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1960 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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Institute of Agriculture  
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1960 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

INDEX

	Page
Introduction	1
Summary of Farm Inventories	2
Summary of Farm Earnings (Cash Statement)	5
Summary of Farm Earnings (Enterprise Statement)	8
Returns to Capital and Family Labor	11
Net Worth Statement	12
Household and Personal Expenses	14
Family Living from the Farm	16
Explanation of "Work Units"	17
Measures of Farm Organization and Management Efficiency	18
Distribution of Acres in Farm	20
Crop Yields per Acre	22
Power and Machinery Expenses per Crop Acre	23
Feed Cost and Returns from Dairy Cattle	24
Feed Costs and Returns from Market Hogs	28
Feed Costs and Returns from Feeder Pigs	29
Increase in Yields Resulting from Applications of Fertilizer	30

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 five 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 and the Agricultural Extension Agents 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, Agricultural Extension Service.

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

<u>County</u>	<u>County Agricultural Agents</u>	<u>No. of records</u>
Crow Wing	Glenn Smith	5
East Otter Tail	Gerald Ness and Sherman Mandt	4
Hubbard	Wm. Dorsey and John Eix	6
Todd	Richard Brand	4
Wadena	Miles Rowe	5

Table 1. Summary of Farm Inventories, 1960<sup>1</sup>

Items	Farm Number														
	Ave. of 24 farms	15	9	20	18	13	4	19	7	21	2	1	5	360	370
Size of farms (acres)	320	550	218	285	627	315	240	280	620	365	240	310	360		
Size of business (work units)*	399	529	430	469	484	319	397	412	552	258	324	424	370		
Dairy cattle	\$ 5813	5840	6990	8320	6925	-	6705	6195	6950	211	2780	6945	3255		
Other livestock	852	865	-	465	-	7755	100	330	-	5906	400	20	24		
Horses	10	-	-	-	-	100	-	-	-	-	-	-	-		
Crop, seed and feed	2642	1609	2845	2670	1570	5400	851	5788	1455	5186	1362	1810	1882		
Auto & truck (share)	729	1171	606	1020	60	945	79	889	300	360	810	1536	785		
Tractors	1576	4204	3589	2678	1602	2793	374	485	2145	655	160	3112	600		
Crop & general mach.	3038	5988	3469	3102	2845	4613	1105	10605	1111	2871	2353	3236	1810		
Livestock equip. & sup.	1396	422	3259	1368	1995	878	112	2013	2320	245	104	2813	1654		
Land	7504	10140	6200	8900	7800	6925	6584	12000	4800	6600	9840	1750	4500		
Buildings, fences, etc.	4568	1751	5088	1280	5410	2066	4407	8299	4963	1921	3065	7645	870		
Total farm capital	\$28128	31990	32016	29803	28207	31475	20317	46604	24044	23955	20874	28867	15380		
							End of Year								
Dairy cattle	\$ 6031	6898	7080	9720	8130	-	7310	7090	7455	340	2775	7180	3375		
Other livestock	1525	740	-	105	-	12542	-	842	-	6801	512	1476	160		
Horses	33	-	-	-	-	500	-	-	-	-	-	300	-		
Crop, seed and feed	2489	4085	3925	2331	2563	3688	2162	3410	2010	2960	1827	2480	1484		
Auto & truck (share)	819	3010	441	760	768	756	110	644	210	270	607	1011	730		
Tractors	1641	6188	3430	2746	1374	2480	82	1264	1715	460	1910	2620	487		
Crop & general mach.	2959	6787	3224	2934	2645	4338	1566	11399	894	2407	2098	3317	1508		
Livestock equip. & sup.	1359	384	3377	1111	2973	1392	535	2568	2114	182	52	2640	1512		
Land	7504	10140	6200	8900	7800	6925	6584	12000	4800	6600	9840	1750	4500		
Buildings, fences, etc.	4894	1599	4766	1980	5155	3894	4943	7796	4684	2314	3843	10352	1073		
Total farm capital	\$29254	39831	32443	30587	31408	36515	23292	47013	23882	22334	23464	33126	14829		

