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1958 ANNUAL REPORT
CENTRAL MINNESOTA FARM MANAGEMENT SERVICE
FOR T.V.A. TEST DEMONSTRATION COOPERATORS

Department of Agricultural Economics
and
Agricultural Extension Service
UNIVERSITY OF MINNESOTA

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1958 ANNUAL REPORT OF THE CENTRAL MINNESOTA FARM MANAGEMENT
SERVICE FOR T.V.A. TEST DEMONSTRATION COOPERATION

Prepared by T.R. Nodland and P.R. Hasbargen

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Introduction

The Agricultural Extension Service and the Department of Agricultural Economics of the University of Minnesota, the Tennessee Valley Authority, and the County Extension Services of four counties in central Minnesota are cooperating in a fertilizer demonstration project and in a farm management service. The service was initiated in 1958. It is available to a selected group of farmers who are willing to demonstrate the value of commercial fertilizers and who have agreed to keep farm business records. The authors wish to express their appreciation to the farmers for their fine cooperation in making this report possible.

The purpose of this report is (1) to show some of the factors affecting farm income, and (2) to obtain data in regard to farm income and expenses for central Minnesota farms.

The project is under the general supervision of Roland Abraham, Roger Harris, and Paul Hasbargen of the Agricultural Extension Service. Analysis of the farm records and preparation of this report are handled by T. R. Nodland, Department of Agricultural Economics, and Paul Hasbargen.

The following tabulation shows by counties, the county agricultural agents and the number of farm records submitted.

<u>County</u>	<u>County Agricultural Agent</u>	<u>No. of records</u>
Crow Wing	Glenn Smith and Ray Norrgard	5
East Otter Tail	Gerald Ness and Sherman Mandt	2
Hubbard	Wm. Dorsey and John Eix	5
Todd	Richard Brand and Erven Skaar	5

Capital Investment

The average value of capital used per farm is shown in table 1. Capital investment per farm varied from \$35,666 to \$12,012. These data represent "book" values and not necessarily current market values. The common practice for both income tax accounting and farm business analysis is to depreciate all capital items each year by an amount equal to their decrease in value as a result of use and obsolescence. Market price, particularly real estate, has been increasing during the last several years. As a result, the value of farm real estate as shown in table 1 tends to be an understatement of its present market value. This is especially true in cases of farms purchased several years ago.

Farm Earnings

Farm income in this area of the state is relatively low. The 17 farmers included in this report had average farm sales of \$9,042 and farm purchases of \$6,355, or a net cash income of \$2,687 per farm (table 2). Farm purchases amounted to 70 percent of total farm sales, leaving 30 percent to pay family living expenses, interest on indebtedness, and for savings.

Labor earnings, the measure of financial success used in this report, have been computed on a "full owner" basis. Sales and purchases for the whole farm are shown, whether it was operated by an owner or a renter. Labor earnings are the return to the operator for his labor and management after all expenses have been paid, including wages for members of the family other than the operator, and a 5 percent charge on the average value of capital used in the farm business. This places all farms on a uniform basis for comparison.

Two methods of calculating labor earnings are used. Table 2 shows the earnings statement on a cash basis; table 3 shows the earnings on an enterprise or accrual basis. The main difference in the two statements is in the method of handling the net increase or decrease in farm capital. In the cash statement, the net increase or decrease in farm capital is entered as one item (items 13 or 41, table 2). In the enterprise statement, as shown in table 3, the net change in the inventory has been included in each item in order to compute "total returns and net increases" or "total expenses and net decreases" by enterprises. Thus the average returns and net decreases of \$4,962 from dairy cows includes the value of dairy products sold, fed, and used in the home -- with adjustments for changes in the value of the herd. The following is an illustration using the data for dairy cows for Farm No. 1.

Value of dairy products sold	\$9420	
Used in the home	115	
Fed to livestock	0	
Total value of dairy products produced	<u> </u>	\$9535
Value of cows on end of year inventory	\$4270	
Sales of cows	867	
Butchered for home use	0	
Total	<u>\$5137</u>	
Value of cows on beginning of year inventory	\$2520	
Purchases	0	
Value of heifers transferred to cow herd	2400	
Total	<u>\$4920</u>	
Net increase in value of cows		217
Returns and net increases from milk cows		<u>\$9752</u>

Table 1. Summary of Farm Inventories, 1958 ¹

Items	Farm Number							
	1	2	3	4	5	6	7	8
Ave. of 17 farms								
Size of farms (acres)	303	280	160	240	400	174.5	560	268
Size of business (work units)*	347	370	331	412	309	264	456	317
Dairy cattle	\$ 3995	\$ 4795	Beginning of year \$ 5140	\$ 6414	\$ 3260	\$ 1470	\$ 5415	\$ 3598
Other livestock	937	896	1398	324	83	325	-	15
Crop, seed and feed	2383	2655	4121	1057	1788	883	2435	2814
Auto and truck (farm share)	790	700	420	335	990	975	-	131
Tractors	1826	4012	881	929	514	425	3080	234
Crop and general machinery	2598	3353	1342	1349	1174	487	1511	2067
Livestock equipment and supplies	923	2724	448	150	1918	561	2400	2197
Land	7868	1500	9415	6584	4700	4000	4800	6950
Buildings, fences, etc.	3898	5263	3235	4977	954	2886	5520	3071
Total farm capital	\$ 25218	\$ 25898	\$ 26400	\$ 22119	\$ 15381	\$ 12012	\$ 25161	\$ 21077
Total farm capital	25318	\$ 25495	End of year \$ 25357	\$ 21293	\$ 15215	\$ 14214	\$ 24317	\$ 20774
Items	Farm Number							
	9	10	11	12	13	14	15	16
Size of farm (acres)	206	150	320	160	387.5	559	440	330
Size of business (work units)	378	382	452	324	450	198	295	336
Dairy cattle	\$ 5575	\$ 5500	\$ 4900	Beginning of year \$ 4275	\$ 2520	\$ 395	\$ 3980	\$ 3895
Other Livestock	-	-	500	1440	2473	5074	2275	1010
Crop, seed and feed	3215	2750	4610	2170	4795	1060	2442	1360
Auto and truck (farm share)	988	1262	416	654	1323	1618	1560	441
Tractors	4031	3123	2542	2110	3419	1260	2115	680
Crop and general machinery	3828	5323	4992	3323	5541	3759	2015	471
Livestock equipment and supplies	2140	786	253	306	388	-	400	70
Land	6400	7500	10000	8000	9925	18000	7140	10000
Buildings, fences, etc.	3390	4129	6855	4050	1954	4500	1086	3911
Total farm capital	\$ 29567	\$ 30373	\$ 35068	\$ 26328	\$ 32338	\$ 35666	\$ 23013	\$ 21838
Total farm capital	\$ 28864	\$ 30442	End of year \$ 35553	\$ 24155	\$ 30246	\$ 36213	\$ 30084	\$ 22294

¹ Arranged in descending order by labor earnings.
* See page 13 for an explanation of work units.

