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

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Annual Report of the Farm Management Service for T.V.A. Phosphate-Test Demonstration Cooperators in Southwestern Minnesota 1943

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Cooperator_____

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FOURTH ANNUAL REPORT OF THE FARM MANAGEMENT SERVICE FOR T.V.A. PHOSPHATE TEST DEMONSTRATION COOPERATORS IN SOUTHWESTERN MINNESOTA FOR THE YEAR 1943

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

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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 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 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 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. J. R. Burkholder was the field agent on this project until April 1, 1944, and was then succeeded by R. S. Harris. County agricultural agents who cooperated in this project include Paul Kunkel, Roland Abraham, Ronald McCamus, S. B. Simpson, A. B. Hagen, C. E. Stower, H. W. Soderburg, Wayne Hanson, and George Gehant.

The following tabulation shows by counties the number of cooperators who completed records in 1943:

Brown	11	Nobles	12
Jackson	11	Stevens	5
Kandiyohi	4	Swift	7
Martin	14	Watonwan	7
Murray	3	Yellow Medicine	8
		Total	82

The tables on page 4 and succeeding pages show data for 80 farms. Two farms have been omitted from all the 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 30 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 1943, as a whole, was considerably cooler and wetter than usual. The growth of vegetation was retarded and the planting of corn and other late crops was delayed. Growing conditions were more favorable during June although cultivating and haying were delayed and much damage occurred in low lands from heavy rains. Growing crops, especially corn, did well in July. There were some serious crop losses because of hail. Frequent showers delayed the second crop of hay, harvesting, and threshing of small grains, and resulted in some damage to grain in shocks and to hay. Dry, sunny weather during most of September and October was ideal for the maturing and harvesting of late crops. However, it was too dry for pastures and plowing. A severe snow storm during the period of November 6 to 8 resulted in a delay in the harvesting of corn, soybeans and hemp and in the loss of a considerable amount of soybeans and hemp.

Table 1. Monthly and Annual Precipitation

	Worthington		Fairmont		Willmar		Morris	
	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	0.70	+0.07	0.94	+0.14	1.87	+1.41	0.65	-0.12
February	0.42	-0.35	0.68	-0.29	0.83	-0.09	1.42	+0.74
March	1.30	+0.04	1.45	+0.04	1.73	+0.48	2.04	+1.08
April	0.57	-1.51	1.03	-1.20	0.54	-1.22	0.76	-1.19
May	4.29	+0.35	4.23	+0.18	4.48	+1.47	4.04	+0.83
June	9.19	+4.90	9.52	+5.18	5.62	+1.54	6.76	+2.7[illegible]
July	7.10	+3.71	6.40	+2.84	3.78	+0.58	2.28	-1.28
August	4.99	+1.23	7.85	+4.11	2.52	-1.12	4.14	+1.13
September	1.44	-2.10	0.98	-2.65	1.72	-1.38	1.36	-1.06
October	1.74	+0.05	1.19	-0.66	1.75	-0.03	1.64	0.00
November	1.39	+0.22	2.30	+0.79	1.40	+0.42	0.86	-0.18
December	0.02	-0.59	0.07	-0.83	T	-0.66	0.00	-0.66
1943 Total	33.15	+6.02	36.64	+7.65	26.24	+1.40	25.95	+2.01
1942 Total	33.47	+6.34	25.98	-3.01	34.42	+9.58	30.50	+6.56
1941 Total	28.22	+1.09	32.92	+3.93	28.91	+4.07	25.61	+1.67
1940 Total	22.50	-4.63	28.72	-0.27	21.89	-2.95	23.72	-0.22
1939 Total	24.27	-2.86	21.92	-7.07	18.99	-5.85	21.70	-2.24
Normal Annual Prec.	27.13		28.99		24.84		23.94	

Table 2. Monthly Temperatures, 1943

	Worthington		Fairmont		Willmar		Morris	
	Temperature	Departure from normal	Temperature	Departure from normal	Temperature	Departure from normal	Temperature	Departure from normal
	(Degrees Fahrenheit)							
January	7.1	-7.0	7.9	-5.9	2.8	-8.3	0.1	-8.2
February	20.2	+3.0	19.3	+2.2	15.2	+0.3	14.4	+1.9
March	23.8	-6.2	25.2	-4.9	22.0	-5.5	20.5	-6.4
April	44.7	-0.6	46.1	+0.1	45.3	+1.0	44.7	+0.2
May	53.1	-3.4	54.6	-2.9	53.7	-2.4	52.2	-3.7
June	67.4	+1.4	69.2	+1.9	68.3	+2.7	66.0	0.0
July	73.0	+1.8	74.7	+2.4	72.4	+1.4	71.8	+1.2
August	70.4	+1.3	70.8	+1.0	68.8	+0.5	69.1	+1.0
September	55.9	-5.2	57.2	-4.4	55.0	-4.5	55.9	-3.5
October	48.1	-0.3	49.4	+0.5	47.2	+0.7	49.2	+2.7
November	29.5	-3.0	28.8	-4.1	26.5	-2.8	29.4	-0.1
December	23.0	+3.6	22.6	+2.3	20.5	+4.8	22.4	+6.7