<sup>1</sup> Arranged in descending order by labor earnings

\* See page 17 for an explanation of work units

Table 1. Summary of Farm Inventories, 1960 (continued)

Items	Farm Number												
	24	3	26	12	11	16	22	8	17	6	25	23	
Size of farms (acres)	425	177	400	160	240	280	160	240	300	105	320	550	
Size of business (work units)	498	367	570	337	396	310	189	154	227	82	491	268	
				Beginning of Year									
Dairy cattle	\$ 9235	4985	13482	6300	5600	4210	3180	4326	5925	2727	12861	5560	
Other livestock	- -	871	360	730	690	735	395	425	- -	173	199	- -	
Horses	- -	- -	- -	150	- -	- -	- -	- -	- -	- -	- -	- -	
Crop, seed and feed	4786	2547	2685	1905	1419	1490	1732	2462	1447	694	4750	5071	
Auto & truck (share)	439	712	1231	2312	- -	207	839	- -	1780	722	400	300	
Tractors	1880	1495	1105	1846	1954	425	- -	538	2035	229	1670	2260	
Crop & general mach.	3565	1664	2763	3789	3769	263	1846	1564	1590	262	4552	4167	
Livestock equip. & sup.	130	391	3294	189	1325	1675	1901	1747	774	503	4089	302	
Land	6800	9915	5000	8000	10000	8000	4180	5450	9500	2500	15000	9700	
Buildings, fences, etc.	3986	2971	8301	3750	4564	3546	4340	3038	7158	2901	8962	9350	
Total farm capital	\$30821	25551	38221	28971	29321	20551	18413	19550	30209	10711	52483	36710	
				End of Year									
Dairy cattle	\$10110	5450	14580	6475	5945	4650	2820	2285	6295	100	12086	6605	
Other livestock	- -	1531	- -	430	450	805	900	5008	- -	4305	- -	- -	
Crop, seed and feed	4249	1905	2783	2539	2385	1563	1411	2541	1220	731	3005	2472	
Auto & truck (share)	219	568	1106	2048	- -	90	617	- -	1589	2606	1305	200	
Tractors	1470	1276	722	1512	1659	297	900	445	1753	141	2520	1935	
Crop & general mach.	2976	1312	2316	4177	3607	764	1642	1337	1384	264	3849	4259	
Livestock equip. & sup.	137	454	2866	297	1160	1550	1748	134	669	488	3815	460	
Land	6800	9915	5000	8000	10000	8000	4180	5450	9500	2500	15000	9700	
Buildings, fences, etc.	3646	5879	7691	3600	4124	3366	4060	2798	9549	3012	8550	8780	
Total farm capital	\$29607	28290	37064	29078	29330	21085	18278	19998	31959	14147	50130	34411	

### Capital Investment

The average value of capital used per farm is shown in table 1. Capital investment per farm varied from \$51,306 to \$15,104. 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 24 farmers included in this report had average farm sales of \$11,677 and farm purchases of \$8,742, or a net cash income of \$2,935 per farm (table 2). Farm purchases amounted to 75 percent of total farm sales, leaving 25 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 42, 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 \$6,560 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 a dairy farm:

Value of dairy products sold	\$6180	
Used in the home	225	
Fed to livestock	28	
Total value of dairy products produced	<u>        </u>	\$6433
Value of cows on end of year inventory	\$4000	
Sales of cows	726	
Butchered for home use	0	
Total	<u>        </u>	\$4726
Value of cows on beginning of year inventory	\$4800	
Purchases	-	
Value of heifers transferred to cow herd	200	
Total	<u>        </u>	\$5000
Net change in value of cows		-274
Returns and net increases from milk cows		<u>        </u>