Table 2. Summary of Farm Earnings (Cash Statement) 1958 ¹

Items	Ave. of 17 farms	Farm Number					
		1	2	3	4	5	6
Farm Receipts							
1. Dairy cattle	\$ 1228	\$ 1443	\$ 1338	\$ 1098	\$ 2004	\$ 1329	\$ 373
2. Dairy products	4670	9420	4366	4638	6037	3716	1994
3. Beef cattle	172	-	-	-	-	-	-
4. Hogs	1514	1834	2538	5009	424	258	730
5. Sheep	277	-	-	-	-	-	-
6. Poultry	10	-	-	-	52	-	-
7. Eggs	120	-	29	686	-	36	898
8. Crops	533	159	634	992	165	-	375
9. Mach. and equip. sold	130	113	126	250	67	113	48
10. Income from work off farm	270	148	831	-	282	747	10
11. Miscellaneous	118	10	87	185	64	84	33
12. Total farm sales	\$ 9042	\$13127	\$ 9949	\$12858	\$ 9095	\$ 6283	\$ 4461
13. Increase in farm capital	100	-	-	-	-	-	2202
14. Family living from farm	284	275	268	350	309	493	492
15. Total farm receipts	\$ 9426	\$13402	\$10217	\$13208	\$ 9404	\$ 6776	\$ 7155
Farm Expenses							
16. Dairy cattle bought	\$ 413	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2310
17. Beef cattle bought	-	-	-	-	-	-	-
18. Hogs bought	52	-	162	40	156	-	-
19. Sheep bought	-	-	-	-	-	-	-
20. Poultry bought	1	-	-	-	6	5	-
21. Misc. livestock expenses	247	473	144	345	267	133	27
22. Feed	862	875	439	2321	1221	247	539
23. Fertilizers	422	1275	233	900	134	251	220
24. Other crop expenses	296	350	328	416	150	169	55
25. Custom work hired	443	662	644	498	654	423	238
26. Gas, oil, grease (f. sh.)	598	652	589	503	492	627	350
27. Rep. tract., trucks, autos (farm share)	269	132	259	432	345	215	106
28. Rep. farm real estate	103	181	29	93	5	54	50
29. Rep. crop & gen. mach.	164	260	158	126	302	217	44
30. Rep. livestock equip.	54	66	121	142	51	-	-
31. Wages of hired labor	194	133	265	46	100	-	13
32. Elec. expense (f. share)	189	208	174	215	137	98	158
33. Real estate & personal prop. taxes	428	390	873	221	601	360	249
34. Tel. & gen. farm expense	151	72	106	208	114	74	69
35. Total cash operating exp.	\$4886	\$ 5729	\$ 4524	\$ 6506	\$ 4735	\$ 2871	\$ 4428
36. Mech. power bot (f. sh.)	335	63	-	570	-	325	-
37. Crop & gen. mach. bot	625	930	525	771	-	100	-
38. Livestock equip. bought	238	-	165	-	-	15	79
39. New real est. improve.	271	-	210	-	26	-	-
40. Total farm purchases	\$ 6355	\$ 6722	\$ 5424	\$ 7847	\$ 4761	\$ 3311	\$ 4507
41. Decrease in farm capital	-	403	418	1043	826	166	-
42. Interest on farm capital	1263	1285	1071	1294	1085	765	656
43. Unpaid family labor	397	135	270	135	405	472	202
44. Board furnished hired lab.	18	38	38	-	-	-	-
45. Total farm expenses	\$ 8033	\$ 8583	\$ 7221	\$10319	\$ 7077	\$ 4714	\$ 5365
46. Labor earnings	\$ 1393	\$ 4819	\$ 2996	\$ 2889	\$ 2327	\$ 2062	\$ 1790

T. Arranged in descending order of labor earnings.

Table 2. Summary of Farm Earnings (Cash Statement) 1958 (continued)

	Farm Number										
	7	8	9	10	11	12	13	14	15	16	17
Farm Receipts											
1.	\$ 865	\$ 594	\$1312	\$2487	\$1496	\$1869	\$1178	\$ -	\$1105	\$1299	\$1088
2.	6670	4882	9462	6728	5808	3428	668	215	3887	3988	3478
3.	-	-	-	-	-	-	1286	1650	-	-	-
4.	-	-	-	748	1495	3164	4476	-	4359	699	-
5.	-	-	-	-	-	-	-	3156	380	1168	-
6.	-	-	-	-	-	64	55	-	-	-	-
7.	-	52	-	-	-	331	10	-	-	-	-
8.	1179	1125	50	75	-	-	912	3406	-	-	-
9.	59	41	421	-	143	99	151	82	352	119	21
10.	143	220	122	-	296	-	1229	-	563	-	-
11.	74	388	460	-	5	55	16	518	-	31	-
12.	\$8990	\$7302	\$11827	\$10038	\$9243	\$9010	\$9981	\$9027	\$10646	\$7304	\$4587
13.	-	-	-	69	485	-	-	547	7071	456	-
14.	377	78	121	215	25	473	507	425	130	273	14
15.	\$9367	\$7380	\$11948	\$10322	\$9753	\$9483	\$10488	\$9999	\$17847	\$8033	\$4601
Farm Expenses											
16.	\$ -	\$ -	\$ 663	\$ -	\$ -	\$ 238	\$ -	\$2345	\$ 715	\$ 750	\$ -
17.	-	-	-	-	-	-	-	-	-	-	-
18.	-	100	-	417	-	-	14	-	-	-	-
19.	-	-	-	-	-	-	-	-	-	-	-
20.	-	2	-	-	-	-	-	-	-	-	-
21.	32	385	436	86	537	119	292	166	360	258	143
22.	366	498	668	633	1274	1416	990	356	1241	623	944
23.	61	575	634	576	-	62	404	615	751	304	182
24.	105	267	243	323	104	135	464	764	552	525	89
25.	505	475	-	610	398	243	-	257	697	792	434
26.	511	477	496	729	580	635	810	891	425	853	537
27.	336	133	237	307	172	165	385	502	373	225	241
28.	187	86	182	-	275	16	108	200	60	225	-
29.	-	165	346	338	75	138	291	2	237	94	-
30.	-	20	85	46	45	16	64	74	142	45	8
31.	-	35	535	70	784	104	76	105	719	-	307
32.	363	200	217	230	217	208	193	232	141	158	67
33.	423	342	416	455	602	400	402	546	452	300	249
34.	133	173	258	219	386	96	144	190	110	133	81
35.	\$3022	\$3933	\$5416	\$5039	\$5449	\$3991	\$4637	\$7245	\$6975	\$5285	\$3282
36.	295	-	226	-	-	-	-	-	4219	-	-
37.	-	-	287	1980	-	262	325	796	4341	53	250
38.	347	-	-	-	1275	-	133	225	-	1799	-
39.	125	98	1800	-	-	225	202	-	927	-	1000
40.	\$3789	\$4031	\$7729	\$7019	\$6724	\$4478	\$5297	\$8266	\$16462	\$7137	\$4532
41.	844	303	703	-	-	2173	2092	-	-	-	165
42.	1237	1046	1461	1520	1766	1262	1565	1797	1327	1103	1238
43.	1755	405	540	270	-	405	540	-	270	675	270
44.	-	-	-	-	-	-	-	-	228	-	-
45.	\$7625	\$5785	\$10433	\$8809	\$8490	\$8318	\$9494	\$10063	\$18289	\$8915	\$6205
46.	\$1742	\$1595	\$1515	\$1513	\$1263	\$1165	\$ 994	\$-64	\$-442	\$-882	\$-1604

Table 3. Summary of Farm Earnings (Enterprise Statement) 1958 ¹

Items	Farm Number							
	1	2	3	4	5	6	7	8
RETURNS AND NET INCREASES								
Dairy cows	\$ 4962	\$ 4870	\$ 4474	\$ 7796	\$ 3712	\$ 2354	\$ 6647	\$ 4860
Other dairy cattle	1406	1459	1499	967	1771	819	1602	1650
Beef cattle	97	-	-	-	-	-	-	-
Hogs	1732	2764	5393	153	274	944	-	586
Sheep	279	-	-	-	-	-	-	-
Chickens	141	29	697	83	67	997	-	87
All productive livestock	\$ 8617	\$ 9122	\$ 12063	\$ 8999	\$ 5824	\$ 5114	\$ 8249	\$ 7183
Value of feed fed	4302	4905	5731	4487	2559	2293	3394	3219
Livestock return over feed	\$ 4315	\$ 4217	\$ 6332	\$ 4512	\$ 3265	\$ 2821	\$ 4855	\$ 3964
Crops, seed and feed	2565	3699	1618	2831	1933	1785	3475	1977
Income from labor off farm	170	474	-	71	729	10	36	175
Miscellaneous	118	87	185	64	84	33	74	388
Total returns & net increases	\$ 7168	\$ 8477	\$ 8135	\$ 7478	\$ 6011	\$ 4649	\$ 8440	\$ 6504
EXPENSES AND NET DECREASES								
Truck (farm share)	\$ 230	\$ -	\$ 306	\$ 459	\$ 286	\$ 2	\$ -	\$ -
Auto (farm share)	244	372	357	42	66	521	161	304
Tractor	789	527	599	608	580	272	1076	496
Elec. motors exp. (farm share)	199	174	215	144	98	190	363	206
Hired power	224	281	288	199	253	142	303	244
Total power	\$ 1686	\$ 1354	\$ 1765	\$ 1452	\$ 1283	\$ 1127	\$ 1903	\$ 1250
Crop and general machinery	631	313	595	675	461	163	201	501
Livestock equipment	159	354	220	69	136	68	221	286
Buildings, fences, etc.	438	460	224	204	95	190	591	318
Misc. livestock expense	247	144	345	267	133	27	32	385
Labor	772	806	374	684	642	310	1957	608
Real estate taxes	329	736	146	440	265	150	279	247
Personal property taxes	99	137	75	161	95	99	144	95
Insurance	62	60	119	36	20	28	-	101
General farm expense	89	46	89	78	54	41	133	72
Interest on farm capital	1263	1071	1294	1085	765	656	1237	1046
Total exp. and net decreases	\$ 5775	\$ 5481	\$ 5246	\$ 5151	\$ 3949	\$ 2859	\$ 6698	\$ 4909
Labor earnings	\$ 1393	\$ 2996	\$ 2889	\$ 2327	\$ 2062	\$ 1790	\$ 1742	\$ 1595

¹ Arranged by descending order of labor earnings.

