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UNIVERSITY OF MINNESOTA
Department of Agriculture
and
UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
and the
County Extension Services of
Brown, Cottonwood, Faribault, Jackson, Lincoln, Lyon, Martin, Murray,
Nobles, Pipestone, Redwood, Rock, and Watonwan Counties
and the
Southwest Minnesota Farm Management Association
Cooperating

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Annual Report of the Southwestern Minnesota Farm Management Service 1943

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Cooperator: _____

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Fourth Annual Report of the Southwest Minnesota Farm Management Service of Brown, Cottonwood, Faribault, Jackson, Lincoln, Lyon, Martin, Murray, Nobles, Pipestone, Redwood, Rock, and Watonway Counties 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 Bureau of Agricultural Economics of the United States Department of Agriculture and the county extension services of several southwestern Minnesota counties are cooperating with the Southwest Minnesota Farm Management Association in maintaining a farm management service. The Association was organized in the fall of 1939 by farmers in that part of the state for the purpose of studying the farm business thru farm records. Each farmer pays an annual fee which covers a part of the cost. The balance of the cost is defrayed by the University of Minnesota.

The analysis of the 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. Field organization is handled by the Extension Division with S. B. Cleland

and J. B. McNulty in charge of this work. Ross Huntsinger was the fieldman until April 1, 1943 and was then succeeded by J. R. Burkholder. County agricultural extension agents who cooperate in this project include Paul Kunkel, H. J. Vossen, C. G. Gaylord, Roland Abraham, T. G. Fuller, F. J. Meade, S. B. Simpson, A. B. Hagen, C. E. Stower, C. C. Chase, J. I. Swedberg, C. R. Simon, and Wayne Hanson.

The officers for the Southwest Farm Management Association for 1943 were:

President, W. J. Marsh, Madelia, Watonwan County
Vice-President, M. E. Teeter, Fairmont, Martin County
Secretary-Treasurer, Arthur Foster, Garvin, Murray County

The board of directors include these officers and also the following: Wm. Golly, Cottonwood County; C. J. Zupp, Faribault County; A. C. Irvine, Jackson County; Robert Soderholm, Nobles County; Thomas B. Hicks, Redwood County; and L. J. Moeller, Rock County.

The following tabulation shows by counties the numbers of members who completed records in 1943:

Brown	3	Lincoln	4	Nobles	29
Cottonwood	9	Lyon	4	Pipestone	4
Faribault	19	Martin	19	Redwood	23
Jackson	21	Murray	12	Rock	9
				Watonwan	15
					171

In the tables on page 4 and succeeding pages are shown data for 164 farms. Seven farms have been omitted from all of the averages in the tables because they differed widely in type from the others or the records were not sufficiently complete for a full analysis.

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, sweet corn, canning peas, and flax 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 parts of the area is undulating to gently rolling land interspersed with almost level tracts. In the western part of the area the surface ranges from undulating to sharply rolling. Nearly all of 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		New Ulm		Redwood Falls	
	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	2.53	+1.40	0.92	+0.19
February	0.42	-0.35	0.68	-0.29	1.10	+0.04	0.87	0.00
March	1.30	+0.04	1.45	+0.04	1.74	+0.13	1.86	+0.61
April	0.57	-1.51	1.03	-1.20	0.69	-1.50	0.52	-1.41
May	4.29	+0.35	4.23	+0.18	8.66	+5.09	4.32	+1.46
June	9.19	+4.90	9.52	+5.18	7.34	+2.69	5.00	+0.51
July	7.10	+3.71	6.40	+2.84	7.27	+3.59	5.23	+2.19
August	4.99	+1.23	7.85	+4.11	5.53	+1.98	6.55	+3.57
September	1.44	-2.10	0.98	-2.65	2.76	-0.83	1.68	-1.18
October	1.74	+0.05	1.19	-0.66	1.95	-0.21	1.60	-0.07
November	1.39	+0.22	2.30	+0.79	1.48	+0.17	2.49	+1.28
December	0.02	-0.59	0.07	-0.83	0.05	-0.85	T	-1.08
1943 Total	33.15	+6.02	36.64	+7.65	41.10	+11.70	31.04	+6.07
1942 Total	33.47	+6.34	25.98	-3.01	29.63	+0.23	21.02	-3.95
1941 Total	28.22	+1.09	32.92	+3.93	34.94	+5.54	26.07	+1.10
1940 Total	22.50	-4.63	28.72	-0.27	36.90	+7.50	25.95	+0.98
1939 Total	24.27	-2.86	21.92	-7.07	23.04	-6.36	18.52	-6.45
1938 Total	40.50	+13.37	39.99	+11.00	29.98	+0.58	26.84	+1.87
Normal Annual Prec.	27.13		28.99		29.40		24.97	

RECORDS KEPT

The records kept by the cooperators included inventories at the beginning and end of the year, cash receipts and expenses, a report of feed fed to the various classes of livestock, and a record of farm produce used by the farm family. Supplementary information was also secured during the year regarding crop and livestock production and practices.

The cooperators were assisted and supervised in keeping their records by the field agent, who visited each farm in the thirteen counties several times during the year. In addition to securing the supplementary information, the field agent's duties included numerous services, such as, securing a monthly list of prices of farm products prevailing in the area, helping the farmer place uniform values on real estate and equipment, checking the cash and feed records, and answering any questions that might arise as to how the entries should be made in the account book. The supervision resulted in uniformity in the type of records secured, in the inventory valuations and in the prices at which feed and farm produce were charged.

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.

Table 2. Summary of Farm Inventories, 1943*

Items	Your farm	Average of 164 farms	33 most profitable farms	33 least profitable farms
Size of farm (acres)	_____	280	393	243
Size of business (work units)**	_____	586	804	502
Beginning of Year				
Productive livestock (total)	$_____	$7405	$12819	$5968
Dairy and dual purpose cows	_____	666	626	649
Other dairy & dual pur. cattle	_____	392	287	412
Beef cattle (incl. feeders)	_____	2918	5458	2042
Hogs	_____	2499	3999	2300
Sheep (including feeders)	_____	701	2234	379
Poultry (including turkeys)	_____	229	215	186
Horses	_____	351	451	362
Crop, seed, and feed	_____	4249	6896	3336
Mach. & equipment (total)	_____	3410	4919	2658
Power mach. (f. share)	_____	1283	1814	993
Crop & gen. mach. (f. share)	_____	1626	2425	1272
Livestock equip. & supplies	_____	501	680	393
Buildings, fences, etc.	_____	7459	8841	6021
Land	_____	14727	20462	12781
Total farm capital	_____	37601	54388	31126
End of Year				
Productive livestock (total)	$_____	$6988	$12137	$4968
Dairy & dual purpose cows	_____	651	628	625
Other dairy & dual pur. cattle	_____	401	383	366
Beef cattle (incl. feeders)	_____	2462	4564	1513
Hogs	_____	2380	4476	1610
Sheep (including feeders)	_____	790	1771	576
Poultry (including turkeys)	_____	304	315	278
Horses	_____	322	456	314
Crop, seeds, and feed	_____	4879	8773	2993
Mach. & equipment (total)	_____	3363	4779	2518
Power mach. (f. share)	_____	1207	1661	851
Crop & gen. mach.	_____	1585	2357	1209
Livestock equipment & supplies	_____	571	761	458
Buildings, fences, etc.	_____	7324	8632	5966
Land	_____	14727	20462	12781
Total farm capital	_____	37603	55239	29540

* For the purpose of comparison all the data shown in this report with the exception of Tables 5 and 6 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 13 for an explanation of "work units".

Table 3. Summary of Farm Earnings (Cash Statement), 1943

Items	Your farm	Average of 164 farms	33 most profitable farms	33 least profitable farms
FARM EXPENSES				
Dairy and dual-purpose cows bought	$	$ 60	$ 53	$ 27
Other dairy & dual-pur. cattle bot.		75	113	41
Beef cattle bot.(incl.feeders)		1187	2873	690
Hogs bought		408	555	491
Sheep bought (including feeders)		694	1581	647
Poultry bought (including turkeys)		165	288	147
Horses bought		33	53	23
Misc. livestock expense		199	288	158
Misc. crop expenses		507	831	425
Feed bought		3080	5245	2583
Custom work hired		215	239	198
Mech. power mach. (farm share)(new)		180	139	114
Mech. power mach. (farm share)(upkp)		147	183	146
Mech. power (f.share)(gas,oil,etc.)		470	620	426
Crop and general mach. (new)		221	309	204
Crop and general mach. (upkeep)		157	196	167
Livestock equipment (new)		138	159	119
Livestock equipment (upkeep)		87	100	93
Buildings and fencing (new)		236	261	312
Buildings and fencing (upkeep)		168	211	179
Hired labor		739	1217	548
Taxes		335	487	308
General farm and insurance		112	143	104
(1) Total farm purchases		$9613	$16144	$8150
(2) Decrease in farm capital		-	-	1586
(3) Board furnished hired labor		147	178	107
(4) Interest on farm capital		1880	2741	1517
(5) Unpaid family labor		335	482	269
(6) Total farm exp.(Sum of (1)to(5)		$11975	$19545	$11629
FARM RECEIPTS				
Dairy and dual-purpose cows	$	$ 196	$ 151	$ 152
Dairy products		916	919	766
Other dairy & dual-purpose cattle		223	154	259
Beef cattle (including feeders)		3590	7577	2280
Hogs		5630	9137	4716
Sheep and wool (including feeders)		968	2969	732
Poultry (including turkeys)		622	1567	434
Eggs		905	863	670
Horses		45	55	42
Corn		724	916	697
Small grain		1382	2357	1029
Other crops		510	1157	137
Machinery & equip. sold		137	139	170
Agricultural adjustment payments		264	444	229
Income from work off the farm		255	401	201
Misc.		67	83	112
(7) Total farm sales		$16434	$28889	$12626
(8) Increase in farm capital		2	851	-
(9) Family living from the farm		588	663	528
(10) Total farm receipts(7)+(8)+(9)		$17024	$30403	$13154
(6) Total farm expenses		11975	19545	11629
(11) Oper. labor earnings(10)-(6)		5049	10858	1525
(12) Ret.cap.& fam.lab.(4)+(5)+(11)		7264	14081	3311