Table 2. Summary of Farm Earnings (Cash Statement) 1960<sup>1</sup>

Items	Ave. of 24 farms	Farm Number						
		15	9	20	18	13	4	19
<u>Farm Receipts</u>								
1. Dairy cattle	\$ 1627	1554	1272	969	2746	- -	1477	1195
2. Dairy products	6328	7810	11714	11349	7626	- -	6947	7230
3. Beef cattle	202	- -	- -	- -	- -	4845	- -	- -
4. Hogs	1913	3127	- -	2501	- -	10529	146	2441
5. Sheep	170	- -	- -	10	- -	241	- -	- -
6. Poultry	5	- -	- -	- -	- -	120	- -	- -
7. Eggs	44	- -	- -	- -	- -	- -	- -	- -
8. Crops	605	2385	30	- -	874	- -	- -	3840
9. Mach. & equip. sold	202	- -	258	89	116	580	121	186
10. Inc. from work off farm	336	1235	231	370	1009	1332	7	231
11. Miscellaneous	245	461	54	487	74	30	118	480
12. Total farm sales	\$11677	16572	13559	15775	12445	17677	8816	15600
13. Inc. in farm cap.	1126	7842	396	784	3201	5040	2975	4100
14. Fam. liv. from farm	277	256	157	505	92	384	364	244
15. Total farm receipts	\$13080	24670	14112	17064	15738	23101	12155	16250
<u>Farm Expenses</u>								
16. Dairy cattle bought	\$ 225	1031	125	775	771	- -	190	- -
17. Beef cattle bought	216	- -	- -	- -	- -	5196	- -	- -
18. Hogs bought	205	400	- -	- -	- -	443	- -	- -
19. Sheep bought	201	- -	- -	- -	- -	30	- -	- -
20. Horses bought	25	- -	- -	- -	- -	300	- -	- -
21. Poultry bought	2	- -	- -	- -	- -	16	- -	- -
22. Misc. livestock ex.	350	555	536	727	412	945	363	250
23. Feed	1663	2507	834	2965	1564	1977	913	930
24. Fertilizers	395	750	331	284	439	546	471	620
25. Other crop expenses	326	655	115	281	136	314	301	380
26. Custom work hired	662	915	642	743	1359	- -	228	530
27. Gas, oil, grease (f. sh.)	643	411	719	588	732	425	623	960
28. Rep. tract., trucks, autos (farm share)	336	361	277	265	259	604	595	310
29. Rep. farm real estate	109	24	521	- -	8	166	104	180
30. Rep. crop & gen. mach.	219	133	568	386	216	394	103	460
31. Rep. livestock equip.	66	106	164	61	20	236	2	40
32. Wages of hired labor	230	348	533	377	161	14	28	690
33. Elec. expense (f. share)	233	188	243	357	287	346	156	190
34. R. estate & personal prop. taxes	472	746	409	355	516	379	624	560
35. Tel. & gen. farm ex.	182	115	219	160	326	184	209	90
36. Total cash oper. exp.	\$ 6760	9245	6236	8324	7206	12515	4910	6230
37. Mech. power bot (f. sh.)	646	4585	190	525	900	- -	45	1250
38. Crop & gen. mach. bot	495	1813	340	930	160	773	846	1990
39. Livestock equip. bought	191	- -	475	- -	1364	722	460	770
40. New real estate improvement	650	- -	- -	814	- -	2187	695	- -
41. Total farm purchases	\$ 8742	15643	7241	10623	9630	16197	6956	10250
42. Decrease in farm capital	- -	- -	- -	- -	- -	- -	- -	- -
43. Interest on farm capital	1434	1795	1612	1510	1490	1700	1090	2340
44. Unpaid family labor	506	270	- -	- -	135	1215	405	- -
45. Board fur. hired labor	64	95	- -	190	66	- -	- -	- -
46. Total farm expenses	\$10746	17803	8853	12323	11321	19112	8451	12590
47. Labor earnings	\$ 2334	6867	5259	4741	4417	3989	3704	3660

<sup>1</sup> Arranged in descending order of labor earnings

Table 2. Summary of Farm Earnings (Cash Statement) 1960 (continued)