Table 3. Summary of Farm Earnings (Enterprise Statement) 1958 (continued)*

Items	Farm Number								
	9	10	11	12	13	14	15	16	17
RETURNS AND NET INCREASES									
Dairy cows	\$ 9440	\$ 6963	\$ 6693	\$ 3624	\$ 1213	\$ 415	\$ 3811	\$ 4144	\$ 3589
Other dairy cattle	592	2496	2082	1816	795	475	1366	261	1585
Beef cattle	-	-	-	-	1196	450	-	-	-
Hogs	-	1155	1745	3066	5786	2928	5002	644	-
Sheep	-	-	-	-	-	-	605	1208	-
Chickens	-	-	-	317	70	-	-	46	-
All productive livestock	\$ 10032	\$ 10614	\$ 10520	\$ 8823	\$ 9060	\$ 4268	\$ 10784	\$ 6303	\$ 5174
Value of feed fed	4693	5491	6570	4882	5594	3215	4769	4189	1832
Livestock return over feed	\$ 5339	\$ 5123	\$ 3950	\$ 3941	\$ 3466	\$ 1053	\$ 6015	\$ 2114	\$ 3342
Crops, seed and feed	2202	2936	4519	2430	2379	5179	1306	2252	301
Income from labor off farm	31	-	89	-	976	-	154	-	-
Miscellaneous	460	-	5	55	16	518	-	31	-
Total returns & net increases	\$ 8032	\$ 8059	\$ 8563	\$ 6426	\$ 6837	\$ 6750	\$ 7475	\$ 4397	\$ 3643
EXPENSES AND NET DECREASES									
Truck (farm share)	\$ 232	\$ -	\$ 528	\$ 151	\$ -	\$ 158	\$ 436	\$ 475	\$ 625
Auto (farm share)	206	418	-	25	418	717	165	-	-
Tractor	659	1075	519	923	1035	1351	1767	688	471
Electricity exp. (farm share)	243	232	217	217	193	262	141	199	67
Hired power	-	343	180	131	-	60	394	462	175
Total power	\$ 1340	\$ 2068	\$ 1444	\$ 1447	\$ 1646	\$ 2548	\$ 2903	\$ 1824	\$ 1338
Crop and general machinery	797	953	658	864	782	855	948	285	293
Livestock equipment	243	139	83	74	117	104	176	80	83
Buildings, fences, etc.	491	527	871	391	279	424	170	310	1109
Misc. livestock expenses	436	86	537	119	292	166	360	258	143
Labor	1075	579	953	608	616	184	1471	986	713
Real estate taxes	269	335	528	324	264	546	373	210	200
Personal property taxes	147	120	74	76	138	-	79	90	49
Insurance	102	114	227	63	56	60	34	-	-
General farm expense	156	105	159	33	88	130	76	133	81
Interest on farm capital	1461	1520	1766	1262	1565	1797	1327	1103	1238
Total expenses and net decreases	\$ 6517	\$ 6546	\$ 7300	\$ 5261	\$ 5843	\$ 6814	\$ 7917	\$ 5279	\$ 5247
Labor earnings	\$ 1515	\$ 1513	\$ 1263	\$ 1165	\$ 994	\$ - 64	\$ -442	\$ -882	\$ -1604

* 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 labor earnings are the same as those on pages 4 and 5.

Family Income and Expenses

Total cash family living expenses for nine farm families that kept records of these expenditures amounted to an average of \$2,667 per family (table 4). In addition, these families used farm produce valued at \$354, or a total of \$3,021 for cash family expenses plus perquisites. Their average total income available for payment of family living amounted to \$2,970. Thus, the nine farmers who kept records of family living expenses failed to secure an income large enough to pay family expenses by approximately \$50.

Return to Capital and Family Labor

Return to capital and family labor, as shown in table 6, represents the amount available to the family. These data represent the operator's share of the farm income. In cases of rented farms, landlord's expenses and receipts have not been included. Interest on indebtedness paid by the farm operator is included as a farm expense. Thus, return to capital and family labor represents the returns to family labor, management, and the operator's equity in the farm capital used in the business.

Net Worth

Net worth statements for those farmers who kept a complete record of all assets and liabilities are shown in table 7. This is simply a statement of all farm and non-farm assets that a farmer has, balanced against all notes, accounts, mortgages, etc. that constitute his liabilities. It provides an excellent benchmark which can be used to give a true measure of progress through the years. Without this measure it is difficult for a farm family to judge their financial progress. Debt retirement is often considered to be a farm expense, when in reality it adds to the farmer's net worth by decreasing the amount of his liabilities.

The average net worth of the 8 farmers who kept complete records of assets and liabilities in 1958 was \$17,038. These farmers realized an average increase of \$413 in net worth during 1958.

Table 4. Household and Personal Expenses for Those Farmers Who Kept Accounts of These Expenses, 1958

Items	Farm Number											
	Ave. of 9 farms	3	4	2	5	6	7	8	10	13	6	12
Number of persons--family	5.7	7	6	6	8	4	4	7	2	7	4	4
Adult equivalents--family	3.8	4.2	4.3	3.4	4.8	3.6	4.7	1.8	4.6	2.6		
other*	-	-	-	.1	-	-	-	-	-	-	-	-
Expenses												
Food and meals bought	\$ 813	\$ 772	\$ 870	\$ 878	\$ 1540	\$ 782	\$ 764	\$ 725	\$ 530	\$ 461		
Operating and supplies	219	241	248	195	462	171	267	243	132	10		
Furnishings and equipment	123	387	34	216	63	224	134	34	10	5		
Clothing & clothing materials	279	349	509	235	562	174	215	118	200	150		
Personal care & spending	165	89	53	7	836	58	225	147	49	20		
Education & recreation	159	119	233	229	501	116	57	77	59	40		
Gifts & special events	74	32	84	88	124	75	72	133	19	31		
Medical & hosp. insurance	288	580	464	310	476	153	52	181	165	212		
Church & welfare	114	277	371	77	88	103	-	19	57	34		
Personal share of auto exp.	74	56	258	72	88	61	7	58	10	60		
Upkeep on dwelling	55	11	128	-	342	-	-	-	11	3		
Pers. share of tel. & elec. exp.	89	58	61	181	88	135	27	94	75	80		
Total cash living expense	\$ 2452	\$ 2971	\$ 3313	\$ 2488	\$ 5170	\$ 2052	\$ 1820	\$ 1829	\$ 1317	\$ 1106		
Pers. share of new autos	20	155	-	-	-	25	-	-	-	-		
New dwelling	17	-	-	150	-	-	-	-	-	-		
Taxes	30	66	-	34	-	3	68	28	13	58		
Life insurance	120	260	241	74	245	2	43	62	-	157		
Other savings & investments	28	-	120	-	134	-	-	-	-	-		
Total household & personal cash expense	\$ 2667	\$ 3452	\$ 3674	\$ 2746	\$ 5549	\$ 2082	\$ 1931	\$ 1919	\$ 1330	\$ 1321		
Family living from the farm	354	350	309	268	215	493	507	78	492	473		
Total cash expense and perquisites	\$ 3021	\$ 3802	\$ 3983	\$ 3014	\$ 5764	\$ 2575	\$ 2438	\$ 1997	\$ 1822	\$ 1794		
Receipts												
Return to capital and family labor	\$ 2920	\$ 4183	\$ 3244	\$ 3527	\$ 3085	\$ 2925	\$ 2494	\$ 2430	\$ 2236	\$ 2160		
Other personal income	50	-	309	10	62	-	65	5	-	-		
Total income	\$ 2970	\$ 4183	\$ 3553	\$ 3537	\$ 3147	\$ 2925	\$ 2559	\$ 2435	\$ 2236	\$ 2160		

I. Arranged by descending order of return to capital and family labor plus personal income.

* Hired help or others boarded.

