.7
Corn grain, bu.	52.1	46.3	57.1	46.0	54.2
Corn silage, tons	9.8	8.6	10.1	11.3	8.2
Alfalfa, tons	1.4	2.1	2.8	3.0	2.4
<b>AMOUNT OF LIVESTOCK</b>					
No. dairy and dual purpose cows	7.8	7.5	5.8	9.8	5.9
No. other dairy and dual purpose cattle	6.6	6.6	5.2	10.7	7.5
Head in beef-breeding herd	11.2	12.7	14.9	10.8	18.4
Lbs. feeder cattle produced	883	1796	762	3209	1545
Litters pigs raised	9.7	12.9	11.3	19.9	6.0
Lbs. hogs produced	16551	20696	19588	30277	16143
Head sheep in farm flock	6.1	8.4	15.4	18.3	13.1
No. hens	111	135	210	198	150
Total number livestock units	29.9	33.6	32.6	50.5	34.4
% of total that are					
Milk cows	28.4	24.3	20.3	22.6	20.4
Other dairy and dual purpose cattle	12.6	10.2	8.0	13.0	12.7
Beef-breeding cattle	20.4	24.6	26.6	13.6	29.5
Feeder cattle	7.3	7.4	5.0	7.3	8.0
Sheep-farm flock	3.8	4.4	6.7	5.3	4.1
Sheep-feeders	0	0	0	1.8	0
Hogs	23.2	24.7	26.6	30.8	19.9
Turkeys	.2	.3	0	1.1	0
Chickens	4.1	4.1	6.8	4.5	5.4

\*The crop rating used in calculating the percentage of tillable land in high return crops was changed considerably in 1944.

Table 31. Summary of Farm Earnings by Years\*

Items	1940 99	1941 96	1942 95	1943 80	1944 79
No. of farms					
<u>FARM EXPENSES</u>					
Dairy and dual purpose cattle bought	\$ 64	\$ 127	\$ 74	\$ 86	\$ 135
Beef cattle bought (incl. feeders)	258	295	934	339	332
Hogs bought	73	146	254	213	174
Sheep bought (including feeders)	106	135	469	340	153
Poultry bought (including turkeys)	67	63	122	148	172
Horses bought	26	24	32	14	15
Misc. livestock expense	53	85	109	155	129
Misc. crop expense	219	216	317	407	436
Feed bought	497	741	1,401	1,750	1,263
Custom work hired	124	103	172	210	254
Power mach. (farm share) (new)	304	397	273	131	168
Power mach. (farm share) (upkeep)	318	396	474	513	606
Crop and general mach. (new)	266	298	326	165	275
Crop and general mach. (upkeep)	50	60	102	127	130
Livestock equipment (new)	50	86	98	101	97
Livestock equipment (upkeep)	13	18	46	52	52
Buildings and fencing (new)	297	376	311	299	135
Buildings and fencing (upkeep)	130	104	135	139	194
Hired labor	251	290	348	423	394
Taxes	228	230	258	260	246
General farm and insurance	42	64	76	79	59
(1) Total farm purchases	\$3,446	\$4,274	\$6,356	\$6,056	\$5,449
(2) Decrease in farm capital	-	-	-	-	81
(3) Board furnished hired labor	112	115	129	107	100
(4) Interest on farm capital	1,231	1,304	1,483	1,495	1,464
(5) Unpaid family labor	246	296	381	463	432
(6) Total farm exp. (Sum of (1) to (5))	\$5,035	\$5,989	\$8,354	\$8,121	\$7,526
<u>FARM RECEIPTS</u>					
Dairy and dual-purpose cattle	\$ 230	\$ 363	\$ 534	\$ 646	\$ 509
Dairy products	673	798	859	1,014	984
Beef cattle (including feeders)	548	835	2,260	1,290	1,121
Hogs	1,075	1,559	3,410	4,046	3,475
Sheep and wool (including feeders)	204	268	537	511	320
Poultry (including turkeys)	273	361	594	563	832
Eggs	188	317	532	772	779
Horses	37	37	31	26	15
Corn	302	337	550	626	649
Small grain	637	767	828	964	649
Other crops	154	180	294	440	459
Machinery and equipment sold	176	211	165	105	146
Income from work off the farm	115	124	131	137	253
Agricultural Adjustment payments	419	412	443	239	193
Miscellaneous	252	128	167	150	126
(7) Total farm sales	\$5,333	\$7,017	\$11,335	\$11,533	\$10,310
(8) Increase in farm capital	1,235	1,772	1,559	497	-
(9) Family living from farm	455	452	575	671	662
(10) Total farm receipts (7)+(8)+(9)	\$7,023	\$9,271	\$13,469	\$12,701	\$10,972
(6) Total farm expenses	5,035	5,989	8,354	8,121	7,526
(11) Oper. labor earnings (10) - (6)	1,988	3,282	5,115	4,560	3,446

\*The financial statements differ in that the unpaid family labor rate was \$45 per month in 1940, \$50 in 1941, \$60 in 1942, \$75 in 1943 and \$85 in 1944; and the board fee hired labor was calculated at \$15 per month in 1940, \$20 in 1941, \$25 in 1942, 1943 and 1944.

