UNIVERSITY OF MINNESOTA
Department of Agriculture
and the
TENNESSEE VALLEY AUTHORITY
and the
County Extension Services of
Becker, Kittson, Mahnomen, Marshall, Norman,
Pennington, Polk, Red Lake and Roseau Counties
Cooperating

-O-

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

(Mar. 1, 1942, to Feb. 28, 1943)

-O-

Cooperator_____

Mimeographed Report No. 140
Division of Agricultural Economics
University Farm
St. Paul Minnesota
June 1943

500 6/43

THIRD ANNUAL REPORT OF THE FARM MANAGEMENT SERVICE FOR T.V.A. PHOSPHATE-TEST DEMONSTRATION COOPERATORS IN NORTHWESTERN MINNESOTA FOR THE YEAR 1942

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

INDEX

INTRODUCTION

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 northwestern 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 T.V.A. phosphate furnished and $10.00 per year to cover the summarization of the records and other miscellaneous expenses. The balance of the cost is defrayed by the University of Minnesota.

The analysis of the farm business record 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 C. L. McNelly and P. M. Burson in charge of this work. J. R. Burkholder was the fieldman on this project. County agricultural agents who cooperated in this project include Martin Ostrem, Howard Grow, W. L. Beneditz, Ray Reierson, George Landsverk, Ernest Palmer, Carl G. Ash, Rudolph Stolen, John Dysart, E. T. Larvick, and M. C. Wangsness.

The following tabulation shows by counties the number of cooperators who completed records in 1942:

Becker	4	Pennington	10
Kittson	7	Polk	14
Mahnomen	8	Red Lake	5
Marshall	14	Roseau	13
Norman	12		
		Total	87

The tables on page 4 and succeeding pages show 79 farms. Eight farms have been omitted from all averages in the tables because the records were 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 24 cooperators. Supplementary information was secured during the year regarding crop and livestock production practices.

At the end of the year, the books were taken to the central office at University Farm, where they were checked and summarized. For the purpose of comparison, the earnings as shown in this report are computed as if each operator was a full owner; however, each tenant is supplied a statement of his earnings on the basis of the rental system under which he is operating.

TYPE OF FARMING*

Wheat, flax, sugar beets, potatoes, and legume seeds are grown for sale as cash crops. Dairying is the most important livestock enterprise with sheep ranking second. Some beef cattle and poultry and a small amount of hogs are also raised. Oats, barley, hay, and pasture are important feed crops.

TOPOGRAPHY, SOILS, AND WEATHER

The Red River Valley in the western part of the area is very level with black surface soils that are free of stone except in a few places where the deposit from glacial Lake Agassiz is very shallow. Along the beaches of the glacial lake the soils are gravelly and interspersed with poorly drained areas. In extremely wet seasons the surplus water can be drained from the land only very slowly. A large acreage of poorly drained land is used for hay.

East of the Red River Valley is an area lying within the old lake bed that is also very level. The soils are complexly intermixed and poorly drained. Bog areas are numerous, part open and part timbered with tamarack and spruce. A large amount of peat is found in the eastern portion of the territory.

---

*For a more complete description of the area see Engene, S. A., and Pond, G. A., "Agricultural Production and Types of Farming in Minnesota," Minnesota Bulletin No. 347, May, 1940.

Table 1. Monthly and Annual Precipitation

	Ada		Fosston		Angus		Roseau	
	Precipitation	Departure from normal	Precipitation	Departure from normal	Precipitation	Departure from normal	Precipitation	Departure from normal
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches
January	0.23	-0.21	0.17	-0.27	0.18	-0.18	0.34	-0.23
February	0.14	-0.35	0.33	-0.27	0.20	-0.25	0.31	-0.19
March	2.00	+1.33	1.53	+0.57	2.26	+1.70	2.47	+1.52
April	2.76	+1.10	2.63	+1.36	2.58	+1.04	2.89	+1.63
May	1.80	-1.03	2.01	-0.63	1.99	-0.39	2.57	+0.28
June	2.15	-1.50	2.05	-1.64	2.13	-1.29	1.33	-1.84
July	2.62	-0.34	3.37	+0.52	4.26	+1.30	3.91	+0.65
August	7.28	+4.44	11.41	+8.57	3.85	+1.11	5.50	+2.65
September	1.37	-0.87	1.84	-0.62	1.32	-0.73	1.28	-1.27
October	0.21	-1.28	0.60	-0.92	0.10	-1.34	0.26	-1.19
November	0.32	-0.43	0.59	-0.29	0.39	-0.33	0.72	-0.17
December	0.90	+0.34	1.27	+0.61	0.57	+0.05	0.77	+0.17
1942 total	21.78	+1.20	27.80	+6.99	19.83	+0.69	22.35	+2.01
1941 total	33.39	+12.81	32.82	+12.01	27.01	+7.87	25.11	+4.77
1940 total	17.68	-2.90	19.96	-0.85	18.75	-0.39	19.79	-0.55
1939 total	16.91	-3.67	17.18	-3.63	17.95	-1.19	16.44	-3.90
1938 total	23.10	+2.52	19.06	-1.75	15.06	-4.08	17.16	-3.18
Normal annual precipitation	20.58		20.81		19.14		20.34	

No unusually high or low temperatures occurred in 1942. The early spring months were considerably warmer and wetter than usual. Favorable weather conditions in late May and June permitted field work to progress rapidly. Rust damage occurred with flax suffering the most. Heavy rains delayed the cutting of the second crop of hay, harvesting and threshing, and caused considerable damage to hay, grain in shocks and to potatoes. Freezing temperatures on September 25-26 damaged some crops, especially corn and potatoes. Ideal weather in October lessened the effect of the September freeze. December was very cold and wet.