Items	Farm Number							
	7	21	2	1	5	24	3	26
<u>Farm Receipts</u>								
1. Dairy cattle	\$ 1168	- -	1592	2187	1063	1894	855	2889
2. Dairy products	7969	- -	5336	10756	3412	7759	4641	10553
3. Beef cattle	- -	- -	- -	- -	- -	- -	- -	- -
4. Hogs	- -	8622	2351	46	214	- -	3640	639
5. Sheep	- -	2961	- -	- -	- -	- -	- -	- -
6. Poultry	- -	- -	- -	- -	- -	- -	- -	- -
7. Eggs	- -	- -	- -	- -	- -	- -	634	- -
8. Crops	418	534	150	65	622	2206	250	- -
9. Mach. & equip. sold	75	146	103	129	153	272	68	245
10. Inc. from work off farm	250	46	162	190	1385	491	60	59
11. Miscellaneous	156	1020	79	- -	634	15	111	769
12. Total farm sales	\$10036	13329	9773	13373	7483	12637	10259	15154
13. Increase in farm capital	- -	- -	2591	4258	- -	- -	2740	- -
14. Family liv. from farm	440	288	314	149	317	265	197	404
15. Total farm receipts	\$10476	13617	12678	17780	7800	12902	13196	15558
<u>Farm Expenses</u>								
16. Dairy cattle bought	\$ - -	- -	- -	175	- -	- -	- -	483
17. Beef cattle bought	- -	- -	- -	- -	- -	- -	- -	- -
18. Hogs bought	- -	50	90	416	- -	- -	75	- -
19. Sheep bought	- -	25	- -	- -	- -	- -	- -	- -
20. Horses bought	- -	- -	- -	300	- -	- -	- -	- -
21. Poultry bought	- -	- -	- -	- -	- -	- -	- -	- -
22. Misc. Livestock exp.	115	132	249	571	92	438	302	276
23. Feed	590	2377	1369	3376	272	844	2216	1673
24. Fertilizers	166	776	275	565	165	523	481	380
25. Other crop expenses	300	500	444	417	157	378	536	245
26. Custom work hired	886	1099	690	675	561	142	327	2262
27. Gas, oil, grease (f. sh.)	317	654	582	669	435	1000	571	1129
28. Rep. tract., trucks, autos (farm share)	219	50	164	107	397	688	489	476
29. Rep. farm real estate	53	40	131	122	52	207	142	108
30. Rep. crop & gen. mach.	70	84	188	183	252	466	94	380
31. Rep. livestock equip.	- -	14	22	66	8	68	40	186
32. Wages of hired labor	217	- -	13	170	- -	159	16	116
33. Elec. expense (f. share)	143	123	204	295	104	223	275	311
34. Real estate & personal prop. taxes	591	374	666	416	363	604	249	664
35. Tel & gen. farm exp.	238	159	109	61	88	280	325	206
36. Total cash oper. exp.	\$ 3905	6457	5196	8584	2946	6020	6138	8895
37. Mech. power bot (f. sh.)	- -	- -	2037	- -	75	- -	- -	325
38. Crop & general equip. bought	- -	15	125	1094	85	153	- -	125
39. Livestock equip. bought	- -	- -	- -	50	- -	32	153	- -
40. New real estate improve.	- -	531	1000	3491	250	- -	3161	- -
41. Total farm purchases	\$ 3905	7003	8358	13219	3356	6205	9452	9345
42. Decrease in farm capital	162	1621	- -	- -	551	1215	- -	1156
43. Interest on farm capital	1198	1157	1108	1550	755	1511	1346	1882
44. Unpaid family labor	1620	270	405	135	607	1620	270	1080
45. Board fur. hired labor	- -	- -	- -	114	- -	26	- -	- -
46. Total farm expenses	\$ 6885	10051	9871	15018	5269	10577	11068	13463
47. Labor earnings	\$ 3591	3566	2807	2762	2531	2325	2128	2095