Table 4. Summary of Farm Earnings (Enterprise Statement) 1943*

Items	Your farm	Average of 164 farms	33 most profitable farms	33 least profitable farms
EXPENSES AND NET DECREASES				
Total power	$_____	$ 1044	$ 1249	$ 1016
Horses	_____	211	228	218
Tractor	_____	387	471	376
Truck	_____	100	173	79
Auto (farm share)	_____	192	205	201
Gas engine (farm share)	_____	2	4	2
Elec. plant or current(f.share)	_____	55	65	49
Hired power	_____	97	103	91
Crop and general machinery	_____	374	455	359
Livestock equipment	_____	147	178	133
Buildings, fencing and tiling	_____	416	565	384
Misc. productive livestock expense	_____	194	277	153
Labor	_____	1279	1945	979
Real estate taxes	_____	279	400	252
Personal property tax	_____	56	87	56
Insurance	_____	40	54	41
General farm	_____	72	89	63
Interest on farm capital	_____	1880	2741	1517
(1) Total expenses & net decreases	_____	5781	8040	4953
RETURNS AND NET INCREASES				
All productive livestock	_____	10471	17661	7371
Dairy and dual purpose cows	_____	1076	1146	890
Other dairy & dual pur.cattle	_____	332	297	312
Beef breeding herd	_____	526	494	401
Feeder cattle	_____	1479	3319	751
Hogs	_____	5181	9152	3614
Sheep - farm flock	_____	135	170	114
Sheep - feeders	_____	229	755	168
Turkeys	_____	296	1121	148
Chickens	_____	1217	1207	973
Crops, seed and feed	_____	-198	420	-1362
Income from labor off the farm	_____	137	173	109
Agricultural conservation payments	_____	264	444	229
Miscellaneous	_____	156	200	131
(2) Total returns & net increases	_____	10830	18898	6478
(1) Total expenses & net decreases	_____	5781	8040	4953
(3) Oper. labor earnings (2) - (1)	_____	5049	10858	1525

* 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 5.

Table 5. Net Worth Statement for Those Farmers Who Kept a Complete Record of All Assets and Liabilities*

	Your farm	41 owned farms	31 part-owned farms**	42 rented farms***
January 1, 1943				
Total acres in farm	_____	246.0	343.5	239.9
Owned	_____	246.0	205.0	-
Rented	_____	-	138.5	239.9
Total farm capital	$_____	$35197	$34582	$11232
Accounts receivable	_____	548	93	149
Outside Investments	_____	2761	1764	1499
Household and personal assets	_____	1693	1738	1518
Total assets	_____	$40199	$38177	$14398
Total liabilities	$_____	$12169	$ 9824	$ 3045
Federal Land Bank	_____	2741	3021	-
Land Bank Commissioner	_____	103	230	-
Other mortg. on land operated	_____	5771	3288	-
Mortg. on other real estate	_____	313	-	285
Production Credit Assoc.	_____	107	679	500
Sealed grain	_____	661	347	137
Other chattel mortgages	_____	933	1118	812
Notes payable	_____	1255	849	1107
Accounts payable	_____	285	292	204
Farmer's net worth	$_____	$28030	$28353	$11353
December 31, 1943				
Total farm capital	$_____	$34224	$35033	$11398
Accounts receivable	_____	407	17	124
Outside investments	_____	3758	2969	3299
Household and personal assets	_____	2269	2122	1625
Total assets	_____	$40658	$40141	$16446
Total liabilities	$_____	$ 9250	$ 8010	$ 2936
Federal Land Bank	_____	2119	2525	-
Land Bank Commissioner	_____	97	38	-
Other mortg. on land operated	_____	5256	2667	-
Mortg. on other real estate	_____	317	-	1054
Production Credit Assoc.	_____	5	1014	316
Other chattel mortgages	_____	598	595	589
Notes payable	_____	756	1013	769
Accounts payable	_____	102	158	208
Farmer's net worth	$_____	$31408	$32131	$13510
Change in net worth	$_____	$+3378	$+3778	$+2157

* Only the operator's share of the assets and liabilities are included.
** 17 rented for cash, 10 cash and crop share and 4 crop share.
*** 11 farms were rented for cash, 21 cash and crop share and 10 livestock share.

Table 6. Summary of Farm Earnings by Tenure, 1943

FARM EXPENSES	Your farm	41 owners	31 part-owners	42 renters
Dairy and dual-purpose cows bought	$ ____	$16	$83	$40
Other dairy & dual-pur.cattle bought	____	55	100	66
Beef cattle bot.(incl. feeders)	____	871	966	1251
Hogs bought	____	444	322	444
Sheep bought (including feeders)	____	416	439	484
Poultry bought (including turkeys)	____	148	170	134
Horses bought	____	4	52	43
Misc. livestock expenses	____	203	203	156
Misc. crop expenses	____	417	636	361
Feed bought	____	2462	3691	2577
Custom work hired	____	229	241	214
Mech. power mach. (farm share)(new)	____	129	222	153
Mech. power mach. (farm share)(upkp)	____	140	133	135
Mech. power (f.share)(gas,oil,etc.)	____	459	516	360
Crop and general mach. (new)	____	176	261	136
Crop and general mach. (upkeep)	____	128	173	126
Livestock equipment (new)	____	152	146	85
Livestock equipment (upkeep)	____	73	108	85
Buildings and fencing (new)	____	307	261	57
Buildings and fencing (upkeep)	____	249	160	40
Hired labor	____	654	956	465
Taxes (real estate & pers. property)	____	291	251	33
General farm and insurance	____	120	124	73
Cash rent	____	-	486	503
Interest paid	____	511	410	129
(1) Total farm purchases	____	$8654	$11110	$8150
(2) Decrease in farm capital	____	973	-	-
(3) Board furnished hired labor	____	147	179	113
(4) Interest on farm capital	____	1225	1330	436
(5) Unpaid family labor	____	312	370	243
(6) Total farm exp.(Sum of (1)to(5)	____	$11311	$12989	$8942
FARM RECEIPTS				
Dairy and dual-purpose cows	$ ____	$134	$327	$162
Dairy products	____	975	864	658
Other dairy and dual-purpose cattle	____	231	281	124
Beef cattle (including feeders)	____	3469	3184	2888
Hogs	____	5447	6788	4215
Sheep and wool (including feeders)	____	508	577	1089
Poultry (including turkeys)	____	394	698	477
Eggs	____	870	996	691
Horses	____	19	52	52
Corn	____	971	613	172
Small grain	____	1067	1800	830
Other crops	____	363	1107	207
Machinery & equip. sold	____	108	162	152
Agricultural adjustment payments	____	309	342	162
Income from work off the farm	____	348	324	171
Misc.	____	45	46	47
(7) Total farm sales	____	$15258	$18161	$12097
(8) Increase in farm capital	____	-	451	166
(9) Family living from the farm	____	628	639	510
(10) Total farm receipts (7)+(8)+(9)	____	$15886	$19251	$12773
(6) Total farm expenses	____	11311	12989	8942
(11) Operator's labor earnings(10)-(6)	____	4575	6262	3831
(12) Ret.cap.& fam.lab.(4)+(5)+(11)	____	6112	7962	4510

Table 7. Family Living from the Farm, 1943

Items	Your farm	Average 164 farms	33 most profit-able farms	33 least profit-able farms	Your farm	Average 164 farms	33 most profit-able farms	33 least profit-able farms
No.of pers.(Fam.	_____	3.1	3.3	3.0				
adult equiv.(Oth.*	_____	.6	.8	.6				
Wholemilk	_____	1022 qts.	1094	1084	$_____	$53.11	$58.96	$52.07
Skim milk	_____	310 qts.	354	479	_____	2.65	2.51	3.00
Cream	_____	227 pts.	248	231	_____	37.04	41.95	36.77
Farm made butter	_____	7 lbs.	4	-	_____	3.34	1.98	-
Eggs	_____	229 doz.	179	159	_____	55.92	59.69	53.57
Cattle	_____	428 lbs.	460	364	_____	51.09	59.49	40.97
Hogs	_____	567 lbs.	677	586	_____	77.36	92.02	79.74
Sheep	_____	6 lbs.	8	2	_____	.79	.82	.25
Poultry	_____	116 lbs.	123	86	_____	20.69	25.88	17.41
Potatoes	_____	17 bu.	21	14	_____	19.61	25.68	17.08
Vegetables & fruits					_____	47.79	50.56	39.32
Farm fuel					_____	9.78	9.27	7.24
Rental vl. of house					_____	208.93	233.96	180.54
Misc.(wool,honey,etc.)					_____	.06	.29	-
Total					_____	$588.16	$663.06	$527.96