Table 5. Family Living from the Farm, 1958¹

Items	Ave. of 17 farms	Farm Number																
		1	2	3	4	5	6	7	8									
No. of adult equivalents:																		
Family	3.8	3.6	3.4	4.2	4.3	3.6	4.6	10.2	1.8									
Other*	-	-	.1	-	-	-	-	-	-									
Whole milk	1261	1800	840	1361	1575	1128	1460	3450	558									
Cream	61	-	96	-	-	340	-	-	26									
Cattle	589	-	600	1100	800	1410	900	850	-									
Hogs	303	800	500	200	225	400	450	-	-									
Poultry	59	-	-	-	172	303	64	-	45									
Eggs	53	-	-	235	-	88	216	-	97									
Total value	\$ 284	\$ 275	\$ 268	\$ 350	\$ 309	\$ 493	\$ 492	\$ 377	\$ 78									

Items	Ave. of 17 farms	Farm Number																
		9	10	11	12	13	14	15	16	17								
No. of adult equivalents:																		
Family	5.1	4.8	2.0	2.6	4.7	4.6	2.2	1.0	1.8									
Other*	-	-	-	-	-	-	.5	-	-									
Whole milk	1460	1375	360	840	400	2160	1000	1488	185									
Cream	-	86	20	15	100	360	-	-	-									
Cattle	-	-	-	1050	1400	900	-	1000	-									
Hogs	-	410	-	720	750	-	400	300	-									
Poultry	-	-	-	276	6	-	-	138	-									
Eggs	-	-	-	210	49	-	-	-	-									
Total value	\$ 121	\$ 215	\$ 25	\$ 473	\$ 507	\$ 425	\$ 130	\$ 273	\$ 14									

¹. Arranged in descending order of labor earnings.
* Hired help or others boarded.

Table 6. Returns to Capital and Family Labor (Operator's Share) 1958 ¹

Items	Farm Number									
	7	3	2	9	4	10	5	13		
Farm Income										
1. Total farm sales	8678	12858	9951	11827	9094	10038	6282	9691		
2. Increase in capital	241	-	-	-	-	69	-	-		
3. Family living from farm	302	350	268	121	309	215	493	507		
4. Total farm receipts	<u>\$ 9221</u>	<u>\$13208</u>	<u>\$10219</u>	<u>\$11948</u>	<u>\$ 9403</u>	<u>\$10322</u>	<u>\$ 6775</u>	<u>\$10198</u>		
Farm Expenses										
5. Total farm purchases	\$ 6761	\$ 7847	\$ 6236	\$ 7817	\$ 5283	\$ 7237	\$ 3684	\$ 7612		
6. Decrease in capital	-	1043	418	703	826	-	166	92		
7. Board furnished hired labor	18	-	38	-	-	-	-	-		
8. Total farm expenses	<u>\$ 6779</u>	<u>\$ 8890</u>	<u>\$ 6692</u>	<u>\$ 8520</u>	<u>\$ 6109</u>	<u>\$ 7237</u>	<u>\$ 3850</u>	<u>\$ 7704</u>		
9. Return to cap. & family labor	\$ 2442	\$ 4318	\$ 3527	\$ 3428	\$ 3294	\$ 3085	\$ 2925	\$ 2494		

Items	Farm Number						
	8	6	12	14	15	16	17
Farm Income							
1. Total farm sales	\$ 6787	\$ 4086	\$ 9011	\$ 9027	\$10644	\$ 7304	\$ 4587
2. Increase in capital	-	1302	-	547	7072	456	735
3. Family living from farm	78	492	473	425	130	273	14
4. Total farm receipts	<u>\$ 6865</u>	<u>\$ 5880</u>	<u>\$ 9484</u>	<u>\$ 9999</u>	<u>\$17846</u>	<u>\$ 8033</u>	<u>\$ 5336</u>
Farm Expenses							
5. Total farm purchases	\$ 4133	\$ 3644	\$ 5150	\$ 9366	\$16990	\$ 7515	\$ 4976
6. Decrease in capital	302	-	2174	-	-	-	-
7. Board furnished hired labor	-	-	-	-	228	-	-
8. Total farm expenses	<u>\$ 4435</u>	<u>\$ 3644</u>	<u>\$ 7324</u>	<u>\$ 9366</u>	<u>\$17218</u>	<u>\$ 7515</u>	<u>\$ 4976</u>
9. Return to cap. & family labor	\$ 2430	\$ 2236	\$ 2160	\$ 633	\$ 628	\$ 518	\$ 360

1. Arranged in descending order of return to capital and family labor.

Table 7. Net Worth Statement for Those Farmers Who Kept a Record of All Assets and Liabilities (Operator's Share) 1958

Items	Ave. of Farm Number							
	2	3	4	5	6	8	12	13
Total acres - owned	188	160	240	320	104	240	-	315
- rented	66	-	-	80	70	28	160	72
Farm Capital	\$18780	\$26400	\$22119	\$14381	\$10512	\$19577	\$14278	\$27338
Cash on hand	717	4753	240	14	10	325	-	25
Stocks, bonds and life insurance	716	1327	732	566	-	2128	645	330
Household goods and clothing	1217	700	1050	700	1200	1500	2000	1485
Personal share of auto and truck	183	105	944	-	-	44	120	147
Farm dwelling	1595	1804	2168	950	2255	420	-	960
Other non-farm assets	35	-	-	11	-	-	10	195
Total non-farm assets	\$ 4463	\$ 8689	\$ 5134	\$ 2241	\$ 3465	\$ 4417	\$ 2775	\$ 3142
Total assets	\$23243	\$35089	\$27253	\$16622	\$13977	\$23994	\$17053	\$30480
Real estate mortgages	\$ 2597	\$ 8000	\$ 3500	\$ 1774	\$ -	\$ -	\$ -	\$ -
Chattel mortgages	1878	-	4790	1620	1468	1790	1865	3500
Notes payable	1158	-	2413	4300	436	1300	-	-
Accounts payable	572	-	1670	379	210	173	-	1266
Total liabilities	\$ 6205	\$ 8000	\$12373	\$ 8073	\$ 2114	\$ 3263	\$ 1865	\$ 4766
Net Worth	\$17038	\$27089	\$14880	\$ 8549	\$11863	\$20731	\$15188	\$25714
Farm Capital	\$18315	\$25357	\$21293	\$14065	\$11814	\$19274	\$12254	\$27246
Cash on hand	845	5556	361	85	-	351	-	10
Stocks, bonds and life insurance	759	1411	836	566	-	2249	645	366
Household goods and clothing	1297	750	1123	1100	1200	1500	2000	1600
Personal share of auto and truck	169	214	826	20	-	-	83	126
Farm dwelling	1529	1738	2085	900	2155	400	-	820
Other non-farm assets	28	-	-	11	-	-	10	132
Total non-farm assets	\$ 4627	\$ 9669	\$ 5231	\$ 2682	\$ 3355	\$ 4500	\$ 2738	\$ 3054
Total assets	\$22942	\$35026	\$26524	\$16747	\$15169	\$23774	\$14992	\$30300
Real estate mortgages	\$ 2341	\$ 7000	\$ 3180	\$ 1551	\$ -	\$ -	\$ -	\$ -
Chattel mortgages	1521	-	4008	1251	2942	1365	-	2600
Notes payable	1029	-	2288	4600	140	1200	-	-
Accounts payable	600	-	2296	-	402	-	-	1380
Total liabilities	\$ 5491	\$ 7000	\$11772	\$ 7402	\$ 3484	\$ 2565	\$ -	\$ 3980
Net Worth	\$17451	\$28026	\$14752	\$ 9345	\$11685	\$21209	\$14992	\$26320
Change in Net Worth	\$ + 413	\$ + 937	\$ - 128	\$ + 796	\$ - 178	\$ + 478	\$ - 196	\$ + 606

1. Arranged in descending order of labor earnings

Some Management Factors That Affect Earnings

Some of the variation in earnings from year to year and from farm to farm are due to variations in prices, weather, and other factors over which the farmer has little, if any, control. However, there are many management factors which are largely within the control of a farm operator. Some of these management factors are shown in table 9.

Volume or size of business in terms of work units is probably the most important of these factors. Size of business varied from 456 work units to 198 per farm. Farms with a large business tend to have an advantage in labor efficiency and in control over expenses. A well-balanced crop and livestock program spreads the work load throughout the year and provides for fuller employment of workers. Control of farm expenses is another important factor. One measure of this is the expenses per work unit shown in table 9.

Another measure can be determined by calculating the proportion of farm sales needed to cover farm expenses. It was mentioned previously in this report that an average of 70 percent of farm sales is needed to pay farm expenses. This, however, varies considerably among farmers. Farm expenses on the three farms with the highest gross income were only 59 percent compared with 81 percent for the three farms with the lowest gross income. High costs relative to gross income holds earnings down on some farms. However, although a farmer should attempt to keep the proportion of farm expenses relatively low, he cannot do this by decreasing those expenses necessary for maintaining an adequate volume of production. Instead, it is usually necessary to increase total expenses in order to increase the volume of sales. The purchase of commercial fertilizers, for example, increases farm expenses. This, in turn, will increase the feed supply under normal weather conditions and make possible the maintenance of a greater number of livestock.