Table 2. Monthly and Annual Temperature, 1942

	Ada		Fosston		Angus		Roseau	
	Temperature (degrees, F.)	Departure from normal	Temperature (degrees, F.)	Departure from normal	Temperature (degrees, F.)	Departure from normal	Temperature (degrees, F.)	Departure from normal
January	15.2	+11.0	14.9	+12.5	15.2	+13.2	11.8	+10.9
February	13.2	+5.7	13.7	+5.4	12.0	+5.4	8.3	+3.1
March	32.5	+9.6	31.0	+7.5	30.6	+8.3	28.6	+8.3
April	47.9	+5.8	50.8	+9.6	47.0	+6.3	43.2	+2.9
May	52.7	-1.3	51.3	-1.3	52.0	-0.5	49.3	-3.1
June	62.5	-1.2	61.2	-1.9	61.6	-0.8	60.6	-2.1
July	68.2	-0.4	66.6	-1.0	66.2	-0.5	64.6	-1.9
August	67.6	+1.5	66.0	+1.0	66.1	+1.6	63.4	-0.4
September	54.2	-2.8	55.4	-1.0	53.4	-2.6	50.6	-4.5
October	47.4	+3.6	45.4	+1.6	46.2	+3.1	43.6	+1.1
November	27.4	+1.3	26.6	+0.4	25.8	-0.3	21.7	-2.7
December	7.4	-3.4	5.5	-4.6	5.4	-3.7	1.9	-6.3

Table 3. Summary of Farm Inventories (Beginning of Year), 1942

Items	Your farm	Average of 79 farms	16 most profitable farms	16 least profitable farms
Size of farm (acres)	_____	396	519	366
Size of business (work units)*	_____	475	629	398
Horses	$_____	$ 303	$ 281	$ 307
Productive livestock (total)	_____	2,130	2,736	1,737
Dairy and dual-purpose cows	_____	743	749	817
Other dairy & dual-purpose cattle	_____	496	416	617
Beef cattle (including feeders)	_____	347	927	9
Hogs	_____	177	348	70
Sheep (farm flock)	_____	294	187	169
Poultry (including turkeys)	_____	73	109	55
Crop, seed, and feed	_____	1,332	3,292	600
Mach. & equipment (total)	_____	2,499	4,260	1,785
Power mach. (f. share)	_____	1,099	1,891	809
Crop & gen. mach.	_____	1,178	2,037	777
Livestock equip. & supplies	_____	222	332	199
Buildings, fences, etc.	_____	3,735	5,200	2,955
Land	_____	4,714	9,274	4,016
Total farm capital	$_____	$14,713	$25,043	$11,400

*Explanation of term: "Work units."

The total "work units" for any one farm is a measure of size of that farm business. It is the accomplishment of a farm worker in a ten-hour day working on crops and productive livestock at average efficiency.

The number of work units for each animal and each acre of crops used in this report are listed as follows:

Item	Per	No. of work units	Item	Per	No. of work units
Dairy and dual-purpose cows	cow	15.5	Small grain	acre	.6
Other dairy & dual-purpose cattle	animal unit*	2.4	Seed potatoes	"	4.3
Beef breeding herd		4.3	Other potatoes	"	3.8
Sheep - farm flock		2.2	Sugar beets	"	2.5
Hens	100 hens	28.0	Corn, husked	"	1.3
Feeder cattle	100 lbs. produced	.3	Corn, shredded	"	2.0
Hogs		.3	Corn silage	"	1.4
Turkeys		.7	Corn fodder	"	1.1
			Alfalfa hay	"	.8
			Other hay crops	"	.6
			Legume seed	"	1.0

*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 1,400 lbs. turkeys produced.

Table 4. Summary of Farm Inventories (End of Year), 1942

Items	Your farm	Average of 79 farms	16 most profitable farms	16 least profitable farms
Horses	$____	$ 302	$ 271	$ 305
Productive livestock (total)	____	2,706	3,826	2,015
Dairy & dual-purpose cows	____	826	733	880
Other dairy & dual-purpose cattle	____	634	566	732
Beef cattle (including feeders)	____	403	1,335	14
Hogs	____	359	667	174
Sheep (farm flock)	____	379	344	151
Poultry (including turkeys)	____	105	181	64
Crop, seeds, and feed	____	1,454	3,088	560
Mach. & equipment (total)	____	2,545	4,377	1,721
Power machinery (f. share)	____	1,096	1,923	770
Crop and gen. machinery	____	1,198	2,023	756
Livestock equipment & supplies	____	251	431	195
Buildings, fences, etc.	____	3,801	5,235	2,971
Land	____	4,714	9,274	4,016
Total farm capital	$____	$15,522	$26,071	$11,588

Table 5. Summary of Amount of Livestock

Items	Your farm	Average of 79 farms	16 most profitable farms	16 least profitable farms
No. of horses	____	3.7	3.7	3.8
No. of colts	____	.7	.5	.9
No. of dairy & dual-purpose cows	____	11.9	10.4	12.8
Head of other dairy & dual-purpose cattle	____	15.8	11.6	17.8
Head of cattle kept in beef breeding herd	____	4.3	14.2	.3
Litters of pigs raised	____	4.0	7.5	1.6
Pounds of hogs produced	____	6,654	14,546	2,726
Head of sheep (2 lambs = 1 head)	____	38.4	27.1	19.9
No. of hens	____	98	177	52
Total no. of prod.livestock animal units	____	33.6	42.6	27.5
% of total that are:				
Dairy and dual-purpose cows	____	38.3	26.4	46.3
Other dairy and dual-purpose cattle	____	26.8	15.5	33.4
Beef cattle (including feeders)	____	7.4	26.6	.5
Sheep - farm flock	____	14.2	7.3	11.3
Hogs	____	8.0	14.4	4.2
Turkeys & capons	____	2.3	5.7	2.0
Chickens	____	3.0	4.1	2.3

Table 6. Summary of Farm Earnings (Cash Statement), 1942

Items	Your farm	Average of 79 farms	19 most profitable farms	19 least profitable farms
FARM EXPENSES				
Horses bought	$_____	$ 17	$ 11	$ 14
Dairy and dual-purpose cows bought	_____	51	30	5
Other dairy & daul-purpose cattle bought	_____	38	30	73
Beef cattle bought (including feeders)	_____	83	323	3
Hogs bought	_____	54	134	18
Sheep bought	_____	36	5	19
Poultry bought (including turkeys)	_____	66	181	32
Misc. crop expenses	_____	265	701	117
Feed bought	_____	380	836	292
Power mach. (farm share) (new)	_____	124	195	67
Power mach. (farm share) (upkeep)	_____	462	815	363
Custom work hired	_____	81	91	40
Crop and general mach. (new)	_____	165	181	113
Crop and general mach. (upkeep)	_____	88	155	46
Livestock equipment (new)	_____	60	147	20
Livestock equipment (upkeep)	_____	17	35	10
Misc. livestock expense	_____	31	57	19
Buildings and fencing (new)	_____	208	234	167
Buildings and fencing (upkeep)	_____	84	120	62
Hired labor	_____	324	658	197
Taxes (real estate and personal prop.)	_____	200	308	170
Insurance	_____	22	22	23
General farm	_____	34	59	25
(1) Total farm purchases	$_____	$2,890	$5,328	$1,895
(2) Decrease in farm capital	_____	-	-	-
(3) Board furnished hired labor	_____	134	224	99
(4) Interest on farm capital	_____	756	1,278	575
(5) Unpaid family labor	_____	402	516	308
(6) Total farm expenses (Sum of (1)to(5)	$_____	$4,182	$7,346	$2,877
FARM RECEIPTS				
Horses	$_____	$ 21	$ 18	$ 17
Dairy and dual-purpose cows	_____	197	158	200
Dairy products	_____	1,054	1,178	941
Other dairy and dual-purpose cattle	_____	379	292	483
Beef cattle (including feeders)	_____	257	719	4
Hogs	_____	750	1,761	253
Sheep and wool	_____	327	222	229
Poultry (including turkeys)	_____	451	1,242	285
Eggs	_____	263	495	125
Potatoes	_____	272	781	1
Small grain	_____	1,150	3,563	285
Other crops	_____	161	142	170
Power machinery sold	_____	32	37	22
Crop and gen. mach. sold	_____	24	19	11
Misc.	_____	96	220	71
Income from work off the farm	_____	99	86	104
Agricultural Adjustment payments	_____	227	426	138
(7) Total farm sales	$_____	$5,760	$11,359	$3,339
(8) Increase in farm capital	_____	809	1,028	188
(9) Family living from the farm	_____	502	587	404
(10) Total farm receipts (7) + (8) + (9)	$_____	$7,071	$12,974	$3,931
(6) Total farm expenses	_____	4,182	7,346	2,877
(11) Operator's labor earnings (10) - (6)	_____	2,889	5,628	1,054