Table 3. Summary of Farm Inventories, 1943*

Items	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
Size of farm (acres)		241	326	207
Size of business (work units)**		545	710	466
Beginning of Year				
Productive livestock (total)	$	$5166	$8728	$3742
Dairy and dual purpose cows		825	823	863
Other dairy & dual pur. cattle		490	448	572
Beef cattle (incl. feeders)		1402	3790	355
Hogs		1872	2449	1420
Sheep (including feeders)		378	1036	337
Poultry (including turkeys)		199	182	195
Horses		299	380	272
Crop, seed, and feed		3519	5414	2321
Mach. & equipment (total)		3081	3803	2332
Power mach. (f. share)		1211	1521	929
Crop & gen. mach. (f. share)		1413	1709	1038
Livestock equip. & supplies		457	573	365
Buildings, fences, etc.		6500	7833	5512
Land		11087	16631	8844
Total farm capital	$	$29652	$42789	$23023
End of Year				
Productive livestock (total)	$	$5296	$9948	$3401
Dairy & dual purpose cows		820	796	790
Other dairy & dual purpose cattle		492	519	436
Beef cattle (incl. feeders)		1461	4339	227
Hogs		1775	2469	1319
Sheep (including feeders)		454	1461	364
Poultry (including turkeys)		294	364	265
Horses		270	364	238
Crop, seed, and feed		3933	7161	2296
Mach. & equipment (total)		3081	3775	2372
Power mach. (f. share)		1204	1586	933
Crop & gen. mach.		1389	1606	1048
Livestock equipment & supplies		488	583	391
Buildings, fences, etc.		6482	7751	5453
Land		11087	16630	8844
Total farm capital	$	$30149	$45629	$22604

*For the purpose of comparison, all the data shown in this report with the exception of Tables 8 and 9 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 4. Family Living from the Farm, 1943

Items	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
No. of persons (Family	____	3.1	3.5	2.8				
adult equiv. (Other*	____	.5	.7	.4				
Whole milk	____	1114 qts.	1340	1107	$____	$58.09	$61.34	$62.68
Skim milk	____	314 qts.	407	492	____	2.44	2.28	2.75
Cream	____	282 pts.	344	171	____	44.51	48.40	29.82
Farm made butter	____	7 lbs.	5	11	____	4.68	2.60	5.22
Eggs	____	179 doz.	196	133	____	59.30	64.42	44.41
Cattle	____	469 lbs.	445	562	____	52.24	59.34	64.16
Hogs	____	652 lbs.	674	645	____	86.75	89.78	86.64
Sheep	____	2 lbs.	-	-	____	.32	-	-
Poultry	____	137 lbs.	218	98	____	27.25	35.39	20.58
Potatoes	____	26 bu.	22	19	____	31.23	27.08	23.05
Vegetables & fruits					____	89.30	88.16	67.38
Farm fuel					____	13.89	20.63	8.38
Rental value of house					____	200.78	235.92	189.80
Total					$____	$670.78	$735.34	$604.87

Table 5. Household and Personal Expenses for Those Farms Which Kept Complete Accounts of These Expenses, 1943

Items	Your farm	Average of 30 farms	10 most profitable farms	10 least profitable farms
Number of persons - family	____	4.0	4.8	3.3
Number of persons, (Family	____	3.0	3.8	2.4
adult equivalent (Other*	____	.5	.5	.5
Food and meals bought	$____	$412	$460	$380
Operating and supplies	____	165	166	146
Clothing and clothing materials	____	216	285	157
Personal care, personal spending	____	55	66	43
Furnishings and equipment	____	54	42	34
Education, recreation and development	____	127	223	114
Medical care and health insurance	____	97	82	112
Church, welfare, gifts	____	172	206	180
Personal share of auto expense	____	56	52	50
Household share of elect. & gas eng. exp.	____	37	45	36
Life insurance and other investments	____	1001	1569	366
Income tax	____	508	798	190
Total household and personal cash expenses	$____	$2900	$3994	$1808
Food furnished by the farm	____	$427	$503	$337
Fuel furnished by the farm	____	14	21	16
House rental	____	193	211	167
Total household and personal expenses	$____	$3534	$4729	$2328

*Hired help or others boarded

Table 6. Summary of Farm Earnings (Cash Statement), 1943

Items	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
FARM EXPENSES				
Dairy and dual purpose cows bought	$	$ 27	$ 36	$ 16
Other dairy & dual purpose cattle bought		59	58	27
Beef cattle bought (including feeders)		339	624	5
Hogs bought		213	272	132
Sheep bought (including feeders)		340	1105	79
Poultry bought (including turkeys)		148	282	97
Horses bought		14	20	20
Misc. livestock expense		155	221	144
Misc. crop expenses		407	577	305
Feed bought		1750	2742	1405
Custom work hired		210	309	191
Mech. power mach. (farm share) (new)		181	263	196
Mech. power mach. (farm share) (upkeep)		116	130	126
Mech. power (farm share) (gas, oil, etc.)		402	446	377
Crop and general mach. (new)		165	87	154
Crop and general mach. (upkeep)		127	160	127
Livestock equipment (new)		101	77	101
Livestock equipment (upkeep)		52	72	52
Buildings and fencing (new)		299	339	295
Buildings and fencing (upkeep)		189	111	97
Hired labor		423	519	511
Taxes		260	366	212
General farm and insurance		79	85	70
(1) Total farm purchases	$	$6056	$8901	$4739
(2) Decrease in farm capital		-	-	419
(3) Board furnished hired labor		107	139	123
(4) Interest on farm capital		1495	2210	1141
(5) Unpaid family labor		463	621	312
(6) Total farm exp. (Sum of (1) to (5))	$	$8121	$11871	$6734
FARM RECEIPTS				
Dairy and dual purpose cows	$	$ 249	$ 280	$ 360
Dairy products		1014	932	822
Other dairy & dual purpose cattle		397	290	493
Beef cattle (including feeders)		1290	2689	469
Hogs		4048	5164	2776
Sheep and wool (including feeders)		511	1210	279
Poultry (including turkeys)		563	1644	222
Eggs		772	699	758
Horses		28	24	41
Corn		626	1321	148
Small grain		964	1707	697
Other crops		440	847	306
Machinery & equip. sold		105	40	103
Agricultural adjustment payments		239	333	217
Income from work off the farm		234	289	208
Misc.		53	93	18
(7) Total farm sales	$	$11533	$17562	$7917
(8) Increase in farm capital		497	2840	-
(9) Family living from the farm		671	735	605
(10) Total farm receipts (7) + (8) + (9)	$	$12701	$21137	$8522
(6) Total farm expenses		8121	11871	6734
(11) Oper. labor earnings (10) - (6)		4580	9266	1788