Table 2. Summary of Farm Earnings (Cash Statement) 1960 (continued)

	Farm Number								
	12	11	16	22	8	17	6	25	23
<b>Farm Receipts</b>									
1.	\$ 1258	1146	983	2290	5678	1517	2384	2244	685
2.	5244	6005	4680	4868	2050	6387	21	14425	5087
3.	- -	- -	- -	- -	- -	- -	- -	- -	- -
4.	2756	1303	- -	1951	164	- -	5221	262	- -
5.	- -	- -	723	- -	137	- -	- -	- -	- -
6.	- -	- -	- -	- -	- -	- -	- -	- -	- -
7.	- -	- -	- -	- -	- -	- -	433	- -	- -
8.	- -	- -	- -	- -	274	75	86	347	2379
9.	98	79	55	108	1324	42	83	277	239
10.	- -	174	- -	52	455	- -	75	- -	237
11.	93	- -	13	- -	588	48	27	310	322
12.	\$ 9449	8707	6454	9269	10670	8069	8330	17865	8949
13.	107	9	534	- -	447	1750	3435	- -	- -
14.	308	258	109	270	83	228	144	537	339
15.	\$ 9864	8974	7097	9539	11200	10047	11909	18402	9288
<b>Farm Expenses</b>									
16.	\$ 170	- -	- -	820	150	718	- -	- -	- -
17.	- -	- -	- -	- -	- -	- -	- -	- -	- -
18.	- -	- -	- -	- -	- -	- -	3456	- -	- -
19.	- -	- -	- -	- -	4776	- -	- -	- -	- -
20.	- -	- -	- -	- -	- -	- -	- -	- -	- -
21.	22	- -	- -	- -	- -	- -	5	- -	- -
22.	238	156	153	356	146	233	335	730	83
23.	2074	1071	1189	1771	321	1456	3141	4201	269
24.	257	250	275	273	313	237	18	671	404
25.	234	168	155	207	328	70	111	746	631
26.	344	571	642	473	533	473	228	856	701
27.	790	751	718	511	421	359	272	1311	484
28.	85	73	299	296	273	120	171	463	1019
29.	10	4	80	221	63	- -	167	163	49
30.	200	45	66	153	108	70	36	315	278
31.	16	20	31	- -	61	- -	74	255	97
32.	201	100	60	515	352	357	525	562	- -
33.	243	181	214	236	226	116	191	465	282
34.	441	683	339	280	371	254	220	601	613
35.	52	185	43	169	208	402	122	205	197
36.	\$ 5377	4258	4264	6281	8650	4865	9072	11544	5107
37.	- -	- -	- -	1000	308	- -	2172	2090	- -
38.	1005	450	655	57	77	- -	100	240	850
39.	160	- -	- -	- -	- -	- -	105	100	200
40.	- -	- -	- -	- -	93	2995	307	40	- -
41.	\$ 6542	4708	4919	7338	9128	7860	11756	14014	6157
42.	- -	- -	- -	134	- -	- -	- -	2352	2299
43.	1451	1466	1041	917	989	1554	621	2566	1778
44.	405	1620	- -	- -	337	270	- -	405	1080
45.	- -	- -	- -	456	152	152	171	114	- -
46.	\$ 8398	7794	5960	8845	10606	9836	12548	19451	11314
47.	\$ 1466	1180	1137	694	594	211	-639	-1049	-2026