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 8.

Table 8. Number of Work Units for Each Class of Livestock and Each Acre of Crop

Class of Livestock	No. of Work Units	Crop	No. of Work Units
Dairy and dual-purpose cows	10.0 per cow	Small grain	.7 per acre
Other dairy and dual-purpose cattle	3.5 per an. unit*	Truck crops	6.0 per acre
Beef breeding herd	3.5 per an. unit*	Potatoes	3.8 per acre
Feeder cattle	.25 per 100 lbs.	Corn--husked	1.1 per acre
Sheep--farm flock	1.5 per an. unit*	Corn--silage	1.7 per acre
Sheep--feeder	.3 per 100 lbs.	Oat silage	.9 per acre
Hogs	.2 per 100 lbs.	Alfalfa hay	.9 per acre
Turkeys	.5 per 100 lbs.	Other hay	.6 per acre
Hens	20.0 per 100 hens	Legume seed	1.0 per acre

* An animal unit is based on the amount of T.D.N. consumed. One animal unit thus represents 1 dairy cow or bull, 2 other dairy cattle, 1 - 1/4 beef cows or bull, 1 feeder steer or heifer, 3 - 1/3 other beef cattle, 7 sheep, 14 lambs, 2 - 1/2 hogs, 5 pigs, 50 hens, or 1,100 pounds of turkeys produced.

Table 9. Measures of Farm Organization and Management Efficiency, 1958 ¹

Items	Ave. of							
	Farm Number							
	1	2	3	4	5	6	7	8
Labor earnings	\$ 4819	\$ 2996	\$ 2889	\$ 2327	\$ 2062	\$ 1790	\$ 1742	\$ 1595
Crop yields*	131	132	125	98	92	95	63	111
Index of return for \$100 feed to prod. livestock**	127	91	98	103	112	94	118	112
Productive livestock units per 100 acres**	19.0	22.2	40.4	23.0	8.8	17.0	21.5	15.3
Size of business--work units	370	373	331	412	309	264	456	317
Work units per worker	206	287	255	317	238	240	217	264
Power, mach., equip., & bldg. expense per work unit	\$ 11.87	\$ 6.65	\$ 8.47	\$ 5.83	\$ 6.39	\$ 5.87	\$ 6.39	\$ 7.43
Items related to some of above measures:								
Index of return for \$100 feed from:								
Dairy cattle	128	76	118	103	110	72	100	115
Hogs	113	133	70	-	125	198	-	59
Sheep	-	-	-	-	-	-	-	-
Chickens	-	-	106	-	-	148	-	-
Number of animal units	40.0	42.9	46.5	46.2	24.5	29.0	44.1	31.8
Work units on crops	87	81	62	82	65	45	108	83
Work units on prod. livestock	243	245	269	323	171	218	344	217
Other work units	17	47	-	7	73	1	4	17
Number of family workers	1.2	1.1	1.1	1.2	1.3	1.1	2.1	1.2
Number of hired workers	.2	.7	.2	.1	-	-	-	-
Total number of workers	1.4	1.8	1.3	1.3	1.3	1.1	2.1	1.2
Power expense per work unit	\$ 5.18	\$ 3.63	\$ 5.33	\$ 3.52	\$ 4.15	\$ 4.27	\$ 4.17	\$ 3.94
Crop mach. exp. per work unit	1.89	.84	1.80	1.64	1.49	.62	.44	1.59
Livestock equip. exp. per work unit	.46	.65	.66	.17	.44	.26	.48	.90
Bldgs. & fencing exp. per work unit	1.31	2.14	.68	.50	.31	.72	1.30	1.00

¹. Arranged by descending order of labor earnings.

* Given as a percentage of the average.

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

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

Table 9. Measures of Farm Organization and Management Efficiency, 1958 (continued)

Items	Farm Number									
	9	10	11	12	13	14	15	16	17	
Labor earnings	\$ 1515	\$ 1513	\$ 1263	\$ 1165	\$ 994	\$ -64	\$ -442	\$ -882	\$ -1604	
Crop yields*	102	124	107	132	67	92	74	75	83	
Index of return for \$100 feed to prod. livestock**	105	93	90	87	63	67	103	75	153	
Productive livestock units per 100 acres***	21.6	32.6	17.4	26.0	14.7	9.9	24.3	15.4	13.9	
Size of business--work units	378	382	452	324	450	198	295	336	254	
Work units per worker	270	318	226	270	250	180	174	240	195	
Power, mach., equip., & bldg. expense per work unit	\$ 7.60	\$ 9.65	\$ 6.76	\$ 8.57	\$ 6.28	\$19.85	\$14.23	\$ 7.44	\$11.11	
Items related to some of above measures:										
Index of return for \$100 feed from:										
Dairy cattle (see pp. 20-23)	105	93	72	93	64	-	89	78	153	
Hogs	-	90	163	68	56	-	97	29	-	
Sheep	-	-	-	-	-	60	159	82	-	
Chickens	-	-	-	46	-	-	-	-	-	
Number of animal units	35.9	41.4	43.1	39.8	43.5	50.3	51.2	42.1	25.0	
Work units on crops	75	81	149	61	167	86	95	104	53	
Work units on prod. livestock	300	301	294	263	185	112	185	232	201	
Other work units	3	-	9	-	98	-	15	-	-	
Number of family workers	1.3	1.2	1.0	1.2	1.3	1.0	1.2	1.4	1.2	
Number of hired workers	.1	-	1.0	-	.5	.1	.5	-	.1	
Total number of workers	1.4	1.2	2.0	1.2	1.8	1.1	1.7	1.4	1.3	
Power expense per work unit	\$ 3.55	\$ 5.41	\$ 3.19	\$ 4.46	\$ 3.66	\$12.87	\$ 9.84	\$ 5.43	\$ 5.27	
Crop mach. exp. per work unit	2.11	2.50	1.46	2.67	1.74	4.32	3.21	.85	1.15	
Livestock equip. exp. per work unit	.64	.36	.18	.23	.26	.52	.60	.24	.33	
Bldgs. & fencing exp. per work unit	1.30	1.38	1.93	1.21	.62	2.14	.58	.92	4.36	

Table 10. Distribution of Acres in Farm, 1958 1

Crop	Farm Number								
	Ave. of 17 farms	1	2	3	4	5	6	7	8
Oats and oats mixtures	25.9	27	29	22	25	43.5	10	33	54
Other small grains	8.5	-	-	-	-	40	-	12	-
Total small grain	<u>34.4</u>	<u>27</u>	<u>29</u>	<u>22</u>	<u>25</u>	<u>83.5</u>	<u>10</u>	<u>45</u>	<u>54</u>
Corn grain	20.2	53	-	20	4	-	-	-	27
Corn silage and fodder	27.3	-	43	12	23	9	8.5	50	22
Total cultivated crops	<u>47.5</u>	<u>53</u>	<u>43</u>	<u>32</u>	<u>27</u>	<u>9</u>	<u>8.5</u>	<u>50</u>	<u>49</u>
Alfalfa and alfalfa mix hay	31.9	47	25	38	42	11	51	59	25
Red clover hay	6.2	-	11	-	-	-	-	-	-
Timothy or brome hay	7.1	-	-	6	40	-	-	-	-
Other hay and seed crops	4.5	-	-	-	-	4.5	2.5	-	-
Total tillable land in hay	<u>49.7</u>	<u>47</u>	<u>36</u>	<u>44</u>	<u>82</u>	<u>15.5</u>	<u>53.5</u>	<u>59</u>	<u>25</u>
Alfalfa & alfalfa mix. pasture	3.1	-	-	-	22	-	5.5	-	-
Other tillable pasture	16.1	14	-	-	-	8	-	33	22
Total tillable land in pasture	<u>19.2</u>	<u>14</u>	<u>-</u>	<u>-</u>	<u>22</u>	<u>8</u>	<u>5.5</u>	<u>33</u>	<u>22</u>
Soil bank	4.5	-	9	-	10	-	-	-	10
Tillable land not cropped	8.5	18	6	-	-	14	-	-	48
Total tillable land	<u>163.8</u>	<u>159</u>	<u>123</u>	<u>98</u>	<u>166</u>	<u>130</u>	<u>77.5</u>	<u>187</u>	<u>208</u>
Wild hay	7.6	-	9	-	7	30	-	-	-
Non-tillable pasture	49.8	67	61	17	28	120	93	18	-
Timber not pastured, roads, waste, and farmstead	81.7	54	47	45	39	120	4	355	60
Total acres in farm	<u>302.9</u>	<u>280</u>	<u>240</u>	<u>160</u>	<u>240</u>	<u>400</u>	<u>174.5</u>	<u>560</u>	<u>268</u>
Percent land tillable	54	57	51	61	69	33	44	33	78