Table 7. Summary of Farm Earnings (Enterprise Statement), 1942 (A)

Items	Your farm	Average of 79 farms	16 most profitable farms	16 least profitable farms
EXPENSES AND NET DECREASES				
Total power	$____	$ 661	$ 1,004	$ 538
Horses	____	111	121	101
Tractor	____	301	509	213
Truck	____	65	173	25
Auto (farm share)	____	129	139	150
Gas engine (farm share)	____	8	1	18
Elec. plant or current (farm share)	____	16	28	12
Hired power	____	31	33	19
Crop and general machinery	____	215	306	164
Livestock equipment	____	42	65	35
Buildings, fencing, and tiling	____	152	230	151
Misc. productive livestock expense	____	30	55	18
Labor	____	881	1,417	613
Real estate taxes	____	168	261	143
Personal property tax	____	32	47	27
Insurance	____	22	22	23
General farm	____	34	59	25
Interest on farm capital	____	756	1,278	575
(1) Total expenses and net decreases	$____	$2,993	$4,744	$2,312
RETURNS AND NET INCREASES				
All productive livestock	$____	$4,263	$6,803	$2,947
Dairy and dual-purpose cows	____	1,305	1,196	1,247
Other dairy and dual-purpose cattle	____	660	542	689
Beef breeding herd	____	220	833	7
Feeder cattle	____	29	134	0
Hogs	____	939	2,030	386
Sheep - farm flock	____	378	375	191
Turkeys and capons	____	362	1,026	254
Chickens	____	370	667	173
Crops, seed, and feed	____	1,192	2,922	90
Income from work off the farm	____	99	86	104
Agricultural Conservation payments	____	227	426	138
Miscellaneous	____	101	135	87
(2) Total returns and net increases	$____	$5,882	$10,372	$3,366
(1) Total expenses and net decreases	$____	$2,993	$ 4,744	$2,312
(3) Oper. labor earnings (2) minus (1)	$____	$2,889	$ 5,628	$1,054

(A) 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 on page 6.

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 $5,628 and of those in the lower 20 per cent was $1,054. This is a range of $4,574 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. Because of the great importance of size of business in 1942, some of these factors do not show a significant relationship with earnings.

Table 8. Relation of Crop Yields to Farm Earnings

Per cent crop yields were of the average for all 79 farms		No. of	Average operator's
Group	Average	farms	labor earnings
Below 80	69	17	$1,402
80-123	99	47	2,969
124 and above	138	15	4,320

The data in Table 8 show that the farmers obtaining high yields had higher earnings than those obtaining low yields. 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 9. Relation of Choice of Crops to Farm Earnings

Per cent of tillable land in high return crops*		No. of	Average operator's
Group	Average	farms	labor earnings
Below 31.0	22.7	18	$2,115
31.0-43.9	38.0	38	3,027
44.0 and above	51.2	23	3,265

*Crops are marked on page 14 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 selection of kinds of crops to be grown as well as by the yields of crops. As a rule, on these farms, such crops as alfalfa, hard spring wheat, flax, barley, sugar beets, and potatoes 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 10. Relation of Returns from Productive Livestock to Farm Earnings

Index of gross returns from productive livestock* Group	Average	No. of farms	Average operator's labor earnings
Below 88	77	22	$1,942
88-112	100	35	3,017
113 and above	124	22	3,630

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

Many 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 11. Relation of Amount of Productive Livestock to Farm Earnings

Productive livestock units per 100 acres* Group	Average	No. of farms	Average operator's labor earnings
Below 9.0	6.4	23	$2,835
9.0-12.9	10.9	29	2,876
13.0 and above	17.9	27	2,948

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

The amount of livestock is an important factor only on livestock farms. 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 12. Relation of Size of Business (Work Units) to Farm Earnings

No. of work units Group	Average	No. of farms	Average operator's labor earnings
Below 350	296	17	$1,829
350-549	440	42	2,725
550 and above	700	20	4,133

The size of the farm business is measured in terms of work units. A work unit is the 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. 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 13. Relation of Amount of Work Accomplished per Worker to Farm Earnings

Work units per worker		No. of	Average operator's
Group	Average	farms	labor earnings
Below 200	173	24	$2,540
200-264	228	34	2,781
265 and above	320	21	3,461

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 14. Relation of Power, Machinery, Equipment, and Building Expense to Farm Earnings*

Expense per work unit		No. of	Average operator's
Group	Average	farms	labor earnings
$2.60 and above	$3.27	20	$3,347
$1.70-$2.59	2.16	40	2,488
Below $1.70	1.41	19	3,249

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

The expense for power, machinery, equipment, and buildings did not show any definite relationship with earnings in 1942. When the prices of farm products are high enough to make farming quite profitable, control over expenses is not so important as in periods of low prices. When prices are high, it is more important to secure high production than to hold down expenses. A high overhead expense may be due to a large amount of power and equipment which in turn is offset to some extent by a reduction in labor costs.

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.

EFFECT OF WELL-BALANCED EFFICIENCY ON FARM PROFITS

It is quite evident from this report that few farmers have a monopoly on efficiency. Quite often farm operators show efficient management in one part of the farm business, which is offset by poor results in other phases. These farmers get medium returns while those who fall down all along the line get the lowest returns, and on the other hand those few who can manage to attain high efficiency in all parts of their organization receive returns well above the average. This is illustrated in Table 15.