Table 7. Summary of Farm Earnings (Enterprise Statement), 1943*

Items	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
EXPENSES AND NET DECREASES				
Total power	$____	$ 853	$ 1012	$ 827
Horses	____	161	216	128
Tractor	____	343	398	364
Truck	____	47	72	28
Auto (farm share)	____	165	136	167
Gas engine (farm share)	____	3	3	3
Elec. plant or current (farm share)	____	42	50	46
Hired power	____	92	137	91
Crop and general machinery	____	297	371	256
Livestock equipment	____	112	139	104
Buildings, fencing and tiling	____	392	413	358
Misc. productive livestock expense	____	154	221	141
Labor	____	1046	1360	1000
Real estate taxes	____	217	301	179
Personal property tax	____	43	65	32
Insurance	____	28	26	29
General farm	____	50	59	40
Interest on farm capital	____	1495	2210	1141
(1) Total expenses & net decreases	$____	4687	6177	4107
RETURNS AND NET INCREASES				
All productive livestock	$____	$8244	$12205	$5876
Dairy and dual purpose cows	____	1163	1118	1115
Other dairy & dual purpose cattle	____	520	476	564
Beef breeding herd	____	559	1083	92
Feeder cattle	____	500	1655	117
Hogs	____	3885	5002	2742
Sheep - farm flock	____	135	199	228
Sheep - feeders	____	113	330	-
Turkeys	____	305	1357	15
Chickens	____	1064	985	1003
Crops, seed and feed	____	508	2550	-449
Income from labor off the farm	____	137	146	138
Agricultural conservation payments	____	239	333	217
Miscellaneous	____	139	209	113
(2) Total returns & net increases	$____	9267	15443	5895
(1) Total expenses & net decreases	____	4687	6177	4107
(3) Oper. labor earnings (2) - (1)	____	4580	9266	1788

*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 6.

Table 8. Net Worth Statement for Those Farmers Who Kept a Complete Record of All Assets and Liabilities*

	Your farm	26 owned farms	14 part-owned farms**	7 rented farms***
January 1, 1943				
Total acres in farm	_____	210.9	253.7	254.5
Owned	_____	210.9	176.5	-
Rented	_____	-	77.2	254.5
Total farm capital	$_____	$26281	$26603	$12788
Accounts receivable	_____	1065	148	279
Outside investments	_____	1909	1249	2481
Household and personal assets	_____	1421	2435	1314
Total assets	$_____	$30676	$30435	$16862
Total liabilities	$_____	$7375	$7077	$2262
Federal Land Bank	_____	2660	1797	-
Land Bank Commissioner	_____	321	-	-
Other mortg. on land operated	_____	2800	3621	-
Mortg. on other real estate	_____	-	143	357
Production Credit Assn.	_____	38	-	-
Sealed grain	_____	286	1052	96
Other chattel mortgages	_____	458	165	100
Notes payable	_____	665	295	1676
Accounts payable	_____	147	4	33
Farmer's net worth	$_____	$23301	$23358	$14600
December 31, 1943				
Total farm capital	$_____	$26927	$26983	$13838
Accounts receivable	_____	1024	43	3
Outside investments	_____	2802	2160	3605
Household and personal assets	_____	1750	2830	1715
Total assets	$_____	$32503	$32016	$19161
Total liabilities	$_____	$5939	$4712	$910
Federal Land Bank	_____	1935	900	-
Land Bank Commissioner	_____	189	-	-
Other mortg. on land operated	_____	2580	2999	-
Mortg. on other real estate	_____	46	136	-
Production Credit Assn.	_____	21	94	-
Sealed grain	_____	75	-	-
Other chattel mortgages	_____	413	254	100
Notes payable	_____	609	255	624
Accounts payable	_____	71	74	186
Farmer's net worth	$_____	$26564	$27304	$18251
Change in net worth	$_____	$+3263	$+3946	$+3651

*Only the operator's share of the assets and liabilities are included.
**7 rented for cash, 3 cash and crop share and 4 crop share.
***3 farms were rented for cash, 3 cash and crop share and 2 livestock share.