Table 8. Household and Personal Expenses for Those Farms Which Kept Complete Accounts of These Expenses, 1943

Items	Your farm	Average of 99 farms	20 most profit-able farms	20 least profit-able farms
Number of persons - family	_____	4.1	4.1	4.0
Number of persons, (Family	_____	3.1	3.2	3.1
adult equivalent (Other*	_____	.6	.9	.5
Food and meals bought	$_____	$434	$472	$411
Operating and supplies	_____	155	152	160
Clothing and clothing materials	_____	262	348	205
Personal care, personal spending	_____	79	123	66
Furnishings and equipment	_____	97	95	56
Education, recreation and development	_____	105	274	39
Medical care and health insurance	_____	140	136	93
Church, welfare, gifts	_____	176	275	140
Personal share of auto expense	_____	45	45	41
Household share of elect. & gas eng. exp.	_____	38	43	31
H.H.&pers.shr.of new auto,gas eng.&motors bot.	_____	9	1	13
Life insurance and other investments	_____	1124	2113	523
Income tax	_____	754	1993	225
Total household and personal cash expenses	_____	$3418	$6070	$2003
Food furnished by the farm	_____	376	418	347
Fuel furnished by the farm	_____	12	11	9
House rental	_____	205	214	183
Total household and personal expenses	_____	$4011	$6713	$2542

* Hired help or others boarded

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 $10,858 and of those in the lower 20 per cent was $1,525. This is a range of $9,333 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 9. Relation of Crop Yields to Farm Earnings

Per cent crop yields were of the average for all 164 farms		No. of farms	Average operator's labor earnings
Group	Average		
Below 86	69	47	$3,895
86-113	100	64	4,185
114 and above	128	53	7,114

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 10. Relation of Choice of Crops to Farm Earnings

Per cent of tillable land in high return crops*		No. of farms	Average operator's labor earnings
Group	Average		
Below 35.0	31.3	37	$4,103
35.0-44.9	40.4	92	5,251
45.0 & above	49.3	35	5,516

*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 yields 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 11. Relation of Returns from Productive Livestock to Farm Earnings

Index of returns for $100 feed fed to productive livestock* Group	Average	No. of farms	Average operator's labor earnings
Below 82	72	33	$2,859
82-115	100	99	5,153
116 and above	130	32	6,985

*The index is weighted by the number of animal units.

The majority of these farms are livestock farms. 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 constitutes an important source of income on these farms. Hence there is a marked relationship between returns for $100 of feed and operator's labor earnings 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 12. 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 18.0	13.6	37	$4,364
18.0-30.9	24.4	90	4,866
31.0 and above	38.3	37	6,176

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

On some farms the returns from livestock are so low that they do not cover 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 13. 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 425	363	38	$2,933
425-699	545	88	4,828
700 and above	906	38	7,676

The size of the farming operations is one of the important factors affecting the earnings of farmers. On the average, the farmers with a large business had larger earnings than the farmers with a small business. The size of the farm business is here measured in terms of the number of work units. 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 14. 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 235	198	37	$3,584
235-304	270	77	5,382
305 and above	354	50	5,619

Farmers' earnings are generally higher on those farms on which a large amount of work is accomplished per worker. More days of productive 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 15. 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
$4.50 and above	$5.18	30	$3,542
$2.65-$4.49	3.48	103	4,853
Below $2.65	2.22	31	7,155

*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 16.

Table 16. 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	6	_____	xxxxxxxxxxx	$2379
One	10	_____	xxxxxxxxxxxxxx	3211
Two	27	_____	xxxxxxxxxxxxxxx	3324
Three	47	_____	xxxxxxxxxxxxxxxxx	3809
Four	29	_____	xxxxxxxxxxxxxxxxxxxxxxx	5279
Five	29	_____	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	8021
Six	12	_____	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	7516
Seven	4	_____	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	9227

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 17.

Table 17. 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 18. Measures of Farm Organization and Management Efficiency, 1943

Measures used in chart on page 15	Your farm	Average of 164 farms	33 most profit-able farms	33 least profit-able farms
Operator's labor earnings	$_____	$5049	$10858	$1525
(1) Crop yields*	_____	100	110	82
(2) % of tillable land in high ret. crops**	_____	40.3	42.6	39.9
(3) Ret. for $100 feed to prod. livestock***	_____	100	112	87
(4) Prod. livestock units per 100 acres****	_____	25.1	27.8	25.3
(5) Size of business - work units	_____	586	804	502
(6) Work units per worker	_____	279	298	264
(7) Pow.,mach.,equip.,& bldg.exp.per work unit	$_____	$3.52	$3.15	$3.91
Items related to some of the above measures:				
(3) Index of return for $100 feed from -				
Dairy cattle (See pages 20 & 21)	_____	100	100	86
Dual-purpose cattle (See pp. 22 & 23)	_____	100	124	108
Beef cattle - breeding herd (See p.26)	_____	100	146	78
Beef cattle - feeders (See page 25)	_____	100	101	112
Hogs (See page 19)	_____	100	110	82
Sheep - farm flock (See page 28)	_____	100	92	88
Sheep - feeders (See page 29)	_____	100	115	91
Turkeys (See page 26)	_____	100	115	81
Chickens (See page 27)	_____	100	98	100
(5) Work units on crops	_____	205	292	179
Work units on productive livestock	_____	354	477	303
Other work units	_____	27	35	20
(6) Total number of workers	_____	2.1	2.7	1.9
Number of family workers	_____	1.3	1.5	1.3
Number of hired workers	_____	.8	1.2	.6
(7) Power expense per work unit	$_____	$1.88	$1.64	$2.11
Crop machinery expense per work unit	_____	.67	.57	.73
Livestock equip. expense per work unit	_____	.26	.23	.29
Bldgs. & fencing exp. per work unit	_____	.71	.71	.78

* Given as a percentage of the average.

** Crops are marked in Table 19 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 164 farms included in this summary are located between the dotted lines across the center of this page.

Oper. labor earnings	Crops 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
$11450	148	56.0	140	45.0	1000	440	$1.90
10650	142	54.0	135	42.5	950	420	2.15
9850	136	52.0	130	40.0	900	400	2.40
9050	130	50.0	125	37.5	850	380	2.65
8250	124	48.0	120	35.0	800	360	2.90
7450	118	46.0	115	32.5	750	340	3.15
6650	112	44.0	110	30.0	700	320	3.40
5850	106	42.0	105	27.5	650	300	3.65
5050	100	40.0	100	25.0	600 585	280	3.90
4250	94	38.0	95	22.5	550	260	4.15
3450	88	36.0	90	20.0	500	240	4.40
2650	82	34.0	85	17.5	450	220	4.65
1850	76	32.0	80	15.0	400	200	4.90
1050	70	30.0	75	12.5	350	180	5.15
250	64	28.0	70	10.0	300	160	5.40
-550	58	26.0	65	7.5	250	140	5.65

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 164 farms	33 most profit-able farms	33 least profit-able farms
Canning peas	(A)	11	____	1.4	1.2	3.3
Flax	(B)	136	____	35.8	57.3	31.2
Barley	(C)	33	____	5.2	8.7	3.9
Barley and oats	(C)	12	____	2.4	2.1	3.5
Wheat	(D)	14	____	1.1	-	1.8
Oats	(D)	147	____	34.4	45.0	30.8
Oats and wheat	(D)	5	____	.8	-	-
Soybeans for grain	(D)	65	____	8.0	12.7	4.5
Hemp		13	____	1.2	-	.4
Miscellaneous	(D)	6	____	.3	-	.2
Total Small Grain, Peas, Beans & Hemp		163	____	90.6	127.0	79.6
Sugar beets, hybrid seed corn, potatoes and truck crops	(A)	48	____	1.9	4.1	2.1
Sweet corn	(B)	14	____	.9	.8	.5
Corn grain	(B)	163	____	83.1	122.1	67.1
Corn or sorghum silage	(C)	82	____	6.3	7.4	8.0
Corn or sorghum fodder	(D)	18	____	.8	1.6	1.3
Total cultivated crops		164	____	93.0	136.0	79.0
Alfalfa hay	(A)	147	____	18.6	28.8	15.2
Sweet clover hay	(B)	6	____	.4	.9	.5
Soybean hay	(C)	6	____	.2	.2	.3
Mixed legumes & non-legumes	(C)	35	____	3.5	1.8	2.1
Legumes for seed	(C)	5	____	.4	.6	.8
Timothy and/or brome	(D)	20	____	.9	1.3	.3
Other annual hay	(D)	4	____	.1	.1	.2
Total tillable land in hay		159	____	24.1	33.7	19.4
Alfalfa pasture	(A)	51	____	2.3	3.6	1.8
Sweet clover pasture	(B)	41	____	4.8	10.8	4.7
Mix. incl. alf., sweet cl., brome	(B)	38	____	5.1	7.5	1.7
Other legumes and mixtures	(C)	25	____	2.9	2.1	3.8
Sudan grass and/or rape	(C)	25	____	1.1	.6	1.7
Other tillable pasture	(D)	86	____	7.4	10.3	4.5
Total tillable land in pasture		152	____	23.6	34.9	18.2
Tillable land not cropped	(D)	40	____	3.0	.7	2.8
Total tillable land				234.3	332.3	199.0
Phalaris hay (non-tillable)		6	____	.2	.3	.4
Wild hay (non-tillable)		53	____	4.1	3.6	3.4
Non-tillable pasture		104	____	21.4	30.8	20.5
Timber (not pastured)		18	____	.8	.5	.5
Roads and waste			____	10.2	14.3	9.6
Farmstead			____	8.9	11.5	9.5
Total acres in farm			____	279.9	393.3	242.9
% land tillable			____	84.7	87.0	82.4
% tillable land in high return crops			____	40.3	42.6	39.9