Table 3. Summary of Farm Earnings (Enterprise Statement) 1960<sup>1</sup>

Items	Farm Number											
	15	9	20	18	13	4	19	7	21	2	1	5
<b>RETURNS AND NET INCREASES</b>												
Dairy cows	8249	11708	10628	7731	-	7042	7553	8478	282	5520	11287	3533
Other dairy cattle	1645	1400	2670	3320	-	2483	2217	2167	130	1655	2268	1329
Beef cattle	-	-	-	-	3044	-	-	-	-	-	-	-
Hogs	2740	-	2292	-	11856	97	3004	-	10635	2453	1085	419
Sheep	-	-	9	-	188	-	-	-	1896	-	-	-
Chickens	-	-	-	-	134	-	-	-	-10	-	-	-
Total livestock	<u>12634</u>	<u>13108</u>	<u>15599</u>	<u>11051</u>	<u>15222</u>	<u>9622</u>	<u>12774</u>	<u>10645</u>	<u>12933</u>	<u>9628</u>	<u>14640</u>	<u>5281</u>
Value of feed fed	6930	5769	7766	4182	8488	4930	5657	4486	8116	5461	7722	2880
Lvstk. return												
over feed	5069	7339	7833	6869	6734	4692	7117	6159	4817	4167	6918	2401
Crops, seed & feed	3617	5599	3897	3756	4168	4183	4921	3840	2659	3968	3695	2491
Income from labor												
off farm	198	899	92	930	342	3	64	62	-	108	103	1312
Miscellaneous	248	461	487	74	30	118	480	156	1020	79	-	634
Total returns & net increases	<u>\$ 9132</u>	<u>14559</u>	<u>12309</u>	<u>11629</u>	<u>11274</u>	<u>8996</u>	<u>12582</u>	<u>10217</u>	<u>8496</u>	<u>8322</u>	<u>10716</u>	<u>6838</u>
<b>EXPENSES AND NET DECREASES</b>												
Truck (farm share)	\$ 221	476	217	49	-	475	105	-	-	-	101	205
Auto (farm share)	265	147	238	517	522	62	446	90	197	528	636	68
Tractors & horses	804	767	837	663	570	841	1177	829	646	559	886	576
Elec. motors exp. (farm share)	241	188	269	289	346	167	202	143	123	204	299	104
Hired power	353	529	342	741	-	116	318	386	618	331	383	342
Total power	<u>\$ 1884</u>	<u>2107</u>	<u>1903</u>	<u>2259</u>	<u>1438</u>	<u>1661</u>	<u>2248</u>	<u>1448</u>	<u>1584</u>	<u>1622</u>	<u>2305</u>	<u>1295</u>
Crop & gen. mach.	769	972	1103	668	441	548	1573	370	610	678	1181	649
Livestock equipment	237	144	396	406	443	40	261	206	77	74	290	150
Buildings, fences, etc.	429	177	844	263	525	263	683	331	178	353	906	99
Misc. lvstk. expense	350	555	536	412	945	363	255	115	132	249	571	92
Labor	1042	1081	769	874	1229	493	902	2129	658	657	675	815
Real estate taxes	318	533	252	348	248	453	358	397	269	516	236	197
Personal property taxes	153	213	157	166	132	171	203	194	105	149	179	166
Insurance	76	38	95	41	52	59	32	57	53	30	28	31
General farm expense	105	77	124	285	132	151	67	181	107	79	33	57
Interest on farm cap.	1435	1795	1510	1490	1700	1090	2340	1198	1157	1108	1550	756
Total exp. and net decreases	<u>\$ 6798</u>	<u>7692</u>	<u>7791</u>	<u>7212</u>	<u>7285</u>	<u>5292</u>	<u>8922</u>	<u>6626</u>	<u>4930</u>	<u>5515</u>	<u>7954</u>	<u>4307</u>
Labor earnings	\$ 2334	6867	5259	4417	3989	3704	3660	3591	3566	2807	2762	2531