Table 9. Summary of Farm Earnings by Tenure, 1943

	Your farm	26 owners	14 part-owners	7 renters
FARM EXPENSES				
Dairy and dual purpose cows bought	$____	$13	$71	$54
Other dairy and dual purpose cattle bought	____	60	100	17
Beef cattle bought (including feeders)	____	341	262	782
Hogs bought	____	191	215	38
Sheep bought (including feeders)	____	24	126	627
Poultry bought (including turkeys)	____	108	184	335
Horses bought	____	10	-	47
Misc. livestock expenses	____	162	148	155
Misc. crop expenses	____	352	482	489
Feed bought	____	1464	1957	2496
Custom work hired	____	173	228	221
Mech. power mach. (farm share) (new)	____	105	92	186
Mech. power mach. (farm share) (upkeep)	____	95	161	74
Mech. power (farm share) (gas, oil, etc.)	____	348	457	345
Crop and general mach. (new)	____	156	193	46
Crop and general mach. (upkeep)	____	88	134	164
Livestock equipment (new)	____	129	100	103
Livestock equipment (upkeep)	____	46	46	99
Buildings and fencing (new)	____	163	509	127
Buildings and fencing (upkeep)	____	216	182	70
Hired labor	____	379	541	376
Taxes (real estate & pers. property)	____	210	233	35
General farm and insurance	____	88	73	64
Cash rent	____	-	213	712
Interest paid	____	279	290	102
(1) Total farm purchases	$____	$5200	$6997	$7764
(2) Decrease in farm capital	____	-	-	-
(3) Board furnished hired labor	____	97	139	89
(4) Interest on farm capital	____	1051	1049	563
(5) Unpaid family labor	____	323	185	536
(6) Total farm exp. (Sum of (1) to (5))	$____	$6671	$8370	$8952
FARM RECEIPTS				
Dairy and dual purpose cows	$____	$177	$460	$98
Dairy products	____	823	912	999
Other dairy and dual purpose cattle	____	264	368	243
Beef cattle (including feeders)	____	1376	854	1415
Hogs	____	3844	4701	3158
Sheep and wool (including feeders)	____	194	77	2467
Poultry (including turkeys)	____	259	1187	1543
Eggs	____	747	744	595
Horses	____	31	26	10
Corn	____	241	1005	162
Small grain	____	890	954	738
Other crops	____	256	856	680
Machinery & equipment sold	____	74	88	65
Agricultural adjustment payments	____	257	238	174
Income from work off the farm	____	193	406	213
Misc.	____	25	133	58
(7) Total farm sales	$____	$9651	$13009	$12618
(8) Increase in farm capital	____	646	379	1050
(9) Family living from the farm	____	685	627	786
(10) Total farm receipts (7) + (8) + (9)	$____	$10982	$14015	$14454
(6) Total farm expenses	____	6671	8370	8952
(11) Operator's labor earnings (10) - (6)	____	4311	5645	5502
(12) Ret. cap. & family labor (4) + (5) + (11)	____	5685	6879	6601

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 $9,266 and of those in the lower 20 per cent was $1,788. This is a range of $7,478 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 1943 some of these factors do not show a significant relationship with earnings.

Table 10. Relation of Crop Yields to Farm Earnings

Per cent crop yields were of the average for all 80 farms		No. of	Average operator's
Group	Average	farms	labor earnings
Below 90	74	25	$2,739
90-113	101	33	4,718
114 and above	128	22	6,465

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*		No. of	Average operator's
Group	Average	farms	labor earnings
Below 36.0	31.2	18	$3,659
36.0 - 46.9	41.0	45	4,533
47.0 and above	54.0	17	5,680

*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* Group	Average	Number of farms	Average operator's labor earnings
Below 89	78	21	$3,601
89 - 109	99	36	4,603
110 and above	122	23	5,437

*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* Group	Average	Number of farms	Average operator's labor earnings
Below 15.0	11.4	19	$3,454
15.0 - 27.9	21.7	39	4,439
28.0 and above	36.6	22	5,803

*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 Group	Average	Number of farms	Average operator's labor earnings
Below 375	297	16	$3,054
375 - 649	513	45	4,415
650 and above	828	19	6,257

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	190	19	$3,405
220 - 319	270	42	4,556
320 and above	373	19	5,809

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
$3.75 and above	$4.73	20	$2,952
$2.50 - $3.74	3.06	39	5,094
Below $2.50	2.12	21	5,176

*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.

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 well illustrated in Table 17.

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	10	_____	xxxxxxxxx	$2,361
Two	15	_____	xxxxxxxxxxxx	3,018
Three	16	_____	xxxxxxxxxxxxxxxxx	4,388
Four	19	_____	xxxxxxxxxxxxxxxxxxx	4,763
Five	14	_____	xxxxxxxxxxxxxxxxxxxxxxx	5,774
Six or seven	6	_____	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	9,328

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, 1943

Measures used in chart on page 15	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
Operator's labor earnings	$_____	$4,582	$9,266	$1,788
(1) Crop yields*	_____	100	122	80
(2) % of tillable land in high return crops**	_____	41.6	45.1	41.3
(3) Gross returns from prod. livestock***	_____	100	102	96
(4) Prod. livestock units per 100 acres****	_____	23.3	25.3	18.8
(5) Size of business - work units	_____	545	710	466
(6) Work units per worker	_____	273	309	245
(7) Power, mach., equip, & bldg. exp.per work unit	$_____	$3.23	$2.78	$3.67
Measures and items related to some of the above measures:				
(3) Index of gross returns from -				
Dairy cattle	_____	100	99	93
Dual purpose cattle	_____	100	107	101
Beef cattle - breeding herd	_____	100	101	73
Beef cattle - feeders	_____	100	98	-
Hogs	_____	100	94	105
Sheep - farm flock	_____	100	104	88
Sheep - feeders	_____	100	113	-
Turkeys	_____	100	103	-
Chickens	_____	100	105	78
(5) Work units on crops	_____	179	258	154
Work units on productive livestock	_____	338	423	285
Other work units	_____	27	29	28
(6) Total number of workers	_____	2.0	2.3	1.9
Number of family workers	_____	1.5	1.7	1.3
Number of hired workers	_____	.5	.6	.6
(7) Power expense per work unit	$_____	$1.68	$1.48	$1.97
Crop machinery expense per work unit	_____	.59	.54	.63
Livestock equipment expense per work unit	_____	.22	.19	.21
Buildings and fencing expense per work unit	_____	.74	.57	.86

*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 80 farms included in this summary are located between the dotted lines across the center of this page.