Table 20. Crop Yields per Acre, 1943

Crop	Your farm	Average of 164 farms	33 most profitable farms	33 least profitable farms
Canning peas, value above seed cost	$_____	$21.67	$14.79	$10.16
Flax, bu.	_____	9.5	11.0	7.8
Barley, bu.	_____	10.7	11.8	14.4
Barley and oats, bu.	_____	24.2	16.1	21.1
Wheat, bu.	_____	12.2	-	10.1
Oats, bu.	_____	34.3	37.8	27.6
Oats and wheat, bu.	_____	23.0	-	-
Rye, bu.	_____	16.6	-	-
Soybeans for grain, bu.	_____	12.6	14.2	11.0
Hemp, tons	_____	1.8	-	-
Sweet corn, tons	_____	2.3	-	-
Corn, grain, bu.	_____	39.6	43.5	30.7
Corn silage, tons	_____	8.5	9.3	6.6
Corn fodder, tons	_____	2.2	2.8	1.8
Alfalfa hay, tons	_____	2.3	2.4	2.1
Sweet clover hay, tons	_____	1.2	-	-
Soybean hay, tons	_____	1.2	-	-
Mixed legume & non-legume hay, tons	_____	1.6	1.7	1.2
Legumes for seed, lbs.	_____	32.8	-	-
Timothy and/or brome hay, tons	_____	1.4	1.5	-
Other annual hay, tons	_____	1.0	-	-
Phalaris hay on non-tillable land, tons	_____	.5	-	.4
Wild hay, tons	_____	.6	.8	.3

Table 21. Average Price of Feeds, 1943

Item	Value	Item	Value
Ear corn, per bu.	$ .88	Alfalfa hay, per ton	$11.00
Oats, per bu.	.60	Red or alsike clover hay, per ton	9.50
Barley, per bu.	.77	Soybean hay, per ton	9.50
Wheat, per bu.	1.19	Timothy hay, per ton	6.75
Soybeans, per bu.	1.73	Brome hay, per ton	6.75
Bran, per cwt.	2.10	Sweet clover hay, per ton	6.40
Linseed oilmeal, per cwt.	2.55	Wild hay, per ton	5.50
Soybean oilmeal, per cwt.	2.82	Corn fodder, per ton	4.95
Tankage, per cwt.	4.00	Corn silage, per ton	3.62
Skim milk, per cwt.	.26	Pasture, per mo. per an. unit	1.10

Table 22. Summary of Amount of Livestock, 1943

Items	Your farm	Average of 164 farms	33 most profitable farms	33 least profitable farms
No. of horses	_____	3.7	4.5	3.7
No. of colts	_____	.7	1.4	.8
No. of dairy & dual purpose cows	_____	7.6	7.6	7.8
Head of other dairy & dual pur. cattle	_____	8.2	7.3	8.6
Head of cattle in beef breeding herd	_____	10.7	9.4	9.5
Pounds of feeder cattle produced	_____	8483	18251	4484
Pounds of feeder sheep produced	_____	1312	4266	896
Litters of pigs	_____	25.4	37.9	21.7
Pounds of hogs produced	_____	39596	66275	28795
Head of sheep (2 lambs = 1 head)	_____	20.5	23.9	24.5
No. of hens	_____	223	208	192
Total no.of prod.lvstk.animal units	_____	63.9	100.3	53.8
% of total that are:				
Dairy cows	_____	9.4	7.0	10.1
Other dairy cattle	_____	4.9	3.7	6.2
Dual purpose cows	_____	5.4	3.5	7.0
Other dual purpose cattle	_____	4.1	2.1	4.7
Beef breeding herd	_____	12.5	6.8	10.8
Feeder cattle	_____	19.0	29.0	15.7
Hogs	_____	30.8	30.5	29.9
Sheep - farm flock	_____	4.8	4.0	7.5
- feeders	_____	3.2	7.7	2.6
Turkeys	_____	1.0	2.7	1.1
Hens	_____	4.9	3.0	4.4

Table 23. Feed Costs for Horses and Misc. Power and Machinery Expense, 1943

Items	Your farm	Average of 155 farms*	31 most profitable farms*	31 least profitable farms*
Feed per horse,** lbs.:				
Grain	_____	1747	1657	1653
Hay	_____	2868	2559	2471
Fodder and stover	_____	51	69	5
Feed costs per horse:				
Grain	$_____	$30.28	$27.89	$28.00
Roughage	_____	13.11	12.10	10.93
Pasture	_____	4.48	4.79	4.86
TOTAL FEED COSTS	$_____	$47.87	$44.78	$43.79
Number of work horses	_____	3.9	4.8	4.0
Number of colts	_____	.8	1.5	.9
Crop acres per farm	_____	211.9	300.7	181.8
Tractor and horse exp. per crop acre	$_____	$3.04	$2.50	$3.46
Crop & gen. mach.exp.per crop acres	$_____	$1.89	$1.53	$2.10

* Nine farmers did not have horses. The crop acres and expenses per crop acre are averages of 164 farms.

** Two colts equal one horse.

Table 24. Feed Costs and Returns from Hogs, 1943

Items	Your farm	Average of 161 farms	32 farms highest in returns above feed	32 farms lowest in returns above feed
Feed per cwt. hogs produced, lbs.:				
Corn	_____	439	310	625
Small grain	_____	85	69	112
Com. feeds - under 25% protein	_____	6	4	12
Com. feeds - over 25% protein	_____	26	19	28
Total concentrates	_____	556	402	777
Skim milk, buttermilk and whey	_____	72	57	72
Feed cost per cwt. hogs produced:				
Concentrates	$_____	$9.55	$6.93	$13.25
Skim milk, buttermilk and whey	_____	.17	.14	.17
Pasture	_____	.17	.16	.20
TOTAL FEED COSTS	$_____	$9.89	$7.23	$13.62
Net increase in value per cwt.hogs prod.	$_____	$12.82	$13.84	$11.99
RETURNS ABOVE FEED COST PER CWT.HOGS PROD.	$_____	$2.93	$6.61	$-1.63
RETURNS FOR $100 OF FEED	$_____	$138	$193	$91
Price received per cwt. hogs sold	$_____	$13.80	$14.41	$13.48
No. of spring litters raised	_____	20.2	24.8	16.5
No. of fall litters raised	_____	5.7	4.8	4.5
Total no. of litters raised	_____	25.9	29.6	21.0
No. of pigs born per litter	_____	7.5	7.8	7.1
No. of pigs weaned per litter	_____	6.0	6.4	5.5
Pounds of hogs produced	_____	40330	53061	26665

High returns are associated with high quality management. The combined effect on return over feed from excelling in a number of hog management factors is shown in Table 25. The factors included are: (1) pounds of concentrates required to produce 100 pounds of hogs, (2) price received for hogs sold, (3) number of pigs born per litter, (4) number of pigs weaned per litter, and (5) sanitation. Fifteen farmers were below the average of the group in all five factors; their average return over feed was $-.71 per 100 pounds of hogs. The 7 farmers who were above average in all five factors had an average return over feed of $5.52 per 100 pounds. The difference between the two extremes amounts to $6.23 per 100 pounds or $2513 for the average production of 40,330 pounds of hogs on these farms.

Table 25. Relation of Return Over Feed Per 100 Pounds of Hogs to the Number of Management Factors in Which Farmers Excelled

No. of factors in which farmer excels	No. of farms*	The length of the shaded lines are in proportion to the average return over feed per 100 pounds of hogs	Average return over feed
0	15	xxxxx	$-.71
1	27	xxxxxxxxxxxxxxxx	2.57
2	37	xxxxxxxxxxxxxxx	2.12
3	38	xxxxxxxxxxxxxxxxxxxxxxx	3.55
4	34	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	4.69
5	7	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	5.52

* The data from 3 farmers who purchased feeder pigs were omitted from this table.

Table 26. Factors of Cost and Returns From Dairy Cows, 1943

	Your farm	Average of 55 farms	11 farms highest in butterfat per cow	11 farms lowest in butterfat per cow
Pounds of butterfat per cow	_____	251	326	177
Feeds per cow, lbs.:				
Corn	_____	1704	2293	1378
Small grain	_____	1104	1142	804
Com. feeds - under 25% protein	_____	49	65	77
Com. feeds - over 25% protein	_____	119	199	86
Legume hay	_____	4117	4555	4050
Other hay	_____	149	384	201
Fodder and stover	_____	129	182	91
Total concentrates	_____	2976	3699	2345
Total dry roughage	_____	4395	5121	4342
Silage	_____	4645	4466	3108
Total digestible nutrients*	_____	5365	6229	4675
T. D. N. per lb. B.F.	_____	21.4	19.1	26.4
% T. D. N. that is protein	_____	14.4	14.5	14.3
Feed cost per cow:				
Concentrates	$_____	$50.74	$63.98	$39.75
Roughages	_____	31.48	34.21	29.03
Pasture	_____	5.81	5.77	6.03
TOTAL FEED COSTS	_____	$88.03	$103.96	$74.81
Value of produce per cow:				
B. F. Sales	$_____	$126.35	$172.85	$77.21
Dairy produce used in house	_____	9.93	7.43	10.37
Milk to livestock	_____	17.84	23.62	16.35
Net increases in value of cows	_____	3.77	4.94	1.42
TOTAL VALUE PRODUCED	_____	$157.89	$208.84	$105.35
RETURNS ABOVE FEED COST PER COW	$_____	$ 69.86	$104.88	$ 30.54
RETURNS FOR $100 OF FEED	$_____	$188	$214	$146
Price rec. per lb. B.F. sold (cts.)	_____	56.2	57.6	52.8
As manufacturing cream (cents)	_____	53.5	53.9	52.5
Other	_____	72.8	72.1	63.9
Feed cost per lb. B.F. (cents)	_____	35.1	31.9	42.3
% fall freshening	_____	38.7	52.2	35.2
Number of cows**	_____	13.7	17.0	11.6

* Not including nutrients received from pasture.