<sup>1</sup> Arranged by descending order of labor earnings

Table 3. Summary of Farm Earnings (Enterprise Statement) 1960 (continued) \*

Items	Farm Number													
	24	3	26	12	11	16	22	8	17	6	25	23		
<b>RETURNS AND NET INCREASES</b>														
Dairy cows	\$ 7591	4723	11441	5349	6241	4737	4742	3633	7402	-226	14594	5203		
Other dairy cattle	3229	1568	3742	1374	1614	1517	1553	1960	1276	4	2170	2301		
Beef cattle	-	-	-	-	-	-	-	-	-	-	-	-		
Hogs	-	4351	303	2515	1097	793	2486	16	-	6013	135	-		
Sheep	-	-	-	-	-	-	-	119	-	-	-	-		
Chickens	-	582	-	10	-	-	-	-	-	456	-	-		
ALL productive livestock	\$10820	11224	15486	9248	8952	7047	8781	5728	8678	6247	16899	7504		
Value of feed fed	4997	6407	8486	4765	4020	4690	4538	2271	4855	4076	12439	4168		
Livestock return														
over feed	\$ 5823	4817	7000	4483	4932	2357	4243	3457	3823	2171	4460	3336		
Crops, seed and feed	4893	2574	5539	2833	3363	3103	1890	1661	2046	928	5019	2295		
Income from labor														
off farm	222	15	34	-	174	-	-	199	-	30	-	95		
Miscellaneous	15	112	770	94	-	12	52	588	48	28	310	321		
Total returns & net increases	\$10953	7518	13343	7410	8469	5472	6185	5905	5917	3157	9789	6047		
<b>EXPENSES AND NET DECREASES</b>														
Truck (share)	\$ 602	336	280	428	130	455	188	-	478	199	366	-		
Auto (share)	273	383	604	34	104	-	435	126	-	335	60	282		
Tractor & horses	1081	620	1281	1045	806	738	397	806	420	176	1380	1320		
Elec. exp. (share)	226	275	311	253	181	214	236	249	118	218	491	282		
Hired power	64	187	1275	159	263	343	284	244	202	109	499	291		
Total power	\$ 2246	1801	3751	1919	1484	1750	1540	1425	1218	1037	2796	2175		
Crop & gen. mach.	1061	430	1154	867	771	273	414	368	419	179	1271	1153		
Lvstk. equip.	88	129	613	68	185	155	153	468	105	144	629	139		
Build., fences, etc.	548	395	718	159	444	260	501	303	604	364	615	619		
Misc. lvstk. ex.	437	302	276	238	156	153	356	146	233	335	730	83		
Labor	1853	413	1983	749	1915	321	1161	1034	916	774	1425	1317		
Real estate taxes	429	158	473	344	494	226	157	251	199	131	432	465		
Per. property taxes	176	91	192	97	189	113	122	121	55	89	169	148		
Insurance	91	240	158	-	56	-	123	108	184	6	103	120		
Gen. farm expenses	188	85	48	52	129	43	47	99	219	116	102	77		
Interest on farm capital	1510	1346	1882	1451	1466	1041	917	988	1554	621	2565	1778		
Total expenses & net decreases	\$ 8627	5390	11248	5944	7289	4335	5491	5311	5706	3796	10837	8074		
Labor earnings	2326	2128	2095	1466	1180	1137	694	594	211	-639	-1048	-2027		

\* 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 5, 6 and 7.

### Return to Capital and Family Labor

Return to capital and family labor, as shown in table 4, 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 statement for those farmers who kept a complete record of all assets and liabilities are shown in table 5. This is simply a statement of all farm and nonfarm 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 23 farmers who kept complete records of assets and liabilities in 1960 was \$27,530. These farmers realized an average increase of \$1,302 in net worth during 1960.

### Family Income and Expenses

Total cash family living expenses for 15 farm families that kept records of these expenditures amounted to an average of \$2,606 per family (table 6). In addition, these families used farm produce valued at \$280, or a total of \$2886 for cash family expenses plus prerequisites. Their average total income available for payment of family living amounted to \$3,596. Thus, the 15 farmers who kept records of family living expenses had an average of about \$700 to use for debt retirement or business expansion after all living expenses were met.