Table 15. 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, one or two	18	_____	xxxxxxxxxxxx	$1,900
Three or four	35	_____	xxxxxxxxxxxxxxxxxx	2,957
Five, six or seven	26	_____	xxxxxxxxxxxxxxxxxxxxxxxxxxx	4,185

The array in Table 15 indicates that it will be worth-while for each cooperator to study carefully his ranking on pages 12 and 13, and learn his standing in respect to each of the above factors and the elements of strength and weakness in his farm business.

Table 16. Measures of Farm Organization and Management Efficiency, 1942

Measures used in chart on page 13	Your farm	Average of 79 farms	16 most profitable farms	16 least profitable farms
Operator's labor earnings	$_____	$2,889	$5,628	$1,054
(1) Crop yields*	_____	100	123	77
(2) % of tillable land in high return crops**	_____	38.3	42.0	30.6
(3) Gross returns from prod. livestock***	_____	100	107	93
(4) Prod. livestock units per 100 acres****	_____	12.0	12.3	9.4
(5) Size of business - work units	_____	475	629	398
(6) Work units per worker	_____	236	254	228
(7) Power, mach., equip. & bldg.exp. per work unit	$_____	$2.26	$2.58	$2.26
Items related to some of the above measures:				
(3) Index of gross returns from -				
Dairy cattle	_____	100	114	83
Dual-purpose cattle	_____	100	98	96
Beef cattle - breeding herd	_____	100	110	-
Beef cattle - feeders	_____	100	102	-
Hogs	_____	100	97	103
Sheep - farm flock	_____	100	108	96
Turkeys	_____	100	96	103
Chickens	_____	100	107	84
(5) Work units on crops	_____	164	258	116
Work units on productive livestock	_____	286	349	256
Other work units	_____	25	22	26
(6) Total number of workers	_____	2.1	2.6	1.8
Number of family workers	_____	1.6	1.8	1.5
Number of hired workers	_____	.5	.8	.3
(7) Power expense per work unit	$_____	$1.38	$1.60	$1.36
Crop machinery expense per work unit	_____	.45	.46	.43
Livestock equip. expense per work unit	_____	.09	.12	.08
Bldgs. and fencing exp. per work unit	_____	.34	.40	.39

*Given as a percentage of the average.

**Crops are marked on page 14 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 12 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.