Oper. labor earnings	Crop yields	High return crops	Return from productive livestock	Pr. l.s. units per 100 A.	Work units	Work units per worker	Pow., mach., eq., & bldg. exp. per work unit
$10175	148	57.5	140	39.0	865	395	$1.25
9475	142	55.5	135	37.0	825	380	1.50
8775	136	53.5	130	35.0	785	365	1.75
8075	130	51.5	125	33.0	745	350	2.00
7375	124	49.5	120	31.0	705	335	2.25
6675	118	47.5	115	29.0	665	320	2.50
5975	112	45.5	110	27.0	625	305	2.75
5275	106	43.5	105	25.0	585	290	3.00
4575	100	41.5	100	23.0	545	275	3.25
3875	94	39.5	95	21.0	505	260	3.50
3175	88	37.5	90	19.0	465	245	3.75
2475	82	35.5	85	17.0	425	230	4.00
1775	76	33.5	80	15.0	385	215	4.25
1075	70	31.5	75	13.0	345	200	4.50
375	64	29.5	70	11.0	305	185	4.75
-325	58	27.5	65	9.0	265	170	5.00

Table 19. Distribution of Acres in Farm, 1943

Crop: (A), (B), (C), and (D), refer to ranking used in calculating % of tillable land in High Return Crops (see page 14)		No. growing this crop	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
Canning peas	(A)	5		.9	-	.6
Flax	(B)	66		27.6	44.6	25.4
Barley	(C)	20		6.5	8.4	2.8
Barley and oats	(C)	6		2.8	8.4	-
Wheat	(C)	24		3.7	1.9	4.2
Oats (including oats & wheat)	(D)	77		32.6	35.7	27.7
Soybeans for grain	(D)	23		4.8	8.9	1.9
Hemp		8		1.6	1.2	3.0
Misc.	(D)	4		.8	.5	-
Total Small Grain, Peas & Hemp		80		81.3	109.6	65.6
Sugar beets, hybrid seed corn, potatoes and truck crops	(A)	21		2.8	7.7	1.6
Sweet corn	(B)	5		.3	-	1.1
Corn, grain	(B)	78		61.3	93.7	50.8
Corn silage	(C)	45		7.2	7.3	7.1
Corn fodder	(D)	5		.5	.6	1.0
Total cultivated crops		80		72.1	109.3	61.6
Alfalfa hay	(A)	74		19.0	23.8	15.9
Sweet clover hay	(B)	5		.5	1.1	1.3
Soybean hay	(C)	2		.1	.2	-
Mixed legumes & non-legumes	(C)	16		4.1	6.6	1.0
Legumes for seed	(C)	2		.1	-	-
Timothy and/or brome hay & seed	(D)	9		.7	.9	.1
Other annual hay	(D)	2		-	.1	-
Total tillable land in hay		78		24.5	32.7	18.3
Alfalfa pasture	(A)	27		3.1	1.9	2.6
Sweet clover pasture	(B)	23		5.6	14.4	2.7
Mix. inc. alf., sw.clo., brome	(B)	26		8.2	13.8	7.5
Other legumes and mixtures	(C)	7		2.1	3.1	.2
Sudan grass or rape pasture	(C)	4		.3	.1	.8
Other tillable pasture	(D)	25		5.7	3.5	1.3
Total tillable land in pasture		75		25.0	36.8	15.1
Tillable land not cropped	(D)	18		3.4	.2	7.3
Total tillable land				206.3	288.6	167.9
Phalaris & wild hay (non-tillable)		28		4.3	2.8	9.7
Non-tillable pasture		41		12.3	11.4	14.1
Timber (not pastured)		10		1.1	2.4	.7
Roads and waste				9.0	12.0	8.2
Farmstead				7.8	8.3	6.8
Total acres in farm				240.8	325.5	207.4
% land tillable				85.7	88.7	81.0
% tillable land in high return crops				41.6	45.1	41.3

Table 20. Crop Yields per Acre, 1943

Crop	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
Canning peas, value above seed cost	$_____	$27.08	-	-
Flax, bu.	_____	9.0	11.2	7.4
Barley, bu.	_____	16.4	22.0	15.7
Barley and oats, bu.	_____	39.6	38.2	-
Wheat, bu.	_____	12.3	14.5	9.7
Oats, bu.	_____	38.1	45.9	24.8
Oats and wheat, bu.	_____	39.0	-	-
Soybeans for grain, bu.	_____	13.6	21.4	6.1
Hemp, tons	_____	1.8	-	.5
Sweet corn, tons	_____	1.8	-	1.4
Corn, grain, bu.	_____	43.4	50.2	37.0
Corn silage, tons	_____	9.1	11.9	7.7
Corn fodder, tons	_____	1.7	2.3	1.0
Alfalfa hay, tons	_____	2.7	3.0	2.7
Sweet clover hay, tons	_____	2.1	-	2.9
Soybean hay, tons	_____	.8	-	-
Mixed legume & non-legume hay, tons	_____	2.0	-	-
Legumes for seed, lbs.	_____	60.0	-	-
Timothy and/or brome hay, tons	_____	1.4	-	-
Phalaris hay on non-tillable land, tons	_____	.6	-	-
Wild hay, tons	_____	.6	.7	.5