Table 32. Summary of Miscellaneous Items by Years

Items	1940	1941	1942	1943	1944
Total farm capital (beg. of yr.)	\$24,008	\$25,191	\$29,756	\$29,652	\$29,319
<u>MEASURE OF FARM ORG. AND MANAGEMENT EFFICIENCY</u>					
% high return crops*	34.9	37.6	39.3	41.6	54.6
Prod. livestock per 100 A.	19.6	21.2	21.8	23.3	20.4
Work units	490	503	541	545	509
Work units per worker	253	256	270	273	268
Expenses per work unit	\$1.99	\$2.16	\$2.70	\$3.23	\$3.30
<u>ACRES PER FARM</u>	225	228	246	241	242
Crop acres per farm	174	171	187	182	174
<u>CROP YIELDS PER ACRE</u>					
Flax, bu.	13.6	11.5	11.0	9.0	6.6
Barley, bu.	41.9	29.9	28.1	16.4	17.7
Wheat, bu.	26.0	11.9	19.2	12.3	14.9
Oats, bu.	59.5	28.1	49.7	38.1	40.4
Corn, grain, bu.	49.5	55.3	56.6	43.4	53.0
Corn silage, tons	8.9	9.7	10.0	9.1	8.0
Corn fodder, tons	3.0	3.3	4.0	1.7	2.2
Alfalfa hay, tons	1.9	2.5	2.8	2.7	2.4
<u>GROSS RETURNS PER:</u>					
Dairy cow	\$80.75	\$95.59	\$111.79	\$126.67	\$130.29
Dual-purpose cow	60.20	60.27	95.97	103.76	111.44
Animal unit in beef-breeding herd	57.71	59.53	72.29	72.33	62.56
100 pounds feeder cattle produced	10.02	12.41	16.83	17.14	16.12
Head of sheep in farm flock	6.30	8.67	10.22	7.19	8.57
100 pounds feeder sheep produced	10.65	15.47	24.70	15.92	26.04
100 pounds hogs produced	5.85	10.66	14.37	12.99	13.90
Hen	2.32	2.96	4.22	5.61	4.87
100 pounds turkeys produced	12.55	17.50	25.34	26.94	29.90
<u>PRICE RECEIVED PER:</u>					
Lb. butterfat sold to creameries	.31	.37	.43	.54	.56
100 lbs. beef cattle sold	7.98	9.57	11.73	13.49	13.49
100 lbs. feeder sheep sold	9.15	10.41	12.97	14.98	16.12
100 lbs. hogs sold	5.36	9.06	13.10	13.69	13.09
Lb. wool sold	.30	.38	.40	.42	.42
Doz. eggs sold	.15	.22	.26	.35	.31
Lb. turkeys sold	.15	.20	.30	.30	.35
<u>MISC. LIVESTOCK INFORMATION</u>					
No. of work horses	3.8	3.6	3.7	3.4	3.1
No. of colts	.9	.9	.7	.4	.4
No. of dairy or dual-purpose cows	10.4	10.1	9.8	9.8	9.8
Head other dairy & dual-pur. cattle	10.3	11.6	10.6	10.7	10.6
Head in beef-breeding herd	9.9	8.7	8.4	10.5	9.5
Pounds feeder cattle produced	1,112	2,670	5,059	3,209	1,974
Litters of pigs	13.0	15.5	16.0	19.9	11.4
Pounds of hogs produced	20,544	22,563	26,774	30,277	21,267
Head of sheep	21.1	20.8	17.6	18.3	22.7
No. of hens	130	152	188	198	218
Lbs. butterfat per dairy cow	246	235	225	220	213
Lbs. butterfat per dual-pur. cow	188	199	186	168	166
No. of pigs weaned per litter	6.5	6.3	6.4	6.0	6.4
% live crop	103	102	102	92	97
eggs per hen	126	120	131	144	140

\*The method of calculating used in calculating the percentage of the different kinds of high return crops was changed considerably in 1944.