1. Arranged in descending order of labor earnings.

Table 10. Distribution of Acres in Farm, 1958 (continued)

Crop	Farm Number								
	9	10	11	12	13	14	15	16	17
Oats and oats mixtures	6	20	-	35	96.5	14	11	-	14
Other small grains	-	-	-	-	-	93	-	-	-
Total small grain	<u>6</u>	<u>20</u>	<u>-</u>	<u>35</u>	<u>96.5</u>	<u>107</u>	<u>11</u>	<u>-</u>	<u>14</u>
Corn grain	-	4	24	15	86	-	73	38	-
Corn silage or fodder	33	46	95	15	24	-	23	28	30
Total cultivated crops	<u>33</u>	<u>50</u>	<u>119</u>	<u>30</u>	<u>110</u>	<u>-</u>	<u>96</u>	<u>66</u>	<u>30</u>
Alfalfa and alfalfa mixed hay	63	30	52	16	58	-	15	-	11
Red clover hay	-	-	-	5	-	-	-	87	-
Timothy or brome hay	-	-	-	7	-	63	5	-	-
Other hay and seed crops	4	-	-	-	-	18	-	37	11.5
Total tillable land in hay	<u>67</u>	<u>30</u>	<u>52</u>	<u>28</u>	<u>58</u>	<u>81</u>	<u>20</u>	<u>124</u>	<u>22.5</u>
Alfalfa & alfalfa mix. pasture	13	-	-	-	-	-	12	-	-
Other tillable pasture	7	-	-	10	31	-	42	79	28.5
Total tillable land in pasture	<u>20</u>	<u>-</u>	<u>-</u>	<u>10</u>	<u>31</u>	<u>-</u>	<u>54</u>	<u>79</u>	<u>28.5</u>
Soil bank	-	-	-	-	-	47	-	-	-
Tillable land not cropped	-	-	-	-	-	-	-	-	60
Total tillable land	<u>126</u>	<u>100</u>	<u>171</u>	<u>103</u>	<u>295.5</u>	<u>235</u>	<u>181</u>	<u>269</u>	<u>155</u>
Wild hay	-	10	16	10	-	37	10	-	-
Non-tillable pasture	40	17	61	40	-	237	20	4	25
Timber not pastured, roads, waste, and farmstead	40	23	72	7	92	50	229	57	95
Total acres in farm	<u>206</u>	<u>150</u>	<u>320</u>	<u>160</u>	<u>387.5</u>	<u>559</u>	<u>440</u>	<u>330</u>	<u>275</u>
Percent land tillable	61	67	53	64	76	42	41	82	56

Table 11. Crop Yields per Acre, 1958 ¹

Crop	Ave. of farms raising each crop	Farm Number							
		1	2	3	4	5	6	7	8
Oats and oats mixtures	bu.	44.4	68.9	45.0	36.0	48.2	35.0	24.2	41.4
Corn grain	bu.	37.7	-	36.4	30.0	-	-	-	20.4
Corn silage	tons	-	5.0	6.3	3.7	2.8	5.9	3.6	4.8
Alfalfa & alfalfa mix. hay	tons	1.8	1.8	1.8	1.5	1.1	1.4	.7	2.4
Red clover hay	tons	-	1.4	-	-	-	-	-	-
Timothy and brome hay	tons	-	-	1.0	1.0	-	-	-	-
Annual hay	tons	-	-	-	-	2.2	-	-	-
Wild hay	tons	-	1.6	-	0	.3	-	-	-

Crop	Ave. of farms raising each crop	Farm Number									
		9	10	11	12	13	14	15	16	17	
Oats and oats mixtures	bu.	40.0	60.0	-	45.7	29.8	35.7	22.7	-	25.0	
Corn grain	bu.	-	37.5	30.0	20.0	17.4	-	10.0	14.7	-	
Corn silage	tons	5.1	5.4	2.0	8.0	3.0	-	8.1	2.3	2.1	
Alfalfa hay & alf. mix hay	tons	1.5	1.5	3.4	2.0	.7	-	1.5	-	1.8	
Red clover hay	tons	-	-	-	1.4	-	-	-	1.1	-	
Timothy and brome hay	tons	-	-	-	2.0	-	.8	0	-	-	
Annual hay	tons	-	-	-	-	-	.7	-	1.1	1.9	
Wild hay	tons	-	0	0	0	-	.5	0	-	-	

¹. Arranged by descending order of labor earnings.

Table 12. Power and Machinery Expenses per Crop Acre, 1958

Items	Ave. of 17 farms								
	1	2	3	4	5	6	7	8	
Crop acres per farm	137	127	117	98	141	138	72	154	128
Tractor & horse expense per crop acre	\$ 5.99	\$ 6.22	\$ 4.51	\$ 5.61	\$ 4.31	\$ 4.20	\$ 3.78	\$ 6.99	\$ 3.87
Crop & general machinery per crop acre	\$ 4.92	\$10.83	\$ 2.67	\$ 6.11	\$ 4.79	\$ 3.34	\$ 2.26	\$ 1.31	\$ 3.92

Farm Number

Items	Farm Number								
	9	10	11	12	13	14	15	16	17
Crop acres per farm	106	110	187	103	264	188	137	190	66
Tractor & horse expense per crop acre	\$ 6.22	\$ 9.78	\$ 2.78	\$ 8.95	\$ 3.91	\$ 7.13	\$12.90	\$ 3.62	\$ 7.08
Crop & general machinery per crop acre	\$ 7.52	\$ 8.66	\$ 3.52	\$ 8.40	\$ 2.96	\$ 4.55	\$ 6.92	\$ 1.50	\$ 4.40

Table 13. Average Price of Feeds, 1958

Items	Value	Item	Value
Ear corn, per bu.	\$.98	Alfalfa hay, per ton	\$ 17.75
Oats, per bu.	.54	Red or alsike clover hay, per ton	15.10
Barley, per bu.	.90	Timothy, per ton	10.25
Wheat, per bu.	2.00	Wild hay, per ton	9.80
Bran, per cwt.	2.40	Corn silage, per ton	6.00
Soybean meal, per cwt.	3.50	Pasture, per mo. per cow	2.50
Meat scraps, per cwt.	5.65	Skim milk per cwt.	.33

Table 14. Factors of Cost and Returns from Dairy Cows, 1958¹

Items	Ave. of 16 farms	Farm Number									
		1	15	9	5	3	10	8	11		
Pounds of butterfat per cow	299	427	393	370	351	340	320	317	316		
Pounds of milk per cow	8924	11889	11457	10107	10293	9718	9567	8545	9523		
Average test of milk (percent)	3.6	3.6	3.4	3.7	3.4	3.5	3.4	3.7	3.3		
Price per lb. BF sold (cents)	87.0	97.6	84.3	97.3	86.9	88.6	90.1	100.4	87.4		
Price per cwt. milk sold (dollars)	\$ 3.21	\$ 3.51	\$ 2.90	\$ 3.56	\$ 2.96	\$ 3.10	\$ 3.01	\$ 3.72	\$ 2.89		
Feed per cow, lbs:											
Corn	1230	2106	1882	842	-	923	1309	735	1555		
Small grain	884	920	376	650	3325	49	1041	1852	424		
Commercial feeds	382	670	1833	450	226	317	91	-	271		
Legume hay	4993	5168	2521	6391	6250	6913	4146	3375	10065		
Other hay	47	-	-	-	-	-	-	-	-		
Total concentrates	2496	3696	4091	1942	3551	1289	2441	2587	2250		
Total hay	5040	5168	2521	6391	6250	6913	4146	3375	10065		
Silage	2119	6195	14958	8421	7969	7160	12195	12250	8302		
Feed cost per cow:											
Concentrates	\$52.44	\$81.92	\$96.33	\$48.38	\$69.70	\$31.00	\$56.47	\$44.12	\$43.75		
Roughages	68.91	65.10	67.56	82.78	79.37	83.70	73.90	54.20	121.16		
Pasture	8.78	10.62	9.24	7.07	10.00	7.53	6.91	5.25	9.80		
Total feed cost	<u>\$130.13</u>	<u>\$157.64</u>	<u>\$173.13</u>	<u>\$138.23</u>	<u>\$159.07</u>	<u>\$122.23</u>	<u>\$137.28</u>	<u>\$103.57</u>	<u>\$174.71</u>		
Value of produce per cow:											
Dairy product sales	\$250.66	\$416.80	\$326.63	\$355.71	\$290.30	\$286.30	\$273.50	\$305.16	\$237.04		
Used in home	5.55	5.10	5.04	4.56	9.19	5.00	5.91	2.54	1.02		
Fed	8.71	-	-	-	4.61	8.91	10.10	5.50	35.59		
Net inc. in value of cows	-1.42	9.60	-11.44	-5.37	-14.10	-24.03	-6.46	-9.45	- .45		
Total value produced	<u>\$263.50</u>	<u>\$431.50</u>	<u>\$320.23</u>	<u>\$354.90</u>	<u>\$290.00</u>	<u>\$276.18</u>	<u>\$283.05</u>	<u>\$303.75</u>	<u>\$273.20</u>		
Ret. above feed cost per cow:	\$133.37	\$273.86	\$147.10	\$216.67	\$130.93	\$153.95	\$145.77	\$200.18	\$ 98.49		
Returns for \$100 of feed	\$ 207	\$ 274	\$ 185	\$ 257	\$ 182	\$ 226	\$ 206	\$ 293	\$ 156		
Feed cost per lb. BF (cents)	46.0	36.8	44.0	37.4	45.3	40.0	43.0	32.7	55.4		
Number of cows	19.1	22.6	11.9	26.6	12.8	16.2	24.6	16.0	24.5		