Table 21. Summary of Amount of Livestock, 1943

Items	Your farm	Average of 80 farms	16 most profitable farms	16 least profitable farms
No. of horses	_____	3.4	4.1	2.9
No. of colts	_____	.4	.7	.4
No. of dairy & dual purpose cows	_____	9.8	8.8	10.0
Head of other dairy & dual pur. cattle	_____	10.7	9.1	11.0
Head of cattle in beef breeding herd	_____	10.8	20.6	2.8
Pounds of feeder cattle produced	_____	3209	10943	501
Pounds of feeder sheep produced	_____	697	1921	0
Litters of pigs	_____	19.9	23.1	16.8
Pounds of hogs produced	_____	30277	38426	20540
Head of sheep (2 lambs = 1 head)	_____	18.3	26.9	33.1
No. of hens	_____	198	174	218
Total no.of prod.lvstk.animal units	_____	50.5	82.1	35.9
% of total that are:				
Dairy cows	_____	14.5	7.0	16.3
Other dairy cattle	_____	7.1	3.5	8.2
Dual purpose cows	_____	8.0	4.6	11.3
Other dual purpose cattle	_____	5.9	2.9	9.1
Beef breeding herd	_____	13.6	21.2	5.4
Feeder cattle	_____	7.3	18.4	1.9
Hogs	_____	30.8	27.0	29.9
Sheep - farm flock	_____	5.4	5.6	11.5
- feeders	_____	1.8	3.2	0
Turkeys	_____	1.1	4.0	.5
Hens	_____	4.5	2.6	5.9

Table 22. Feed Costs for Horses and Misc. Power and Machinery Expense, 1943

Items	Your farm	Average of 77 farms*	15 most profitable farms*	16 least profitable farms
Feed per horse,** lbs.:				
Grain	_____	1208	1274	1135
Hay	_____	3332	2954	3408
Feed costs per horse:				
Grain	$_____	$20.13	$22.68	$17.28
Roughage	_____	16.41	15.60	14.74
Pasture	_____	4.53	4.50	4.48
TOTAL FEED COSTS	$_____	$41.07	$42.78	$36.50
Number of work horses	_____	3.5	4.3	2.9
Number of colts	_____	.5	.8	.4
Crop acres per farm	_____	182.2	254.4	155.2
Tractor and horse exp. per crop acre	$_____	$2.94	$2.43	$3.31
Crop & gen.mach.exp.per crop acres	$_____	$1.73	$1.45	$1.73

* Three farmers did not have horses. The crop acres and expenses per crop acre are averages of 80 farms.

**Two colts equal one horse.

Table 23. Returns from Productive Livestock, 1943

Items	Your farm	Average of 80 farms	16 highest in livestock returns	16 lowest in livestock returns
DAIRY CATTLE--36 farms				
Gross returns per dairy cow	$_____	$126.67	$146.02	$98.41
Pounds of butterfat per cow	_____	220	227	176
No. of head of cows,	_____	13.7	12.0	12.4
Gross ret. per head oth.dairy cattle	$_____	$ 42.28	$ 37.89	$42.54
No. head of other dairy cattle *	_____	14.9	13.2	11.8
Gross ret.per an.unit all da.cattle	$_____	$107.86	$123.74	$92.21
No. of an. units all dairy cattle	_____	20.6	17.2	17.7
DUAL PURPOSE CATTLE--25 farms				
Gross ret. per dual purpose cow	$_____	$103.76	$136.40	$68.30
Pounds of butterfat per cow	_____	168	217	122
No. of head of cows	_____	11.3	11.8	14.0
Gross ret.per head oth.du.pur.cattle	$_____	$ 52.49	$ 86.97	$22.11
No.head oth.du.pur. cattle**	_____	16.8	18.9	18.1
Gross ret.per an.unit all du.pur.cat.	$_____	$101.19	$147.56	$59.75
No. of an.units all dual pur.cattle	_____	16.9	19.9	20.8
PRICE REC'D PER LB. BUTTERFAT SOLD				
All butterfat (cents)	_____	53.9	54.9	53.0
Manufacturing cream (cents)	_____	53.7	54.5	53.0
Retail milk or cream (cents)	_____	70.0	-	-
BEEF-BREEDING HERD--24 farms				
Gross returns per animal unit	$_____	$ 72.38	$110.11	$32.98
No. animal units	_____	24.2	30.8	15.4
No. beef cows and bulls	_____	12.7	17.1	5.5
FEEDER CATTLE--19 farms				
Gross ret. per cwt. produced	$_____	$ 17.14	$ 21.03	$16.16
Lbs. of cattle produced	_____	13495	10987	25424
Price rec'd. per cwt. sold	$_____	$ 13.49	$ 14.43	$12.53
Price paid per cwt. bought in 1943	$_____	$ 12.53		$13.13
HOGS--79 farms				
Gross ret. per cwt. produced	$_____	$ 12.99	$ 13.48	$12.20
Lbs. hogs produced	_____	30661	26810	32540
No. spring litters	_____	16.7	14.2	19.2
No. fall litters	_____	3.4	3.3	1.4
Total no. litters raised	_____	20.1	17.5	20.6
Pigs born per litter	_____	7.6	8.0	7.1
Pigs weaned per litter	_____	6.0	6.2	5.6
Price rec'd. per cwt. sold	$_____	$ 13.69	$ 13.78	$13.59
SHEEP-FARM FLOCK--23 farms				
Gross ret. per head ***	$_____	$ 7.19	$ 8.08	$ 6.82
No. head of sheep	_____	63.2	65.0	50.2
No. ewes kept for lanbing	_____	42.7	45.0	43.2
% lamb crop ****	_____	82	87	59
% death loss ****	_____	8.2	5.7	8.5
Lbs. wool per sheep sheared	_____	8.4	8.4	9.0
Price rec'd. per lb. wool sold (cts)	_____	42.1	41.8	42.2
Price rec'd. per cwt. lambs sold	$_____	$ 12.71	$ 12.44	$13.86
SHEEP-FEEDERS--8 farms				
Gross ret. per cwt. produced	$_____	$ 15.92	-	-
Lbs. produced	_____	6193	-	-
Price rec'd. per cwt. sold	$_____	$ 14.98	-	-
Price paid per cwt. bought in 1943	$_____	$ 14.37	-	-
% death loss	_____	3.4	-	-

See page 20 for footnotes.