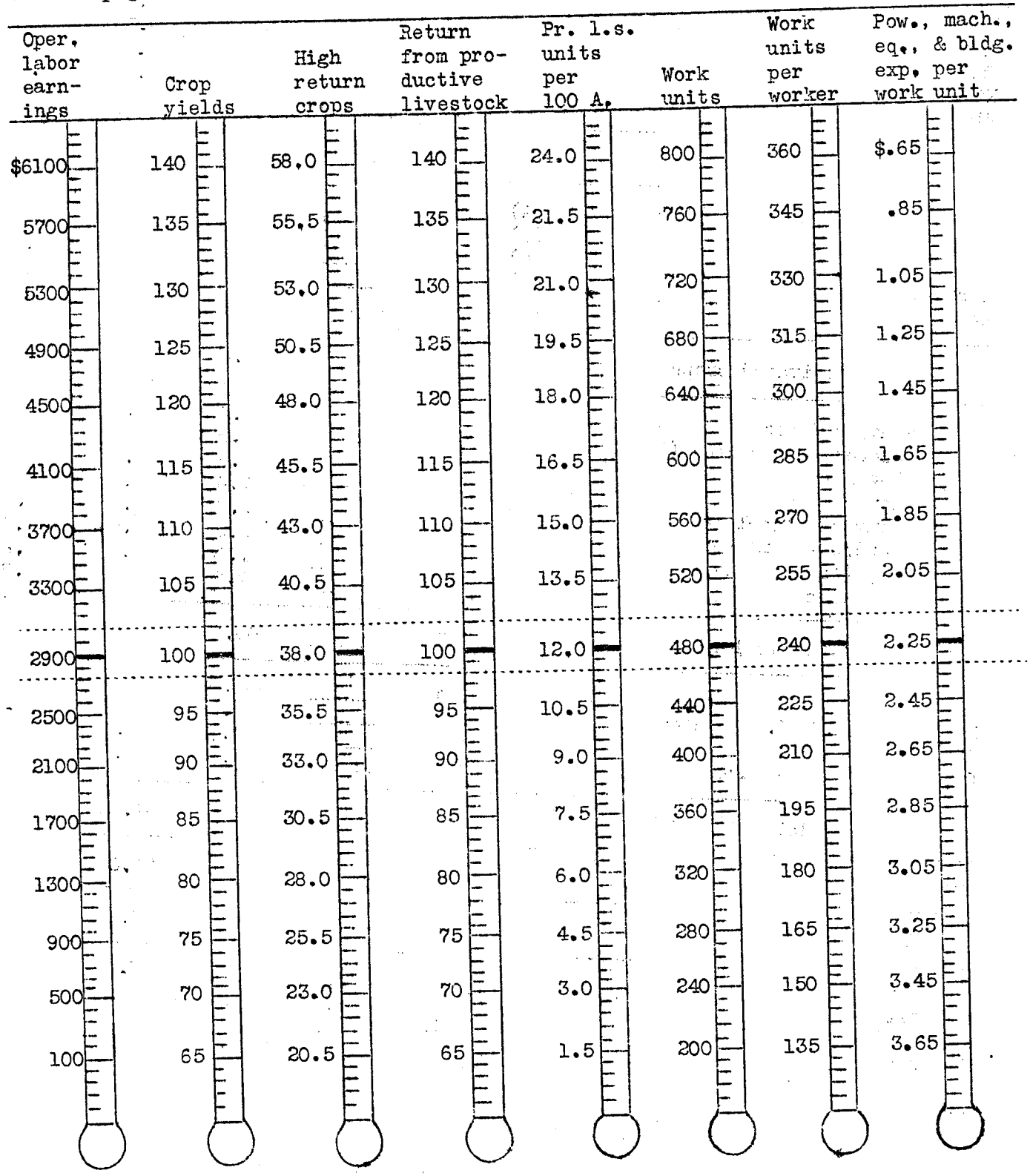

Table 17. Distribution of Acres in Farm, 1942

Crop: (A), (B), (C), and (D) refer to ranking used in calculating % of tillable land in High Return Crops (see page 12)		No. growing this crop	Your farm	Average of 79 farms	16 most profitable farms	16 least profitable farms
Wheat, hard spring	(A)	51		18.2	49.7	12.7
Flax	(B)	50		24.9	46.8	8.3
Barley	(B)	62		23.5	45.6	7.8
Oats	(C)	75		36.1	48.6	24.4
Wheat, durum	(C)	3		1.7	6.9	1.4
Rye	(D)	12		3.4	4.1	2.7
Emmer (spelt)	(D)	8		.8	1.1	.2
Millet	(D)	9		1.3	.7	2.6
Miscellaneous	(D)	3		.2	.0	.6
Total small grain		78		110.1	203.5	60.7
Sugar beets, seed potatoes, and garden	(A)	10		1.5	6.2	.0
Other potatoes	(B)	29		3.9	6.6	.8
Corn, grain	(C)	38		9.1	18.3	4.6
Corn silage	(D)	45		9.3	14.9	8.8
Corn fodder	(D)	18		2.5	1.3	4.3
Total cultivated crops		69		26.3	47.3	18.5
Alfalfa hay and seed	(hay A, seed B)	69		29.4	35.3	14.7
Alsike clover hay or seed	(hay B, seed C)	6		1.5	.0	1.5
Sweet clover hay	(C)	13		3.6	2.9	4.1
Sweet clover seed	(C)	27		7.6	5.3	12.6
Mixed legumes & non-legumes for hay	(C)	12		5.8	.0	15.8
Timothy and/or brome hay	(D)	16		3.2	.0	9.4
Annual hay (oat or millet)	(D)	9		1.5	.4	4.6
Misc. hay and seed crops	(D)	20		7.6	10.5	3.7
Total tillable land in hay		77		60.2	54.4	66.4
Alfalfa pasture	(A)	14		1.5	1.2	1.3
Mixture incl. alf., sw.clover, brome	(B)	34		10.5	10.0	8.0
Sweet clover pasture	(C)	47		20.0	30.7	12.2
Other tillable pasture	(D)	34		11.9	5.5	16.9
Total tillable land in pasture		74		43.9	47.4	38.4
Tillable land not cropped	(D)	57		40.2	71.8	37.7
Total tillable land				280.7	424.4	221.7
Wild hay (non-tillable)		25		7.9	3.1	8.5
Non-tillable pasture		50		37.3	32.2	54.4
Timber (not pastured)		30		14.0	3.7	4.3
Roads and waste				47.2	44.9	70.9
Farmstead				8.7	10.6	5.7
Total acres in farm				395.8	518.9	365.5
% tillable land				72.3	81.4	64.4
% tillable land in high return crops				38.4	42.0	30.6

Table 18. Crop Yields per Acre, 1942

Crop	Your farm	Average of 79 farms	16 most profitable farms	16 least profitable farms
Wheat, hard spring, bu.	_____	22.9	29.0	12.8
Flax, bu.	_____	6.0	6.7	3.5
Barley, bu.	_____	32.9	40.8	19.6
Oats, bu.	_____	46.8	50.7	34.0
Wheat, durum, bu.	_____	26.7	-	-
Rye, bu.	_____	13.4	27.8	8.2
Emmer (spelt), bu.	_____	25.9	-	-
Millet, bu.	_____	8.2	-	-
Seed potatoes, bu.	_____	79.6	-	-
Other potatoes, bu.	_____	66.9	80.4	64.7
Corn, grain, bu.	_____	24.7	34.8	16.0
Corn silage, tons	_____	6.3	5.9	4.9
Corn fodder, tons	_____	2.5	2.7	2.2
Alfalfa hay, tons	_____	1.8	2.0	1.7
Alsike clover hay, tons	_____	.9	-	-
Alsike clover seed, lbs.	_____	101.5	-	-
Sweet clover hay, tons	_____	1.4	1.7	1.2
Sweet clover seed, lbs.	_____	257.9	278.3	237.7
Mixed legume and non-legume hay, tons	_____	1.2	-	.9
Brome grass hay, tons	_____	1.7	-	-
Timothy hay, tons	_____	1.0	-	-
Millet hay, tons	_____	1.7	-	-
Oat hay, tons	_____	1.2	-	-
Timothy seed, lbs.	_____	212.8	-	-
Quack grass and junegrass hay, tons	_____	1.0	-	-
Wild hay, tons	_____	.6	.4	1.1

Table 19. Power and Machinery Expense, 1942

Item	Your farm	Average of 79 farms*	16 most profitable farms	16 least profitable farms
Crop acres per farm	_____	204.5	308.3	154.1
Tractor and horse expense per crop acre	$_____	$2.13	$2.23	$2.14
Crop and general mach. exp. per crop acre	_____	1.15	1.11	1.26
Feed cost per horse**	$_____	$27.90	$28.56	$25.31
Number of work horses	_____	3.8	3.9	3.8
Number of colts	_____	.7	.6	.9

*One farm did not have horses. The feed cost per horse and number of horses are averages of 78 farms.

**Two colts considered as one horse.

Table 20. Returns from Productive Livestock, 1942

Items	Your farm	Average of 79 farms	16 highest in livestock returns	16 lowest in livestock returns
DAIRY CATTLE--41 farms				
Gross returns per dairy cow	$____	$114.82	$149.15	$78.71
Pounds of butterfat per cow	____	230	293	168
No. of head of cows	____	13.2	10.1	14.0
Gross ret. per head other dairy cattle	$____	$ 46.40	$ 47.82	$36.91
Gross ret. per ani. unit all dairy cattle	$____	$ 99.19	$123.44	$70.75
No. of ani. units all dairy cattle	____	21.3	16.3	22.0
DUAL-PURPOSE CATTLE--33 farms				
Gross ret. per dual-purpose cow	$____	$105.72	$134.15	$81.02
Pounds of butterfat per cow	____	210	258	175
No. of head of cows	____	12.0	10.0	13.3
Gross ret. per head other du. pur. cattle	$____	$ 43.89	$ 58.95	$35.12
Gross ret. per ani.unit all du.pur.cattle	$____	$ 90.37	$113.77	$68.32
No. of animal units all dual-pur, cattle	____	21.8	18.3	25.9
PRICE RECEIVED PER LB. BUTTERFAT SOLD AS-				
Manufacturing cream (cents)	____	45.3	45.2	44.0
Retail milk or cream (cents) (5 cases)	____	54.0	-	-
BEEF-BREEDING HERD--10 farms				
Gross returns per animal unit	$____	$ 80.20	-	-
No. beef cows and bulls per herd	____	10.4	-	-
No. animal units per herd	____	21.4	-	-
FEEDER CATTLE--7 farms				
Gross ret. per cwt. produced	$____	$ 11.73	-	-
Lbs. of cattle produced	____	2934	-	-
Price received per cwt. sold	$____	$ 10.18	-	-
SHEEP - FARM FLOCK--42 farms				
Gross ret. per head*	$____	$ 11.02	$ 14.80	$ 8.91
No. of head of sheep	____	71.5	43.5	98.8
No. of ewes kept for lambing	____	46.5	28.9	63.0
% lamb crop	____	114	110	107
% death loss	____	7.4	7.7	9.0
Lbs. wool per sheep sheared	____	7.9	8.0	6.9
Price received per lb. wool sold (cents)	____	41.3	40.7	38.3
Price received per 100 lbs. lambs sold	$____	$ 13.31	$ 14.07	$12.67
HOGS--65 farms				
Gross ret. per cwt. produced	$____	$ 14.38	$ 14.27	$14.84
Lbs. hogs produced	____	7887	4232	4753
Total no. litters	____	4.8	3.5	4.2
Pigs per litter	____	7.3	6.5	7.6
Price received per cwt. sold	$____	$ 13.52	$ 13.40	$14.80
CHICKENS--55 farms				
Gross ret. per hen	$____	$ 3.85	$ 4.13	$ 3.59
No. of hens	____	139	113	149
Eggs laid per hen	____	129	134	128
Price received per doz. eggs sold (cents)	____	28.1	28.2	27.4
TURKEYS--17 farms				
Gross ret. per cwt. produced	$____	$ 31.77	$ 30.18	$29.99
Lbs. turkeys produced	____	5554	6263	7502
Price received per lb. sold (cents)	____	31.7	30.7	30.4