** All dairy cows which have at some time in the past freshened are included in the dairy herd, and affect the average number of cows used in computing this table. There is some variation in the number of months of dry period per cow; however, this variation is small for the majority of farms.

Table 27. Feed Costs and Returns From Other Dairy Cattle, 1943

Items	Your farm	Average of 50 farms*	11 farms highest in butterfat per cow	8 farms lowest in butterfat per cow*
Feeds per head, lbs.:				
Concentrates	_____	888	819	800
Hay and fodder	_____	1584	1800	1378
Silage	_____	1969	1657	1940
Skim milk	_____	1123	1147	1191
Whole milk	_____	336	352	289
Feed cost per head:				
Concentrates	$_____	$15.03	$13.82	$13.63
Roughages	_____	11.27	11.44	9.68
Milk	_____	11.34	10.81	9.45
Pasture	_____	2.08	1.62	2.84
TOTAL FEED COSTS	$_____	$39.72	$37.69	$35.60
Net inc. in value of other dairy cattle	_____	$43.41	$50.43	$38.27
RETURNS ABOVE FEED COST PER HEAD	$_____	$3.69	$12.74	$2.67
RETURNS FOR $100 OF FEED	$_____	$118	$143	$105
Number of head of other dairy cattle	_____	15.1	17.4	15.9

Table 28. Feed Costs and Returns From All Dairy Cattle, 1943

Items	Your farm	Average of 55 farms	11 farms highest in butterfat per cow	11 farms lowest in butterfat per cow
Feeds per animal unit, lbs.:				
Concentrates	_____	2482	2920	2053
Hay and fodder	_____	3844	4277	3738
Silage	_____	4358	3845	3139
Feed cost per animal unit:				
Concentrates	$_____	$42.74	$50.23	$34.73
Roughages	_____	27.79	29.31	25.14
Pasture	_____	5.21	4.84	5.70
TOTAL FEED COSTS	$_____	$75.74	$84.38	$65.57
Value of produce per animal unit:				
Dairy products	$_____	$97.28	$125.14	$66.51
Net increase in value of dairy cattle	_____	29.37	35.93	26.77
TOTAL VALUE PRODUCED	$_____	$126.65	$161.07	$93.28
RETURNS ABOVE FEED PER ANIMAL UNIT	$_____	$50.91	$76.69	$27.71
RETURNS PER $100 OF FEED	$_____	$173	$197	$145
Animal units of dairy cattle	_____	21.0	26.3	17.9

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

Table 29. Factors of Cost and Returns from Dual Purpose Cows, 1943

Items	Your farm	Average of 51 farms	10 farms highest in butterfat per cow	10 farms lowest in butterfat per cow
Pounds of butterfat per cow	_____	182	266	114
Feeds per cow, lbs.:				
Corn	_____	1639	2021	1368
Small grain	_____	532	666	314
Com. feeds - under 25% protein	_____	5	6	0
Com. feeds - over 25% protein	_____	51	151	9
Legume hay	_____	3846	4219	3882
Other hay	_____	137	21	91
Fodder and stover	_____	270	182	839
Total concentrates	_____	2227	2844	1691
Total dry roughage	_____	4253	4422	4812
Silage	_____	3325	3641	2282
Total digestible nutrients*	_____	4568	5454	4158
T.D.N. per lb. B.F.	_____	25.1	20.5	36.5
% T.D.N. that is protein	_____	14.2	14.3	13.8
Feed cost per cow:				
Concentrates	$_____	$36.84	$47.97	$26.86
Roughages	_____	27.15	28.84	26.56
Pasture	_____	6.10	6.07	6.00
TOTAL FEED COSTS	$_____	$70.09	$82.88	$59.42
Value of produce per cow:				
B.F. sales	$_____	$77.93	$124.00	$42.44
Dairy produce used in house	_____	12.08	15.25	11.34
Milk to livestock	_____	14.89	18.26	10.70
Net increases in value of cows	_____	6.40	10.81	-3.22
TOTAL VALUE PRODUCED	$_____	$111.30	$168.32	$61.26
RETURNS ABOVE FEED COST PER COW	$_____	$41.21	$85.44	$1.84
RETURNS FOR $100 OF FEED	$_____	$167	$214	$108
Price received per lb. B.F. sold (cts.)	_____	52.5	53.4	51.8
Feed cost per lb. B. F. (cents)	_____	38.5	31.2	52.1
% fall freshening	_____	41.7	43.2	33.2
Number of cows	_____	8.4	7.8	8.0

* Not including nutrients received from pasture.

Table 30. Feed Costs and Returns from Other Dual-Purpose Cattle, 1943

Items	Your farm	Average of 37 farms*	7 farms highest in returns above feed	7 farms lowest in returns above feed
Feeds per head, lbs.:				
Concentrates	_____	817	682	1336
Hay and fodder	_____	1264	884	1852
Silage	_____	647	491	1458
Skim milk	_____	732	625	1282
Whole milk	_____	180	118	206
Feed cost per head:				
Concentrates	$_____	$13.83	$11.19	$22.75
Roughages	_____	7.26	5.10	11.92
Milk	_____	5.97	4.39	8.08
Pasture	_____	2.36	2.75	2.79
TOTAL FEED COSTS	$_____	$29.42	$23.43	$45.54
Net increase in value	$_____	$34.70	$54.94	$21.36
RETURNS ABOVE FEED COST PER HEAD	$_____	$5.28	$31.51	$-24.18
RETURNS FOR $100 OF FEED	$_____	$153	$321	$38
No. of head of other dual-purpose cattle	_____	15.2	13.4	16.6

Table 31. Feed Costs and Returns From All Dual-Purpose Cattle, 1943

Items	Your farm	Average of 51 farms	10 farms highest in returns above feed	10 farms lowest in returns above feed
Butterfat per cow	_____	182	246	137
Feeds per animal unit, lbs.:				
Concentrates	_____	2056	1897	2622
Hay and fodder	_____	3542	3301	4582
Silage	_____	2739	4099	2032
Feed cost per animal unit:				
Concentrates	$_____	$34.28	$31.44	$43.12
Roughages	_____	22.47	24.62	25.56
Pasture	_____	5.83	5.38	5.40
TOTAL FEED COSTS	$_____	$62.58	$61.44	$74.08
Value of produce per animal unit:				
Dairy products	$_____	$63.19	$96.33	$45.86
Net increase in value	_____	30.27	45.29	19.77
TOTAL VALUE PRODUCED	$_____	$93.46	$141.62	$65.63
RETURNS ABOVE FEED PER ANIMAL UNIT	$_____	$30.88	$80.18	$-8.45
RETURNS FOR $100 OF FEED	$_____	$161	$256	$91
Animal units of dual-purpose cattle	_____	14.3	12.0	12.5

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

The farmer who excels in all phases of the management of his dairy cows receives a larger return than one who excels in none or only a few of the management factors. The combined effect on return over feed per dairy cow from excelling in a number of management factors is shown in Table 32. The factors included are (1) pounds of butterfat per cow, (2) total digestible nutrients per pound of butterfat, (3) percentage of protein in the T.D.N., (4) price received for butterfat, (5) feed cost per pound of butterfat, and (6) percentage of fall freshening. Four farmers were below the average of the group in all six factors; their return over feed amounted to $32.58 per cow. Five farmers who were above the average of the group in either five or six factors received a return over feed of $116.97 per cow. The difference between these two extremes amounts to $84.39 per cow or $115 for the average herd of 13.7 cows.

Table 32. Relation of Return Over Feed per Dairy Cow to Number of Management Factors in Which Farmers Excelled

No. of factors in which farmer excels	No. of farms	The length of the shaded lines are in proportion to the average return over feed per dairy cow	Average return over feed
0	4	xxxxxxxxxxx	$32.58
1	9	xxxxxxxxxxxxxxx	43.77
2	13	xxxxxxxxxxxxxxxxx	50.12
3	16	xxxxxxxxxxxxxxxxxxxxxxxxx	78.64
4	8	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	102.93
5 or 6	5	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	116.97

Similar variations occur in the returns secured from dual purpose cows. The data in Table 33 show the combined effect from excelling in the six factors listed above. Four farmers were below the average of the group in all six factors. They failed to receive a return large enough to cover the cost of feed. Ten farmers who excelled in five or six factors received a return of $66.58 per cow. The difference between these two extremes amounts to $71.75 per cow or $603 for the average milking herd of 8.4 cows.