Table 23. Returns from Productive Livestock, 1943 (Cont.)

Items	Your farm	Average of 80 farms	16 highest in livestock returns	16 lowest in livestock returns
TURKEYS--5 farms				
Gross ret. per cwt. produced	$_____	$26.94	-	-
Lbs. produced	_____	17613	-	-
Price rec'd. per lb. sold (cts)	_____	30.1	-	-
CHICKENS-72 farms				
Gross ret. per hen	$_____	$ 5.61	$5.93	$4.61
No. hens	_____	220	172	267
Eggs per hen	_____	144	147	130
Price rec'd. per doz.eggs sold (cts.).	_____	34.8	35.1	34.1

*Four 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 pur. 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	1.1 per acre
Sheep - farm 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 by Counties, 1943

	Brown & Watonwan	Jackson	Kandiyohi Stevens & Swift	Martin	Nobles & Murray	Yellow Medicine
Operator's lab.earnings	$ 3,036	$ 5,513	$ 3,551	$ 5,249	$ 6,111	$ 4,953
Farm cap.-beginning of yr.	27,881	35,774	20,385	37,558	34,492	22,818
MEAS. OF FARM ORG. & MGT. EFFIC.						
Crop yields - % of av.	94	112	82	107	105	114
% high ret. crops	42.6	43.3	35.2	42.6	44.7	43.1
Index ret. from lvstk.	97	103	102	100	98	94
A.U. per 100 A.	24.7	24.9	14.0	25.2	31.9	18.2
Work units	482	588	537	565	656	412
Work units per worker	236	296	285	293	312	228
Exp. per work unit	$ 3.47	$ 3.31	$ 3.03	$ 3.50	$ 2.83	$ 3.35
DIST. OF ACRES IN FARM						
Small grain	56.8	82.4	115.8	73.9	80.5	79.0
Cult. crops	60.5	80.3	62.5	86.8	83.7	61.8
Tillable hay	18.6	17.5	26.5	20.8	37.5	24.9
Tillable pasture	22.3	27.3	27.3	22.7	30.1	16.8
Tillable land not cropped	3.8	.3	8.5	.4	2.6	2.6
Total tillable land	162.0	207.8	240.6	204.6	234.4	185.1
Total land in farm	204.4	234.7	287.6	225.3	259.0	227.0
% land tillable	79.6	86.5	83.7	90.9	89.8	83.9
CROP YIELDS PER ACRE						
Flax, bu.	7.5	11.2	6.7	9.7	10.2	10.3
Oats, bu.	32.8	41.1	29.5	37.7	45.0	50.8
Soybeans for grain, bu.	14.7	20.2	3.4	15.8	13.9	6.7
Corn grain, bu.	43.3	46.7	34.9	49.1	43.2	48.0
Corn silage, tons	9.7	7.5	6.3	11.1	10.5	11.3
Alfalfa, tons	2.9	3.1	2.4	2.3	2.5	3.0
AMOUNT OF LIVESTOCK						
No. dairy & du.pur.cows	10.4	8.6	12.6	11.6	7.8	9.8
No. oth.dairy & du.pur.cat.	10.4	8.1	15.2	11.0	10.5	10.7
Hd. in beef-breeding herd	7.2	16.8	2.5	9.2	15.8	10.8
Lbs.feeder cattle produced	752	2529	1139	1951	10833	3209
Litters pigs raised	22.2	22.9	11.9	25.4	22.0	19.9
Lbs. hogs produced	27083	38766	18182	39553	38416	30277
Hd. sheep in farm flock	30.1	11.5	16.0	11.0	20.6	18.3
No. hens	192	199	205	171	252	198
Tot.no. livestock units	43.9	50.6	38.2	52.9	77.4	50.5
% of total that are						
Dairy cattle	29.5	30.1	31.0	16.3	6.3	21.7
Dual purpose cattle	9.6	-	24.0	17.2	14.4	13.9
Beef-breeding cattle	8.6	17.8	5.4	10.6	18.7	13.6
Feeder cattle	3.6	10.7	2.7	5.2	16.6	7.3
Sheep-farm flock	10.1	3.3	4.8	2.4	4.8	5.3
Sheep-feeders	1.8	2.5	-	2.5	3.6	1.8
Hogs	31.9	31.4	25.9	41.9	27.4	30.8
Turkeys	.3	-	.5	.5	4.2	1.1
Chickens	4.6	4.2	5.7	3.4	4.0	4.5