1. Arranged in descending order of pounds of butterfat per cow.

Table 14. Factors of Cost and Returns from Dairy Cows, 1958 (continued)

Items	Farm Number									
	4	2	17	7	16	12	6	13		
Pounds of butterfat per cow	302	298	282	254	243	224	189	151		
Pounds of milk per cow	8809	8712	6266	6079	7418	6553	-	-		
Average test of milk (percent)	3.5	3.4	4.5	4.1	3.3	3.4	4.5	*		
Price per lb. BF sold (cents)	85.3	87.0	77.0	94.1	94.6	85.8	71.1	64.6		
Price per cwt. milk sold (dollars)	\$ 2.91	\$ 2.97	\$ 3.76	\$ 3.93	\$ 3.10	\$ 2.93	\$ 2.89	\$ -		
Feeds per cow, lbs:										
Corn	878	1024	1312	883	1416	545	637	3636		
Small grain	872	852	439	546	-	1237	684	869		
Commercial feeds	480	270	188	128	261	411	491	26		
Legume hay	5390	5860	228	3424	7247	4865	4402	3636		
Other hay	-	-	-	-	-	-	755	-		
Total concentrates	2230	2146	1939	1557	1677	2193	1812	4531		
Total hay	5390	5860	228	3424	7247	4865	5157	3636		
Silage	7656	13548	4571	7260	4719	9837	3145	5714		
Feed cost per cow:										
Concentrates	\$45.69	\$41.90	\$46.04	\$29.59	\$39.14	\$45.35	\$40.48	\$79.23		
Roughages	71.48	90.37	15.45	52.60	68.87	73.30	53.28	49.42		
Pasture	9.92	12.09	12.00	7.74	11.58	7.29	9.30	4.15		
Total feed cost	\$127.09	\$144.36	\$73.49	\$89.93	\$119.59	\$125.94	\$103.06	\$132.80		
Value of produce per cow:										
Dairy product sales	\$235.79	\$234.73	\$198.75	\$228.43	\$224.06	\$185.28	\$125.44	\$86.69		
Used in home	3.81	3.74	.79	8.62	5.16	4.86	11.48	12.01		
Fed	16.67	19.90	15.96	.57	-	3.65	8.25	9.72		
Net inc. in value of cows	-1.76	3.43	-10.40	-9.98	3.55	2.10	2.91	49.05		
Total value produced	\$254.51	\$261.80	\$205.10	\$227.64	\$232.77	\$195.89	\$148.08	\$157.47		
Ret. above feed cost per cow:	\$127.42	\$117.44	\$131.61	\$137.71	\$113.18	\$69.95	\$45.02	\$24.67		
Returns for \$100 of feed	\$ 200	\$ 181	\$ 279	\$ 253	\$ 195	\$ 155	\$ 144	\$ 119		
Feed cost per lb. BF (cents)	42.2	48.4	27.4	35.4	49.3	56.2	54.5	88.1		
Number of cows	25.6	18.6	17.5	29.2	17.8	18.5	15.9	7.7		

* Information not reported.

Table 15. Feed Costs and Returns from Other Dairy Cattle, 1958¹

Items	Ave. of 16 farms	Farm Number											
		1	15	9	5	3	10	8	11				
Feed per head, lbs.:													
Concentrates	303	874	471	19	298	74	308	55	676				
Hay and fodder	1826	3919	1345	3027	650	1722	2521	902	2396				
Silage	3879	1081	12605	6054	900	1722	7563	9961	2581				
Skim milk	44	-	-	-	-	-	-	-	-				
Whole milk	172	-	-	-	105	331	361	116	-				
Total feed costs per head	\$45.03	\$51.52	\$63.72	\$51.48	\$21.30	\$37.38	\$69.60	\$44.82	\$88.00				
Net increase in value	\$74.07	\$120.54	\$114.79	\$31.98	\$88.55	\$99.25	\$104.86	\$64.73	\$95.93				
Return above feed cost	\$29.04	\$69.02	\$51.07	\$-19.50	\$67.25	\$61.87	\$35.26	\$19.91	\$ 7.93				
Return for \$100 of feed	\$ 183	\$ 234	\$ 180	\$ 64	\$ 416	\$ 265	\$ 150	\$ 144	\$ 109				
Number of head of cattle	20.7	22.2	11.9	18.5	20.0	15.1	23.8	25.5	21.7				

Items	Ave. of 16 farms	Farm Number										
		4	2	17	7	16	12	6	13			
Feed per head, lbs.:												
Concentrates	187	455	237	147	246	250	93	450				
Hay and fodder	1897	1679	-	673	3158	481	3000	1860				
Silage	-	5839	2013	4040	1579	2308	714	3101				
Skim milk	-	-	-	-	-	-	698	-				
Whole milk	400	480	540	17	-	115	92	192				
Total feed costs per head	\$29.09	\$54.19	\$36.65	\$25.85	\$41.18	\$26.01	\$38.34	\$41.32				
Net increase in value	\$26.21	\$53.26	\$106.36	\$53.92	\$17.18	\$87.33	\$58.50	\$61.65				
Return above feed cost	\$-2.88	\$-.93	\$69.71	\$28.07	\$-24.00	\$61.32	\$20.16	\$20.33				
Return for \$100 of feed	\$ 90	\$ 98	\$ 290	\$ 209	\$ 42	\$ 336	\$ 153	\$ 149				
Number of head of cattle	36.9	27.4	14.9	29.7	15.2	20.8	14.0	12.9				

1. Arranged by descending order of pounds of butterfat per cow.

Table 16. Feed Costs and Returns from All Dairy Cattle, 1958

Items	Ave. of 16 farms	Farm Number							
		1	15	9	5	3	10	8	11
Feeds per animal unit, lb.:									
Concentrates	1798	3055	3033	1428	2255	924	1846	1486	1972
Hay and fodder	4505	6047	2570	6209	4079	5798	4438	2674	8435
Silage	7603	4866	18324	9231	5263	5966	13150	7687	7328
Total feed cost per animal unit	\$109.40	\$139.67	\$157.46	\$127.18	\$105.41	\$100.85	\$131.11	\$ 94.16	\$150.23
Value of prod. per animal unit									
Dairy products	\$166.35	\$282.94	\$220.50	\$263.27	\$168.13	\$198.28	\$188.31	\$170.95	\$164.76
Net inc. in value of cattle	53.70	85.84	68.70	12.33	69.76	46.62	64.02	52.05	58.50
Total value produced	\$220.05	\$368.78	\$289.20	\$275.60	\$237.89	\$244.90	\$252.33	\$223.00	\$223.26
Ret. above feed per animal unit	\$110.65	\$229.11	\$131.74	\$148.42	\$132.48	\$144.05	\$121.22	\$128.84	\$ 73.03
Return per \$100 of feed	\$ 206	\$ 264	\$ 184	\$ 217	\$ 226	\$ 243	\$ 192	\$ 237	\$ 149
Animal units of cattle	29.5	33.7	17.9	36.4	22.8	23.8	36.5	28.8	35.4
Items									
Feeds per animal unit, lb.:									
Concentrates	1450	1622	1499	1130	1322	1584	1298	2865	
Hay and fodder	4716	4799	160	2721	6969	3460	5345	3662	
Silage	4444	12755	4400	7528	4252	7958	2586	5915	
Total feed cost per animal unit	\$88.45	\$117.65	\$62.11	\$76.58	\$108.45	\$97.01	\$89.80	\$104.28	
Value of prod. per animal unit									
Dairy products	\$139.09	\$137.33	\$139.68	\$156.96	\$160.65	\$121.72	\$95.53	\$53.53	
Net inc. in value of cattle	71.55	47.16	56.11	29.71	12.76	64.20	37.29	82.60	
Total value produced	\$210.64	\$184.49	\$195.79	\$186.67	\$173.41	\$185.92	\$132.82	\$136.13	
Ret. above feed per animal unit	\$122.19	\$66.84	\$133.68	\$110.09	\$64.96	\$88.91	\$43.02	\$31.85	
Return per \$100 of feed	\$ 238	\$ 157	\$ 315	\$ 244	\$ 160	\$ 192	\$ 148	\$ 131	
Animal units of cattle	44.1	32.3	25.0	44.1	25.4	28.9	23.2	14.2	