Table 33. Relation of Return Over Feed per Dual Purpose Cow to Number of Management Factors in Which Farmers Excelled

No. of factors in which farmer excels	No. of farms	The length of the shaded lines are in proportion to the average return over feed per dual purpose cow	Average return over feed
0	4	xxx	$-5.17
1	10	xxxxxx	12.55
2	8	xxxxxxx	13.33
3	10	xxxxxxxxxxxxxxxxxxxxxxxxxxx	57.44
4	9	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	72.23
5 or 6	10	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	66.58

Table 34. Feed Costs and Returns from Feeder Cattle, 1943

Items	Your farm	Average of 84 farms	17 farms highest in returns above feed	17 farms lowest in returns above feed
Feeds per cwt. beef produced, lbs.:				
Corn	_____	809	644	1038
Small grain	_____	44	37	89
Com. feeds - under 25% protein	_____	7	1	14
Com. feeds - over 25% protein	_____	34	20	40
Legume hay	_____	305	321	336
Other hay	_____	44	4	45
Fodder and stover	_____	17	27	2
Total concentrates	_____	894	702	1181
Total dry roughages	_____	366	352	383
Silage	_____	437	464	461
Per cent protein in the T.D.N.	_____	11.5	11.5	11.4
Feed cost per cwt. beef produced:				
Concentrates	$_____	$14.39	$10.88	$19.14
Roughages	_____	2.49	2.45	2.69
Pasture	_____	.37	.22	.38
TOTAL FEED COSTS	$_____	$17.25	$13.55	$22.21
Net increase in value of feeders	$_____	$18.68	$22.94	$15.90
RET.ABOVE FEED COST PER CWT.BEEF PROD.	$_____	$1.43	$9.39	$-6.31
RETURNS FOR $100 OF FEED	$_____	$119	$188	$72
Price received per 100 lbs. beef sold	$_____	$13.68	$13.73	$13.32
Price paid per 100 lbs. bought	$_____	$11.57	$ 9.91	$11.85
% death loss	_____	.8	.3	1.6
No. of animal units	_____	34.4	17.5	31.1
Pounds of beef produced	_____	16534	10716	14536
Lbs. gain in weight per day	_____	1.5	1.8	1.3

Superior management in the cattle feeding enterprise results in a comparatively high return just as superior management in the dairy herd resulted in a high return over feed per cow. The combined effect on return over feed per 100 pounds produced from excelling in five factors is shown in Table 35. The factors included are: (1) feed cost per 100 pounds of cattle produced, (2) the percentage of protein in the total digestible nutrients, (3) the price received per 100 pounds sold, (4) death loss, and (5) gain in weight per day. The farmers who excelled in only one factor failed to secure a return large enough to cover the cost of the feed. Six farmers were above the average in the five factors and their return over feed amounted to $5.27. The difference between the two extremes is $9.00 or $1488 for the average production of 16,534 pounds per farm.

Table 35. Relation of Return Over Feed Per 100 Pounds of Beef Cattle Produced to Number of Management Factors in Which Farmers Excelled

No. of factors in which farmer excels	No. of farms	Length of shaded lines are in proportion to the average return over feed per 100 pounds of beef cattle	Average return over feed
1	10	xxxxxxxxxxxxxxx	$-3.73
2	25		- .08
3	23	xxxxxxxxxx	2.46
4	20	xxxxxxxxxxxxxx	3.54
5	6	xxxxxxxxxxxxxxxxxxxx	5.27

Table 36. Feed Costs and Returns from Beef Breeding Herd, 1943

Items	Your farm	Average of 50 farms	12 farms highest in returns above feed	7 farms lowest in returns above feed
Feeds per animal unit, lbs.:				
Concentrates	_____	1271	1186	1921
Legume hay	_____	2429	2243	2472
Other hay	_____	245	103	266
Fodder and stover	_____	155	240	204
Silage	_____	3155	2503	3686
Skim milk*	_____	246	211	694
Whole milk*	_____	19	22	50
Feed cost per animal unit:				
Concentrates	$_____	$20.76	$19.34	$31.45
Roughages	_____	19.16	16.58	20.68
Milk*	_____	1.09	1.06	2.98
Pasture	_____	5.57	6.12	5.39
TOTAL FEED COSTS	$_____	$46.58	$43.10	$60.50
Value of produce per animal unit:				
Dairy products	$_____	$12.84	$17.96	$ 1.77
Net increase in value of animals	_____	52.28	79.04	42.26
TOTAL VALUE PRODUCED	$_____	$65.12	$97.00	$44.03
RET. ABOVE FEED COST PER ANIMAL UNIT	$_____	$18.54	$53.90	$-16.47
RETURNS FOR $100 OF FEED	$_____	$156	$247	$ 73
Number of cows and herd bulls	_____	14.9	19.3	9.0
Number of animal units in the herd	_____	24.8	31.3	16.9

* Several farmers had both dairy or dual purpose cows and beef cows and fed some milk produced by the milking herd to beef calves.

Table 37. Feed Costs and Returns for Turkeys, 1943

Items	Your farm	Average of 6 farms	3 farms highest in returns above feed	3 farms lowest in returns above feed
Feed per cwt. turkeys produced, lbs.:				
Grain	_____	452	341	563
Com. feeds - under 25% protein	_____	11	17	5
Com. feeds - over 25% protein	_____	150	146	154
Total concentrates	_____	613	504	722
Feed cost per cwt. turkeys produced	$_____	$14.96	$13.14	$16.78
NET INCREASES IN VALUE OF TURKEYS	$_____	$27.27	$27.91	$26.64
RETURNS ABOVE FEED COST PER CWT. TURKEYS	$_____	$12.31	$14.77	$ 9.86
RETURNS FOR $100 OF FEED	$_____	$186	$213	$159
Price rec'd per lb. turkey sold (cts.)	_____	32.0	31.6	32.4
Pounds of turkeys produced	_____	29062	43917	14207

Table 38. Feed Costs and Returns from Chickens, 1943

Items	Your farm	Average of 152 farms	30 farms highest in return above feed	30 farms lowest in return above feed
Feed per hen, lbs.:				
Grain	_____	119	128	135
Commercial feeds	_____	30	33	24
Total concentrates	_____	149	161	159
Skim milk and buttermilk	_____	18	20	12
Feed cost per hen:				
Concentrates	$_____	$3.12	$3.38	$3.24
Skim milk	_____	.05	.05	.03
TOTAL FEED COST	$_____	$3.17	$3.43	$3.27
Value of produce per hen:				
Eggs sold and used in house	$_____	$4.23	$5.34	$3.01
Net increase in value of chickens	_____	1.42	2.56	.83
TOTAL VALUE PRODUCED	$_____	$5.65	$7.90	$3.84
RETURNS ABOVE FEED COST PER HEN	$_____	$2.48	$4.47	$ .57
RETURNS FOR $100 OF FEED	$_____	$189	$250	$122
Price rec'd. per doz. eggs sold (cents)	_____	34.9	35.1	34.3
% of eggs sold on grade basis	_____	33	41	20
Eggs laid per hen	_____	146	183	105
Ave. no. of hens on farm during the yr.	_____	240	214	204
% of hens that are pullets	_____	82	92	70
% death loss of hens	_____	14	13	18

Superior management leads to high returns. The combined effect on return over feed from excelling in a number of poultry management factors is shown in Table 39. The factors included are (1) pounds of concentrates per hen, including 10% of skim milk, (2) price received per dozen of eggs sold, (3) number of eggs laid per hen, (4) percentage of the hens that are pullets, and (5) death loss. Two farmers were below the average in all the factors; their average return over feed was $1.16 per head. The 5 farmers who excelled in all five factors had an average return over feed of $3.72 per hen. The difference between the two extremes amounts to $2.56 or $614 for the average flock of 240 hens.

Table 39. Relation of Return Over Feed Per Hen to the Number of Management Factors in Which Farmers Excelled

No. of factors in which farmer excels	No. of farms	The length of the shaded lines are in proportion to the average return over feed per hen	Average return over feed per hen
0	2	xxxxxxxxxxxx	$1.16
1	22	xxxxxxxxxxxx	1.17
2	46	xxxxxxxxxxxxxxxxxxxx	2.09
3	46	xxxxxxxxxxxxxxxxxxxxxxxxxxx	2.81
4	31	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	3.39
5	5	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	3.72

Table 40. Feed Costs and Returns from a Farm Flock of Sheep, 1943

Items	Your farm	Average of 53 farms	11 farms highest in returns above feed	11 farms lowest in returns above feed
Feeds per head,* lbs.:				
Concentrates	_____	102	58	142
Legume hay	_____	233	131	220
Other hay	_____	27	31	50
Fodder and stover	_____	2	0	0
Silage	_____	87	20	59
Feed cost per head:				
Concentrates	$_____	$1.68	$.97	$2.28
Roughages	_____	1.46	.81	1.40
Pasture	_____	1.00	1.00	1.04
TOTAL FEED COSTS	$_____	$4.14	$2.78	$4.72
Value of produce per head:				
Wool	$_____	$2.81	$2.95	$2.42
Net increase in value of sheep	_____	4.70	8.74	.59
TOTAL VALUE PRODUCED	$_____	$7.51	$11.69	$3.01
RETURNS ABOVE FEED COST PER HEAD	$_____	$3.37	$ 8.91	$-1.71
RETURNS FOR $100 OF FEED	$_____	$222	$484	$63
Price per cwt. of lambs sold	$_____	$13.02	$13.03	$13.58
Price per lb. wool sold (cts.)	_____	41.1	41.6	40.0
Pounds of wool per sheep sheared	_____	8.6	9.2	7.8
Number of ewes kept for lambing	_____	35	22	43
% lamb crop**	_____	105	124	89
% death loss**	_____	9.8	7.4	13.8
No. of head of sheep*	_____	62	34	80

* Two lambs under six months of age considered as one head.
** Lambs which die during month of birth are not included.