Table 26. Summary of Farm Earnings by Years*

Items	1940	1941	1942	1943
No. of farms	99	96	95	80
FARM EXPENSES				
Horses bought	$ 26	$ 24	$ 32	$ 14
Dairy and dual-pur. cattle bought	64	127	74	86
Beef cattle bought (incl. feeders)	258	295	934	339
Hogs bought	78	146	254	213
Sheep bought (including feeders)	106	135	489	340
Poultry bought (including turkeys)	67	83	122	148
Misc. livestock expense	58	85	109	155
Miscellaneous crop expense	219	216	317	407
Feed bought	497	741	1,401	1,750
Power mach. (farm share) (new)	304	397	278	181
Power mach. (farm share) (upkeep)	318	396	474	518
Custom work hired	124	103	172	210
Crop and general mach. (new)	266	298	326	165
Crop and general mach. (upkeep)	50	60	102	127
Livestock equipment (new)	50	86	98	101
Livestock equipment (upkeep)	13	18	46	52
Buildings and fencing (new)	297	376	311	299
Buildings and fencing (upkeep)	130	104	135	189
Hired labor	251	290	348	423
Taxes	228	230	258	260
General farm and insurance	42	64	76	79
(1) Total farm purchases	$3,446	$4,274	$6,356	$6,056
(2) Decrease in farm capital	-	-	-	-
(3) Board furnished hired labor	112	115	129	107
(4) Interest on farm capital	1,231	1,304	1,488	1,495
(5) Unpaid family labor	246	296	381	463
(6) Total farm exp. (Sum of (1) to (5)	$5,035	$5,989	$8,354	$8,121
FARM RECEIPTS				
Horses	$ 37	$ 37	$ 31	$ 28
Dairy and dual-purpose cattle	280	383	534	646
Dairy products	673	798	859	1,014
Beef cattle (including feeders)	548	835	2,260	1,290
Hogs	1,075	1,859	3,410	4,048
Sheep and wool (including feeders)	204	268	537	511
Poultry (including turkeys)	273	361	594	563
Eggs	188	317	532	772
Corn	302	337	550	626
Small grain	637	767	828	964
Other crops	154	180	294	440
Machinery and equip. sold	176	211	165	105
Income from labor off the farm	115	124	131	137
Agricultural Adjustment payments	419	412	443	239
Miscellaneous	252	128	167	150
(7) Total farm sales	$5,333	$7,017	$11,335	$11,533
(8) Increase in farm capital	1,235	1,772	1,559	497
(9) Family living from farm	455	482	575	671
(10) Total farm rec. (7) + (8) + (9)	$7,023	$9,271	$13,469	$12,701
(6) Total farm expenses	5,035	5,989	8,354	8,121
(11) Oper. labor earnings (10) - (6)	1,988	3,282	5,115	4,580

* The financial statements differ in that the unpaid family labor rate was $45 per month in 1940, $50 in 1941, $60 in 1942, and $75 in 1943; and the board for hired labor was calculated at $18 per month in 1940, $20 in 1941, $25 in 1942 and 1943.

Table 27. Summary of Miscellaneous Items by Years

Items	1940	1941	1942	1943
Total farm capital (beginning of year)	$24,008	$25,191	$29,756	$29,652
MEAS. OF FARM ORG. AND MANAGEMENT EFFICIENCY				
% tillable land in high return crops	34.9	37.6	39.8	41.6
Animal units prod. livestock per 100 A.	19.6	21.2	21.8	23.3
Work units	490	503	541	545
Work units per worker	253	256	270	273
Expenses per work unit	$1.99	$2.16	$2.70	$3.23
ACRES PER FARM	225	228	246	241
Crop acres per farm	174	171	187	182
CROP YIELDS PER ACRE				
Flax, bu.	13.6	11.5	11.0	9.0
Barley, bu.	41.9	29.9	28.1	16.4
Wheat, bu.	26.0	11.9	19.2	12.3
Oats, bu.	59.5	28.1	49.7	38.1
Corn, grain, bu.	49.5	55.3	56.6	43.4
Corn silage, tons	8.9	9.7	10.0	9.1
Corn fodder, tons	3.0	3.3	4.0	1.7
Alfalfa hay, tons	1.9	2.5	2.8	2.7
GROSS RETURNS PER:				
Dairy cow	$80.75	$95.59	$111.79	$126.67
Dual-purpose cow	60.20	80.27	95.97	103.76
Animal unit in beef-breeding herd	57.71	59.53	72.29	72.38
100 pounds feeder cattle produced	10.02	12.41	16.83	17.14
Head of sheep in farm flock	6.30	8.67	10.22	7.19
100 pounds feeder sheep produced	10.65	15.47	24.70	15.92
100 pounds hogs produced	5.85	10.66	14.37	12.99
Hen	2.32	2.96	4.22	5.61
100 pounds turkeys produced	12.55	17.50	25.84	26.94
PRICE RECEIVED PER:				
Lb. butterfat sold to creameries	$ .31	$ .37	$ .43	$ .54
100 lbs. beef cattle sold	7.98	9.57	11.78	13.49
100 lbs. feeder sheep sold	9.15	10.41	12.97	14.98
100 lbs. hogs sold	5.36	9.06	13.10	13.69
Lb. wool sold	.30	.38	.40	.42
Doz. eggs sold	.15	.22	.28	.35
Lb. turkeys sold	.15	.20	.30	.30
MISC. LIVESTOCK INFORMATION				
No. of work horses	3.8	3.6	3.7	3.4
No. of colts	.9	.9	.7	.4
No. of dairy or dual-purpose cows	10.4	10.1	9.8	9.8
Head of other dairy and dual-purpose cattle	10.3	11.6	10.6	10.7
Head of cattle in beef-breeding herd	9.9	8.7	8.4	10.8
Pounds feeder cattle produced	1,112	2,670	5,059	3,209
Litters of pigs	13.0	15.5	16.0	19.9
Pounds of hogs produced	20,544	22,568	26,774	30,277
Head of sheep	21.1	20.8	17.6	18.3
No. of hens	130	152	188	198
Pounds of butterfat per dairy cow	246	235	225	220
Pounds of butterfat per dual-purpose cow	188	199	186	168
No. of pigs weaned per litter	6.5	6.3	6.4	6.0
% lamb crop	103	102	102	82
Eggs per hen	126	120	131	144