*Two lambs under 6 months of age considered as one head.

Table 21. Farm Produce Used in House and House Rental, 1942

Items	Quantities: Your farm	Quantities: Average of 79 farms	Quantities: 16 most profitable farms	Quantities: 16 least profitable farms	Value: Your farm	Value: Average of 79 farms	Value: 16 most profitable farms	Value: 16 least profitable farms
No. of adult) Family	_____	3.6	3.4	3.1				
equivalents) Other*	_____	.5	.9	.5				
Whole milk	_____	833 qts.	843	843	$_____	$33.73	$34.09	$35.20
Skim milk	_____	306 qts.	0	6	_____	2.34	.00	.03
Cream	_____	456 pts.	466	337	_____	63.16	70.03	44.49
Farm-made butter	_____	38 lbs.	0	23	_____	16.74	.00	9.89
Eggs	_____	122 doz.	146	77	_____	33.16	39.64	21.11
Cattle	_____	290 lbs.	483	106	_____	29.08	50.69	10.06
Hogs	_____	452 lbs.	640	363	_____	60.64	84.58	47.85
Sheep	_____	17 lbs.	6	0	_____	1.77	.63	.00
Poultry	_____	120 lbs.	159	78	_____	19.88	24.56	17.64
Potatoes	_____	26 bu.	35	20	_____	24.55	33.63	19.19
Vegetables & fruits					_____	54.34	57.50	54.38
Farm fuel					_____	15.23	11.63	19.00
Rental val. of house					_____	147.65	179.95	125.57
Total					$_____	$502.27	$586.93	$404.41

Table 22. Household and Personal Expenses for Those Farms Which Kept Complete Accounts of These Expenses, 1942

Items	Your farm	Average of 24 farms	8 most profitable farms	8 least profitable farms
Number of persons - family	_____	4.9	6.6	4.3
Number of persons, (Family	_____	3.7	4.8	3.2
adult equivalent (Other*	_____	.4	.4	.2
Food and meals bought	$_____	$336	$428	$287
Operating and supplies	_____	66	71	84
Clothing and clothing materials	_____	154	212	107
Personal care, personal spending	_____	44	63	33
Furnishings and equipment	_____	81	133	29
Education, recreation, and development	_____	59	55	80
Medical care and health insurance	_____	63	79	40
Church, welfare, gifts, and taxes	_____	63	88	41
Personal share of auto expense	_____	31	29	17
Household share of elect. & gas eng. exp.	_____	5	5	7
H.H. & pers. sh. of new auto, gas eng. & motor bought	_____	15	35	1
Life insurance and other investments	_____	206	266	56
Total household and personal cash expenses	$_____	$1123	$1464	$782
Food furnished by the farm	$_____	$327	$418	$238
Fuel furnished by the farm	_____	14	7	14
House rental	_____	131	148	125
Total household and personal expenses	$_____	$1595	$2037	$1159

*Hired help or others boarded.

Table 23. Summary of Farm Earnings - Averaged by Counties, 1942

	W. Kittson W. Marshall W. Polk	Becker and Mahnomen	East Marshall	Norman	Pennington Red Lake	East Polk	Roseau E. Kittson
FARM EXPENSES							
Cattle bought	$353	$117	$290	$184	$114	$78	$119
Hogs bought	160	22	100	38	32	29	28
Sheep bought	3	45	70	20	45	72	13
Poultry bought	151	96	92	26	53	57	21
Feed	563	376	616	354	354	261	238
Other livestock expense	47	28	45	39	28	16	18
Crop expense	857	145	140	276	236	68	177
Power	1,111	361	588	513	769	420	518
Machinery and equipment	554	193	306	370	338	190	351
Custom work hired	160	112	35	78	66	72	53
Buildings	397	234	250	193	610	242	150
Hired labor	765	193	260	352	250	127	331
Taxes, insurance and miscellaneous	374	210	204	287	285	157	262
(1) Total purchases	5,495	2,132	2,996	2,730	3,180	1,789	2,279
(2) Decrease in capital	-	-	-	-	-	-	-
(3) Board to hired labor	239	75	119	166	107	50	167
(4) Unpaid family labor	271	492	301	342	578	369	414
(5) Interest on farm capital	1,223	532	583	891	724	555	764
(6) Total expenses	7,228	3,231	3,999	4,129	4,589	2,763	3,624
FARM RECEIPTS							
Cattle sales	$792	$671	$865	$1,419	$888	$519	$655
Dairy products	878	1,203	824	889	1,459	949	1,077
Hogs	1,432	763	143	1,138	752	602	438
Sheep	236	473	377	60	175	413	530
Poultry and eggs	1,182	991	1,344	531	562	512	225
Crop	4,934	455	1,061	1,795	1,096	231	1,613
AAA payment	495	95	188	204	240	116	250
Miscellaneous cash receipts	340	123	238	269	257	312	338
(7) Total farm sales	10,289	4,774	5,040	6.305	5.429	3,654	5,126
(8) Increase in capital	590	296	1,075	617	1,031	826	1,136
(9) Family living from farm	554	495	426	523	502	440	544
(10) Total receipts	11,433	5,565	6,541	7,445	6,962	4,920	6,806
(6) Total expenses	7,228	3,231	3,999	4,129	4,589	2,763	3,624
(11) Operator's labor earnings	4,205	2,334	2,542	3,316	2,373	2,157	3,182