Superior management in the sheep enterprise results in a comparatively high return over feed just as superior management in the dairy herd or poultry flock resulted in a high return over feed per cow or per hen. The effect on return over feed from excelling in 6 factors is shown in Table 41. The factors included are (1) feed cost per head, (2) price received per 100 lbs. of lambs sold, (3) price received per lb. of wool sold, (4) lbs. of wool per sheep sheared, (5) per cent lamb crop, and (6) per cent death loss. The 12 farmers who were above the average in only one or two factors received a return above feed cost of $1.94 per head, while 12 farmers who excelled in 5 or 6 of the factors received a return of $5.30 per head. The difference between the two extremes is $3.36 or $208 for the average flock of 62 head.

Table 41. Relation of Return Over Feed Per Head of Sheep to Number of Management Factors in Which Farmers Excelled

No. of factors in which farmer excels	No. of farms*	Length of shaded lines are in proportion to the average return over feed per head of sheep	Average return over feed
1 or 2	12	xxxxxxxxxx	$1.94
3 or 4	16	xxxxxxxxxxxxxx	2.79
5 or 6	12	xxxxxxxxxxxxxxxxxxxxxxxxxx	5.30

* The records of 16 farmers who did not sell lambs or wool were omitted.

Table 42. Feed Costs and Returns from Feeder Sheep, 1943

Items	Your farm	Average of 22 farms	7 farms highest in returns above feed	7 farms lowest in returns above feed
Feeds per cwt. sheep produced, lbs.:				
Concentrates	_____	646	612	813
Legume hay	_____	272	384	267
Other hay	_____	38	26	68
Fodder and stover	_____	49	6	117
Silage	_____	93	52	82
Feed cost per cwt.:				
Concentrates	$_____	$10.61	$10.03	$13.16
Roughages	_____	1.91	2.29	2.08
Pasture	_____	1.33	.75	1.62
TOTAL FEED COSTS	$_____	$13.85	$13.07	$16.86
Net increase in value of sheep	$_____	$18.09	$23.63	$14.16
RETURNS ABOVE FEED COST PER CWT. PRODUCED	$_____	$4.24	$10.56	$-2.70
RETURNS FOR $100 OF FEED	$_____	$140	$187	$82
Price per cwt. sheep sold	$_____	$14.52	$14.86	$14.13
Price per cwt. for sheep bot in 1943	$_____	$13.59	$13.12	$14.02
% death loss	_____	3.4	3.1	3.9
Pounds of sheep produced	_____	9500	9930	9018

The effect on return over feed from feeder sheep from excelling in three factors is shown in Table 43. The factors included are (1) feed cost per 100 lbs. of sheep produced, (2) price received per 100 lbs. of sheep sold, and (3) death loss. Two farmers failed to excel in any of the three factors; their return over feed was $1.32 per 100 lbs. produced. Three farmers excelled in all three factors and had an average return over feed of $7.87 per 100 lbs. The difference between the two extremes is $6.55 or $622 for the average production of 9500 lbs. of sheep.

Table 43. Relation of Return Over Feed per 100 Lbs. of Feeder Sheep Produced to Number of Management Factors in Which Farmers Excelled

No. of factors in which farmer excels	No. of farms	Length of shaded lines are in proportion to the average return over feed per 100 lbs. produced	Average return over feed
0	2	xxxxx	$1.32
1	9	xxxxxxxxx	2.30
2	8	xxxxxxxxxxxxxxxxxxxxxxx	5.78
3	3	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	7.87

Table 44. Summary of Farm Earnings - Averaged by Counties, 1943

	Brown & Watonwan	Cottonwood & Murray	Fari-bault	Jackson	Lincoln & Lyon	Martin	Nobles	Pipestone & Rock	Redwood
FARM EXPENSES									
Cattle bought	$386	$1,293	$666	$1,497	$924	$717	$2,727	$859	$1,458
Hogs bought	182	800	562	119	267	371	499	423	308
Sheep bought	621	318	530	646	-	201	2,113	773	6
Poultry bought	117	138	161	128	80	95	341	155	119
Misc. livestock exp.	182	142	198	178	164	197	244	366	151
Crop expense	413	400	458	422	761	510	602	482	586
Feed	1,714	3,151	2,056	3,343	3,734	1,521	4,000	3,699	4,021
Custom work hired	232	221	258	174	125	294	226	191	175
Power expense	829	711	783	863	790	884	806	934	900
Crop mach. & livestock equip.	540	593	524	562	635	511	596	614	810
Buildings	316	318	370	323	418	394	292	316	829
Labor	469	514	649	788	978	771	878	745	884
Taxes, insurance, & misc.	395	406	413	406	449	348	503	491	555
(1) Total purchases	$6,396	$9,005	$7,628	$9,449	$9,325	$6,814	$13,827	$10,048	$10,802
(2) Decrease in cap.	457	34	2,050	467	-	536	-	-	142
(3) Board to hired labor	173	95	100	128	247	161	130	228	166
(4) Unpaid family labor	351	242	393	309	258	309	343	384	391
(5) Int. on farm cap.	1,613	1,529	1,926	1,832	1,702	1,830	2,198	1,963	2,041
(6) Total expenses	$8,990	$10,905	$12,097	$12,185	$11,532	$9,650	$16,498	$12,623	$13,542
FARM RECEIPTS									
Cattle sales	$1,687	$3,726	$3,369	$4,660	$2,674	$3,281	$6,109	$3,758	$4,388
Dairy products	1,232	633	999	743	1,229	1,262	815	1,243	614
Hogs	4,727	4,938	6,770	5,383	5,497	4,662	5,002	7,244	6,842
Sheep	527	234	678	1,091	109	258	3,042	1,153	145
Poultry & eggs	1,047	1,333	1,242	1,579	1,061	944	2,777	1,457	1,267
Crop	2,137	2,668	2,332	1,970	2,945	2,960	2,552	1,782	3,884
AAA payment	263	229	341	162	255	233	262	315	321
Work off the farm	267	321	114	168	251	363	234	384	266
Misc. cash receipts	125	218	336	150	208	148	243	300	444
(7) Total farm sales	$12,012	$14,300	$16,181	$15,906	$14,229	$14,111	$21,036	$17,636	$18,171
(8) Increase in cap.	-	-	-	-	1,653	-	1,527	958	-
(9) Family living from farm	623	524	618	620	596	565	590	639	552
(10) Total receipts	$12,635	$14,824	$16,799	$16,526	$16,478	$14,676	$23,153	$19,233	$18,723
(6) Total expenses	$8,990	$10,905	$12,097	$12,185	$11,532	$9,650	$16,498	$12,623	$13,542
(11) Oper. labor earnings	$3,645	$ 3,919	$4,702	$4,341	$4,946	$5,026	$6,655	$6,610	$5,181