Table 17. Feed Costs and Returns from Market Hogs, 1958 ¹

Items	Ave. of 6 farms	Farm Number					
		12	10	3	8	13	16
Feed per cwt. hogs produced, lbs.:							
Corn	359	278	177	224	256	341	879
Small grain	116	140	115	148	183	109	-
Commercial feeds	45	62	26	46	25	47	64
Total concentrates	520	480	318	418	464	497	943
Feed cost per cwt. hogs produced	\$11.15	\$11.86	\$6.88	\$9.64	\$9.47	\$10.65	\$18.38
Net increase in value per cwt. hogs produced	\$17.82	\$22.87	\$17.40	\$19.03	\$15.74	\$16.80	\$15.09
RETURNS ABOVE FEED COST PER CWT. HOGS PRODUCED	\$6.67	\$11.01	\$10.52	\$9.39	\$6.27	\$6.15	\$-3.29
RETURNS FOR \$100 OF FEED	\$ 175	\$ 193	\$ 253	\$ 197	\$ 166	\$ 158	\$ 82
Price received per cwt. hogs sold	\$19.44	\$23.60	\$18.87	\$19.72	*	\$18.61	\$16.38
Average weight per hog sold	201	130	220	221	*	237	196
No. of spring litters raised	5.5	8	3	8	2	12	0
No. of fall litters raised	5.3	2	3	7	0	15	5
Total no. of litters raised	10.8	10	6	15	2	27	5
No. of pigs born per litter	8.6	9.8	8.3	10.0	9.5	8.7	5.4
No. of pigs weaned per litter	7.3	8.4	7.5	8.9	9.0	5.6	4.2
Pounds of hogs produced	15136	13405	6640	28335	3725	34440	4270

¹ Arranged by descending order of return above feed cost per cwt. of hogs produced.

* No hogs were sold.

Table 18. Feed Costs and Returns from Feeder Pigs

Item	Ave. of 6 farms						Farm Number						
	1	2	3	4	5	6	7	8	9	10	11	12	13
Feed per litter, lbs.:													
Corn	1109	2660	-	-	-	-	2596	741	659				
Small grain	611	320	960	1808	1808	575	-	575	-				
Commercial feeds	185	165	153	200	200	148	186	148	259				
Total concentrates	<u>1905</u>	<u>3145</u>	<u>1113</u>	<u>2008</u>	<u>2008</u>	<u>1464</u>	<u>2782</u>	<u>1464</u>	<u>918</u>				
Feed cost per litter	\$38.91	\$60.48	\$24.09	\$38.76	\$38.76	\$31.93	\$55.83	\$31.93	\$22.35				
Net increase in value per litter	\$139.74	\$192.34	\$134.77	\$136.88	\$136.88	\$120.19	\$151.59	\$120.19	\$102.65				
Return above feed cost per litter	\$100.83	\$131.86	\$110.68	\$98.12	\$98.12	\$88.26	\$95.76	\$88.26	\$80.30				
Return for \$100 of feed	\$ 389	\$ 318	\$ 559	\$ 353	\$ 353	\$ 376	\$ 272	\$ 376	\$ 459				
Number of spring litters	6.2	0	4	0	0	11	16	11	6				
Number of fall litters	9.1	10	3	2	2	12	17	12	11				
Total number of litters	<u>15.3</u>	<u>10</u>	<u>7</u>	<u>2</u>	<u>2</u>	<u>23</u>	<u>33</u>	<u>23</u>	<u>17</u>				
Number of pigs born per litter	9.2	8.9	8.9	9.5	9.5	9.8	8.8	9.8	9.2				
Number of pigs weaned per litter	7.9	8.3	7.9	7.5	7.5	8.5	7.7	8.5	7.3				
Number of feeder pigs sold	101	82	47	15	15	174	169	174	119				
Price received per pig sold	\$13.78	\$14.26	\$14.32	\$13.43	\$13.43	\$14.16	\$13.96	\$14.16	\$12.57				
Number of sows sold and butchered	4	0	1	2	2	3	18	3	0				
Ave. weight of sows sold & butchered	337	-	305	388	388	296	340	296	-				
No. of market hogs sold & butchered	7	18	1	0	0	0	21	0	0				
Ave. weight of market hogs	230	226	450	-	-	-	223	-	-				
Pounds of hogs and pigs produced	6269	5560	2415	1120	1120	5600	17520	5600	5385				

Increase in Yields Resulting from Applications of Fertilizer

Data in table 19 show the quantity of fertilizer applied, yield response, and return from difference in yield over cost of fertilizer. Crop yields were abnormally low in 1958 because of below-average rainfall. The deficiency in precipitation ranged from 14.85 inches at Long Prairie in Todd County to 1.86 inches at Brainerd in Crow Wing County for the 12 months ending in October, 1958. The yield responses to various rates of application of commercial fertilizers, as shown in table 19, thus represent what farmers might expect to achieve under abnormal conditions.

Table 19. Fertilizer Application, Crop Yields and Return Over Cost of Fertilizer, 1958

Farm no.	Acres in field	Pounds fertilizer applied per acre			Yields per acre*		Difference	Return from difference in yield and cost of fertilizer**
		N	P2O5	K2O	Check	With fertilizer		
Corn Silage								
10	14.0	52	17	60	8.70	14.01	5.40	\$ 15.72
6	5.5	60	20	60	4.50	8.20	3.70	5.46
15	10.0	75	25	75	2.40	6.70	4.30	5.11
2	12.0	45	15	60	5.96	9.03	3.07	4.85
4	1.5	45	15	0	7.51	9.99	2.48	2.48
4	5.0	15	5	60	7.51	8.96	1.45	1.88
15	16.0	75	25	75	6.10	9.70	3.60	1.40
12	13.0	15	39	60	10.00	12.00	2.00	1.35
12	4.5	15	39	60	6.50	8.40	1.90	.86
7	10.0	15	5	27	5.70	6.40	.70	-.39
17	19.0	27	9	36	5.90	5.10	.80	- 2.55
16	26.0	30	10	60	4.20	5.30	1.10	- 2.69
5	3.5	30	10	0	1.00	1.35	.35	- 3.68
5	16.0	30	10	60	1.00	1.35	.35	- 6.88
4	9.0	52	17	0	10.86	11.19	.33	- 7.88
7	9.0	45	15	90	.98	1.63	.65	- 9.32
Oats								
8	10.0	30	10	60	18.66	33.79	15.13	- .18
3	21.0	30	10	72	26.48	36.57	10.09	- 3.55
10	16.0	45	15	78	35.56	50.31	14.75	-4.04
6	9.0	40	13	90	44.61	38.71	-5.90	-15.18
Barley								
14	11.0	18	6	0	22.70	31.44	8.74	4.13
14	36.0	45	15	0	25.53	29.92	6.39	-2.77

1. Harris, Roger and Hasbargen, Paul, "The 1958 Report on Test Demonstration Farms in Minnesota", Unpublished report, Agricultural Extension Service, Institute of Agriculture, University of Minnesota. April, 1959.

* Silage yields are given in tons; grain yields in bushels.

** Crop prices used in calculating return from difference in yield over cost of fertilizer were \$7.00 per ton for corn silage, 55 cents per bushel for oats, and 88 cents per bushel for barley. Cost of fertilizer was calculated at 15 cents per pound for nitrogen, 10 cents for phosphorus and 5 cents for potash.