Table 24. Miscellaneous Information - Averaged by Counties, 1942

	W. Kittson W. Marshall W. Polk	Becker and Mahnomen	East Marshall	Norman	Pennington Red Lake	East Polk	Roseau E. Kittson
FARM INVENTORIES (Beginning of Year)							
Horses	$187	$398	$197	$386	$350	$394	$208
Productive livestock	1,972	2,051	1,771	2,813	2,140	1,789	2,181
Crops, seeds, and feed	4,054	873	614	1,209	1,137	563	1,050
Machinery and equipment	3,936	1,826	2,298	2,710	2,312	1,556	2,765
Buildings	5,065	2,883	2,812	4,893	3,667	3,455	3,342
Land	8,947	2,433	3,422	5,502	4,365	2,932	5,178
Total farm capital	24,161	10,464	11,114	17,513	13,971	10,689	14,724
AMOUNT OF LIVESTOCK							
No. of work horses	2.9	4.5	2.7	4.5	3.5	4.8	3.3
No. of colts	.2	1.1	.9	.6	1.4	1.2	.0
No. of dairy and dual-purpose cows	9.7	11.1	11.3	9.5	16.3	11.8	12.8
Head other dairy and dual-purpose cattle	14.8	16.4	14.3	11.1	20.9	15.2	16.9
Head in beef-breeding herd	6.6	0	6.9	11.9	4.9	0	.7
Litters of pigs raised	6.5	3.9	.7	5.8	4.1	3.6	2.9
Pounds of hogs produced	12188	6303	1534	9582	6726	5796	4464
Head of sheep	24.8	45.3	34.4	6.9	24.1	38.8	81.0
No. of hens	129	126	113	66	83	102	81
Total no. of prod. livestock units	33.4	31.3	32.6	31.0	38.0	29.0	37.8
% of total prod. livestock units that are:							
Dairy and dual-purpose cows	33.2	38.2	41.3	33.0	46.0	40.6	36.5
Other dairy and dual-purpose cattle	27.8	30.4	24.9	21.6	28.9	26.9	27.0
Beef cattle (including feeders)	9.2	.4	9.0	25.7	5.2	0	2.3
Sheep (farm flock)	8.2	16.4	15.2	2.5	8.7	17.5	27.3
Hogs	12.6	8.1	2.1	12.4	6.9	9.9	5.0
Turkeys and capons	4.8	2.4	4.8	2.6	2.0	.7	0
Chickens	4.2	4.1	2.7	2.2	2.3	4.4	1.9

Miscellaneous Information (continued)

	W. Kittson W. Marshall W. Polk	Becker and Mahnomen	East Marshall	Norman	Pennington Red Lake	East Polk	Roseau E. Kittson
DISTRIBUTION OF ACRES IN FARMS							
Wheat - hard spring	61.8	8.3	3.6	21.9	21.1	5.2	8.6
Flax	37.5	4.0	35.7	16.6	19.2	2.6	51.3
Barley	48.2	28.9	13.0	30.0	16.7	10.9	18.2
Oats	44.3	33.8	31.8	45.7	42.3	19.4	33.5
Rye	11.1	0	4.4	6.7	0	2.4	5.1
Miscellaneous	6.5	.4	1.3	4.0	3.5	1.8	4.8
Total acres in small grain	209.4	75.4	89.8	124.9	102.8	42.3	121.5
Sugar beets, seed potatoes & gardens	7.0	.2	.4	.1	2.7	.2	.0
Other potatoes	8.5	1.0	2.8	9.2	.6	1.5	3.7
Corn (grain, silage, and fodder)	28.3	20.7	12.9	33.6	25.7	15.7	10.6
Total cultivated crops	43.8	21.9	16.1	42.9	29.0	17.4	14.3
Alfalfa hay or seed	23.8	19.2	25.4	19.3	35.1	24.3	49.8
Sweet clover hay	3.0	3.7	2.7	2.8	5.5	2.0	4.7
Sweet clover seed	1.0	.4	21.4	6.2	9.7	1.9	12.1
Misc. legumes & legume mixtures	0	1.6	11.0	0	1.1	20.5	15.6
Timothy & brome hay or seed	0	.7	9.1	5.2	.9	2.0	4.6
Other hay and seed crops	6.6	7.8	10.8	4.1	19.3	6.4	8.5
Total tillable land in hay	34.4	33.4	80.4	37.6	71.6	57.1	95.3
Alfalfa pasture & mixtures incl. sweet clover and brome	12.7	4.2	20.0	8.0	14.0	10.6	15.2
Sweet clover pasture	29.2	18.5	9.3	20.9	19.0	18.2	22.8
Other tillable pasture	8.8	6.5	29.3	11.2	11.1	12.3	8.1
Total tillable land in pasture	50.7	29.2	58.6	40.1	44.1	41.1	46.1
Tillable land not cropped	85.1	5.4	64.1	46.5	24.9	7.0	50.6
Total tillable land	423.4	165.3	309.0	292.0	272.4	164.9	327.8
Wild hay	0	12.3	13.8	3.8	10.0	3.8	10.8
Non-tillable pasture	0	39.8	28.0	25.7	51.2	30.2	69.0
Timber, roads, waste & farmstead	34.1	59.4	82.8	67.1	62.1	43.1	120.3
Total land in farms	457.5	276.8	433.6	388.6	395.7	242.0	527.9
% tillable land	91.7	65.7	72.7	76.9	71.2	71.6	61.5

Miscellaneous Information (continued)

	W. Kittson W. Marshall W. Polk	Becker and Mahnomen	East Marshall	Norman	Pennington Red Lake	East Polk	Roseau E. Kittson
CROP YIELDS PER ACRE							
Wheat, hard spring, bu.	27.0	21.8	27.8	22.1	19.2	24.3	21.1
Flax, bu.	8.9	6.0	4.3	4.5	4.7	4.0	7.7
Barley, bu.	38.0	32.3	31.4	33.0	34.3	36.5	26.5
Oats, bu.	53.5	51.7	48.7	43.8	46.3	46.2	41.1
Potatoes (excluding certified seed), bu.	56.4	65.8	75.3	46.9	-	60.9	80.0
Corn, grain, bu.	34.7	22.0	26.0	29.4	15.0	16.6	-
Corn silage, tons	6.2	6.3	7.8	6.4	5.9	4.5	6.7
Corn fodder, tons	-	2.5	2.9	2.7	2.0	-	1.3
Alfalfa hay, tons	1.9	1.9	1.9	2.0	1.8	2.0	1.4
Wild hay, tons	-	.6	.4	.9	.4	.6	.8
MEAS. OF FARM ORGANIZATION & MANAGEMENT EFFICIENCY							
Crop yields - % of average	120	99	94	105	90	92	102
% tillable land in high return crops	39.9	38.1	32.2	35.2	40.1	39.6	41.6
Index of returns from livestock	108	111	99	96	94	96	99
Animal units livestock per 100 A.	10.5	13.8	9.7	10.0	11.6	15.0	12.9
Total work units	550	386	470	463	538	400	502
Work units per worker	260	196	249	227	248	238	238
Expenses per work unit	$3.21	$2.50	$2.20	$2.17	$2.16	$1.66	$2.03
Work units on crops	244	108	154	186	170	96	183
Work units on livestock	290	272	285	254	349	262	285
Other work units	16	6	31	23	19	42	34
Total number of farm workers	2.2	2.0	1.9	2.2	2.2	1.7	2.1
Number of family workers	1.4	1.7	1.5	1.6	1.9	1.5	1.6
Number of hired workers	.8	.3	.4	.6	.3	.2	.5