Table 45. Miscellaneous Information - Averaged by Counties, 1943

	Brown & Watonwan	Cottonwood & Murray	Fari-bault	Jackson	Lincoln & Lyon	Martin	Nobles	Pipestone & Rock	Redwood
FARM INVENTORIES (Beginning of year)									
Productive livestock	$ 5,819	$ 5,440	$ 7,535	$ 7,283	$ 5,662	$ 6,156	$ 9,797	$ 8,128	$ 8,367
Horses	401	285	340	326	298	403	431	306	307
Crop, seed and feed	4,327	3,669	4,491	3,369	3,831	4,360	4,260	4,376	5,246
Mach. and equipment	2,620	3,056	3,324	3,246	3,924	3,368	3,848	3,306	3,866
Buildings	7,825	6,238	8,650	7,926	6,850	7,496	7,569	7,791	6,732
Land	11,483	11,912	15,199	14,715	12,657	15,078	17,281	14,872	16,376
Total farm capital	$32,475	$30,600	$39,539	$36,865	$33,222	$36,861	$43,186	$38,779	$40,894
MEAS. OF FARM ORG. AND MANAGEMENT EFFIC.									
Crop yields - % of ave.	98	89	110	96	97	119	110	105	80
% high return crops	38.4	40.5	40.6	39.5	42.5	38.8	40.4	43.9	39.9
Index ret. from livestock	97	100	96	98	110	102	97	106	102
A. U. livestock per 100 A.	23.7	22.7	28.9	25.1	18.9	24.2	30.1	28.3	19.8
Work units	538	522	562	569	648	536	631	659	632
Work units per worker	276	294	272	274	292	256	285	294	276
Exp. per work unit	$3.46	$3.45	$3.65	$3.60	$2.96	$4.02	$3.33	$2.92	$3.84
DISTRIBUTION OF ACRES IN FARM									
Small grain	59.3	89.1	72.7	85.3	116.1	67.8	96.7	87.9	135.2
Cultivated crops	69.5	85.3	86.9	87.4	91.2	87.1	104.9	88.4	119.2
Tillable hay land	20.7	23.1	18.3	25.1	37.8	17.2	29.9	26.6	22.8
Tillable pasture	24.5	19.9	31.7	20.0	21.5	23.8	29.8	18.9	17.9
Total acres in farm	230.1	218.9	244.7	262.3	367.5	219.4	301.3	286.5	360.3
% land tillable	78.0	84.2	86.6	85.5	75.8	89.2	86.4	80.6	87.8
CROP YIELDS PER ACRE									
Flax, bu.	8.9	9.5	8.6	9.1	9.9	9.6	11.0	9.9	8.5
Barley, bu.	14.2	11.3	11.2	3.5	17.1	11.4	13.2	16.5	9.0
Oats, bu.	34.2	30.1	34.1	37.0	31.3	38.3	40.9	33.7	24.2
Soybeans, bu.	10.7	10.3	18.6	12.9	17.9	21.9	9.5	6.2	10.2
Corn, grain, bu.	39.6	33.7	46.6	39.1	31.5	49.0	43.8	44.6	27.6
Corn silage, tons	7.9	8.4	9.1	7.8	8.6	10.8	9.0	8.1	6.1
Alfalfa hay, tons	2.5	2.2	2.4	2.2	2.6	2.3	2.1	2.6	2.5
AN. UNITS OF LIVESTOCK	49.5	51.4	62.9	60.3	60.1	45.3	84.2	74.6	72.5
% dairy and du. pur. cattle	32.5	23.9	23.3	25.6	32.1	29.6	16.2	22.1	19.8
% in beef breeding herd	14.2	20.0	13.3	4.5	11.3	11.5	9.1	25.7	9.2
% feeder cattle	.3	17.6	14.7	23.0	15.3	17.3	30.3	10.5	26.9
% sheep-farm flock	3.6	5.3	7.7	4.7	4.7	3.5	5.0	4.9	3.5
% sheep-feeders	4.8	1.5	1.9	4.5	-	2.0	8.1	2.0	-
% hogs	39.3	25.7	34.5	31.9	31.2	32.0	24.2	30.9	32.4
% turkeys	-	.8	1.1	-	-	-	4.1	-	-
% hens	5.3	5.2	3.5	5.8	5.4	4.1	3.0	3.9	8.2

Table 46. Summary of Farm Earnings by Years*

Items	1940	1941	1942	1943
No. of farms	165	166	165	164
FARM EXPENSES				
Horses bought	$ 32	$ 32	$ 49	$ 33
Dairy and dual-purpose cattle bought	76	138	141	135
Beef cattle bought (including feeders)	1,243	1,766	1,718	1,187
Hogs bought	103	209	339	408
Sheep bought (including feeders)	414	686	866	694
Poultry bought (including turkeys)	99	96	138	165
Misc. livestock expense	72	109	148	199
Miscellaneous crop expenses	243	303	377	507
Feed bought	1,007	1,718	2,235	3,080
Custom work hired	150	140	199	215
Power machinery (farm share) (new)	379	446	256	180
Power machinery (farm share) (upkeep)	411	497	533	617
Crop and general machinery (new)	319	416	387	221
Crop and general machinery (upkeep)	69	84	135	157
Livestock equipment (new)	74	123	134	138
Livestock equipment (upkeep)	20	32	57	87
Buildings and fencing (new)	412	434	327	236
Buildings and fencing (upkeep)	88	141	156	168
Hired labor	392	561	622	739
Taxes	313	337	355	335
Insurance	15	32	35	40
General farm	59	55	60	72
(1) Total farm purchases	$5,990	$8,355	$9,267	$9,613
(2) Decrease in farm capital	-	-	-	-
(3) Board furnished hired labor	131	171	143	147
(4) Interest on farm capital	1,635	1,831	1,886	1,880
(5) Unpaid family labor	252	288	360	335
(6) Total farm expenses (Sum of (1) to (5)	$8,008	$10,645	$11,656	$11,975
FARM RECEIPTS				
Horses	$ 42	$ 41	$ 47	$ 45
Dairy and dual-purpose cattle	265	392	446	419
Dairy products	570	758	804	916
Beef cattle (including feeders)	2,373	3,399	3,860	3,590
Hogs	1,162	2,306	4,336	5,630
Sheep and wool (including feeders)	470	1,032	1,402	968
Poultry (including turkeys)	372	396	598	622
Eggs	244	334	589	905
Corn	516	477	625	724
Small grain	849	1,133	1,120	1,382
Other crops	239	283	366	510
Machinery and equipment sold	249	278	133	137
Agricultural adjustment payment	506	503	503	264
Income from labor off the farm	193	196	163	137
Miscellaneous	394	176	166	185
(7) Total farm sales	$8,444	$11,704	$15,158	$16,434
(8) Increase in farm capital	1,179	2,618	2,102	2
(9) Family living from farm	483	538	584	588
(10) Total farm receipts (7) + (8) + (9)	$10,106	$14,860	$17,844	$17,024
(6) Total farm expenses	8,008	10,645	11,656	11,975
(11) Operator's labor earnings (10) - (6)	2,098	4,215	6,188	5,049

* 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 47. Summary of Miscellaneous Items by Years

Items	1940	1941	1942	1943
Total farm capital	$32,724	$36,613	$37,728	$37,602
MEAS. OF FARM ORG. AND MANAGEMENT EFFICIENCY				
% tillable land in high return crops	35.9	36.5	38.9	40.3
Animal units prod. livestock per 100 A.	22.1	24.7	24.7	25.1
Work units	569	631	624	586
Work units per worker	263	264	281	279
Expenses per work unit	$2.17	$2.30	$2.90	$3.52
ACRES PER FARM	279	295	291	280
Crop acres per farm	213	223	219	212
CROP YIELDS PER ACRE				
Flax, bu.	13.7	12.0	11.5	9.5
Barley, bu.	42.3	29.6	24.0	10.7
Oats, bu.	60.1	26.4	44.8	34.3
Corn, grain, bu.	46.2	55.9	57.4	39.6
Corn silage, tons	8.5	9.5	10.3	8.5
Alfalfa hay, tons	2.0	2.0	2.5	2.3
RETURN ABOVE FEED COST PER:				
Dairy cow	$43.03	$56.89	$70.13	$69.86
Dual-purpose cow	26.49	39.13	54.28	41.21
Animal unit in beef breeding herd	18.20	25.06	35.53	18.54
100 pounds feeder cattle produced	2.92	3.99	3.64	1.43
Head of sheep in farm flock	3.27	5.96	5.61	3.37
100 pounds feeder sheep produced	2.13	8.01	6.67	4.24
100 pounds hogs produced	1.23	5.15	7.61	2.93
Hen	.96	1.35	2.07	2.48
100 pounds turkeys produced	5.74	9.63	14.09	12.31
FEED COST PER:				
Dairy cow	$46.50	$53.11	$62.99	$88.03
Dual-purpose cow	34.85	44.19	48.55	70.09
Animal unit in beef breeding herd	29.86	33.57	34.55	46.58
100 pounds of feeder cattle produced	8.00	9.21	13.27	17.25
Head of sheep in farm flock	2.60	2.76	3.01	4.14
100 pounds feeder sheep produced	7.16	8.38	14.23	13.85
100 pounds hogs produced	4.29	5.55	6.76	9.89
Hen	1.11	1.50	2.15	3.17
100 pounds turkeys produced	7.27	8.26	11.40	14.96
Horse	29.74	31.80	37.06	47.87
MISC. LIVESTOCK INFORMATION				
No. of work horses	4.1	4.2	4.0	3.7
No. of colts	1.0	1.0	.7	.7
No. of dairy or dual-purpose cows	8.6	9.1	8.6	7.6
Head of cattle in beef breeding herd	9.0	9.4	9.9	10.7
Pounds feeder cattle produced	8,678	14,087	10,119	8,483
Litters of pigs	13.6	16.9	20.1	25.4
Pounds of hogs produced	21,335	27,550	34,522	39,596
No. of hens	161	173	196	223
Pounds of butterfat per dairy cow	250	254	250	251
Pounds of butterfat per dual-purpose cow	179	190	190	182
No. of pigs weaned per litter	6.2	6.4	6.3	6.0
% lamb crop	110	110	109	105
Eggs per hen	113	117	135	146

Table 47. Summary of Miscellaneous Items by Years (Continued)

Items	1940	1941	1942	1943
PRICE RECEIVED PER:				
Pound butterfat sold to creameries	$ .31	$ .37	$ .42	$ .53
100 pounds feeder cattle	8.81	10.13	12.22	13.68
100 pounds feeder sheep	8.74	10.08	12.47	14.52
Pound of wool	.29	.38	.41	.41
100 pounds of hogs	5.15	9.07	13.13	13.80
Dozen eggs	.15	.21	.28	.35
Pound of turkeys	.14	.18	.29	.32
PRICE OF FEED				
Shelled corn, bu.	$ .47	$ .54	$ .68	$ .91
Oats, bu.	.26	.32	.41	.60
Barley, bu.	.31	.39	.52	.77
Alfalfa hay, ton	7.50	8.50	8.00	11.00
Timothy hay, ton	4.80	5.45	5.15	6.75
Corn silage, ton	2.10	2.55	2.75	3.62
Bran, cwt.	1.20	1.50	2.10	2.10
Linseed oilmeal, cwt.	1.75	2.00	2.40	2.55
Tankage, cwt.	2.50	3.20	4.10	4.00
Meat scraps, cwt.	2.55	3.20	4.10	4.00

Suggestions for Improvements