Table 25. Summary of Farm Earnings by Years*

Items	1940	1941	1942
No. of farms	98	96	79
FARM EXPENSES			
Horses bought	$20	$19	$17
Dairy and dual-purpose cattle bought	71	58	89
Beef cattle bought (including feeders)	9	18	83
Hogs bought	10	24	54
Sheep bought (including feeders)	31	22	36
Poultry bought (including turkeys)	24	40	66
Miscellaneous crop expenses	149	150	265
Feed bought	138	187	380
Power machinery (farm share) (new)	226	222	124
Power machinery (farm share) (upkeep)	330	387	462
Custom work hired	74	63	81
Crop and general machinery (new)	195	261	165
Crop and general machinery (upkeep)	50	57	88
Livestock equipment (new)	29	51	60
Livestock equipment (upkeep)	5	8	17
Miscellaneous livestock expense	13	20	31
Buildings and fencing (new)	154	167	208
Buildings and fencing (upkeep)	79	52	84
Hired labor	211	236	324
Taxes	193	196	200
Insurance	5	16	22
General farm	24	28	34
(1) Total farm purchases	$2,040	$2,282	$2,890
(2) Decrease in farm capital	-	-	-
(3) Board furnished hired labor	103	107	134
(4) Interest on farm capital	691	710	756
(5) Unpaid family labor	295	338	402
(6) Total farm expenses (Sum of (1) to (5)	$3,129	$3,437	$4,182
FARM RECEIPTS			
Horses	$30	$37	$21
Dairy and dual-purpose cattle	325	409	576
Dairy products	610	864	1,054
Beef cattle (including feeders)	77	118	257
Hogs	166	333	750
Sheep and wool	222	242	327
Poultry (including turkeys)	173	245	451
Eggs	65	130	263
Potatoes	120	174	272
Small grain	560	625	1,150
Other crops	123	185	161
Power machinery sold	84	71	32
Crop and general machinery sold	32	44	24
Miscellaneous	133	86	96
Income from work off the farm	116	125	99
Agricultural Adjustment payments	252	248	227
(7) Total farm sales	$3,088	$3,936	$5,760
(8) Increase in farm capital	364	991	809
(9) Family living from farm	366	421	502
(10) Total farm receipts (7) + (8) + (9)	$3,818	$5,348	$7,071
(6) Total farm expenses	3,129	3,437	4,182
(11) Operator's labor earnings (10) - (6)	689	1,911	2,889

*The financial statements differ in that the unpaid family labor rate was $40 per month in 1940, $45 in 1941, and $55 in 1942; and the board for hired labor was calculated at $18 per month in 1940, $20 in 1941, and $25 in 1942.

Table 26. Summary of Miscellaneous Items by Years

Items	1940	1941	1942
Total farm capital (beginning of year)	$13,639	$13,713	$14,713
MEASURES OF FARM ORGANIZATION AND MANAGEMENT EFFICIENCY			
% tillable land in high return crops	34.9	37.6	38.3
Animal units of prod. livestock per 100 A.	9.6	10.5	12.0
Work units	456	481	475
Work units per worker	219	238	236
Expenses per work unit	$1.86	$1.83	$2.26
ACRES PER FARM - Total	397.1	390.2	395.8
Crop acres per farm	233.9	231.5	204.5
CROP YIELDS PER ACRE			
Wheat, bu. (hard spring)	15.0	15.4	22.9
Flax, bu.	7.3	4.5	6.0
Barley, bu.	20.0	23.8	32.9
Oats, bu.	26.7	32.2	46.8
Potatoes, bu.	103.4	58.7	66.9
Corn, grain, bu.	28.3	34.5	24.7
Corn silage, tons	6.1	6.2	6.3
Alfalfa hay, tons	1.2	1.7	1.8
Sweet clover hay, tons	.7	1.0	1.4
Sweet clover seed, lbs.	285.3	117.5	257.9
Wild hay, tons	.8	.5	.6
GROSS RETURNS PER:			
Dairy cow	$68.90	$95.93	$114.92
Dual-purpose cow	61.95	80.71	105.72
Animal unit in beef-breeding herd	58.04	57.03	80.20
Head of sheep in farm flock	5.93	7.05	11.02
100 lbs. hogs produced	5.81	10.70	14.38
Hen	1.86	2.88	3.85
100 lbs. turkeys produced	15.34	20.84	31.77
PRICE RECEIVED PER:			
Lb. butterfat sold to creameries (cts.)	30.4	37.4	45.3
100 lbs. lambs sold	$8.12	$9.88	$13.31
100 lbs. hogs sold	$5.32	$9.67	$13.52
Lb. wool sold (cts.)	28.9	40.0	41.3
Doz. eggs sold (cts.)	13.9	21.9	28.1
Lb. turkeys sold (cts.)	15.6	21.5	31.7
MISC. LIVESTOCK INFORMATION			
No. of work horses	4.0	3.6	3.7
No. of colts	.7	.8	.7
No. of dairy or dual-purpose cows	11.2	11.9	11.9
Head of other dairy or dual-purpose cattle	13.2	14.4	15.8
Head of cattle in beef-breeding herd	3.1	3.6	4.3
Litters of pigs	2.3	2.6	4.0
Pounds of hogs produced	3,586	4,271	6,654
No. of hens	60	66	98
Head of sheep	38.8	37.4	38.4
Pounds of butterfat per dairy cow	220	235	230
Pounds of butterfat per dual-purpose cow	196	202	210
No. of pigs weaned per litter	7.2	7.3	7.3
% lamb crop	103	108	114
Pounds wool per sheep sheared	7.8	7.5	7.9
Eggs per hen	121	121	129