Table 4. Returns to Capital and Family Labor (Operator's Share) 1960<sup>1</sup>

Items	Ave. of Farm Number											
	24 farms	9	13	15	7	19	20	18	24	4	21	11
<b>Farm Income</b>												
1. Total farm sales	\$11568	13559	17677	15042	10036	15603	15775	11965	12446	8816	13329	8707
2. Increase in capital	1120	396	5040	7842	--	410	784	3201	--	2975	--	9
3. Family living from farm	287	158	384	256	440	244	505	92	265	364	288	258
4. Total farm receipts	\$12975	14113	23101	23140	10476	16257	17064	15258	12711	12155	13617	8974
<b>Farm Expenses</b>												
5. Total farm purchases	\$ 9110	7459	16536	16584	4017	10257	11216	9784	6339	7572	7626	4726
6. Decrease in capital	--	--	--	--	162	--	--	--	1215	--	1621	--
7. Board fur. hired labor	64	--	--	95	--	--	190	66	26	--	--	--
8. Total farm expenses	\$ 9174	7459	16536	16679	4179	10257	11406	9850	7580	7572	9247	4726
9. Return to capital and family labor	\$ 3801	6654	6565	6461	6297	6000	5658	5408	5131	4583	4370	4248
<b>Farm Number</b>												
Items	26	1	3	2	5	12	8	22	17	25	23	6
<b>Farm Income</b>												
1. Total farm sales	\$15154	13373	10145	9773	7258	9449	10670	9269	7994	17865	8949	8330
2. Increase in capital	--	4258	2740	2591	--	107	447	--	1750	--	--	3435
3. Family living from farm	404	149	197	314	317	308	83	270	228	537	339	144
4. Total farm receipts	\$15558	17780	13082	12678	7575	9864	11200	9539	9972	18402	9288	11909
<b>Farm Expenses</b>												
5. Total farm purchases	\$10222	13821	9435	9125	3592	6698	9187	7553	8493	14772	6631	11853
6. Decrease in capital	1156	--	--	--	551	--	--	134	--	2352	2444	--
7. Board furnished hired labor	--	114	--	--	--	--	152	456	152	114	--	171
8. Total farm expenses	\$11378	13935	9435	9125	4143	6698	9339	8143	8645	17238	9075	12024
9. Return to capital and family labor	\$ 4180	3845	3647	3553	3432	3166	1861	1396	1327	1164	213	-115

<sup>1</sup> Arranged in descending order of return to capital and family labor.

Table 5. Net Worth Statement for Those Farmers Who Kept a Record of All Assets and Liabilities (Operator's Share) 1961

Items	Farm Number										
	15	9	20	18	13	4	19	7	21	2	1
Ave. of 23 farms	360	218	185	547	315	240	280	620	365	120	280
Total acres - owned	190	-	100	80	-	-	-	-	-	120	30
- rented	-	-	-	-	-	-	-	-	-	-	-
	January 1										
Farm Capital	25989	32047	28903	25607	31475	20317	46604	24044	23955	14874	28618
Cash on hand	50	278	100	216	109	528	3676	150	10	-	500
Stocks, bonds & life insurance	-	710	1055	300	403	1225	9037	3100	330	-	1608
Household goods & clothing	1600	2500	2500	500	1950	1356	1150	1400	1250	1100	1250
Personal share of auto & truck	106	1028	302	15	105	707	195	300	240	202	513
Farm dwelling	2150	10200	3000	7734	680	2002	5000	6000	3440	4920	4736
Other non-farm assets	5	125	1629	-	459	-	6050	1	440	63	200
Total non-farm assets	3911	14841	8586	8765	3706	5818	25108	10951	5710	6285	8807
Total assets	29900	46888	37489	34372	35181	26135	71712	34995	29665	21159	37425
Real estate mortgages	2000	2846	4329	-	1200	2960	-	-	3500	6500	20500
Chattel mortgages	6564	-	4624	8421	5048	3342	-	-	5724	-	7424
Notes payable	840	1200	332	500	-	3040	-	-	2000	641	1178
Accounts payable	-	-	2090	496	3945	2430	-	2199	322	-	1274
Total liabilities	9919	4046	11375	9417	10193	11772	-	2199	11546	7141	30376
Net Worth	19981	42842	26114	24955	24988	14363	71712	32796	18119	14018	7049
	December 31										
Farm Capital	33831	32442	29687	28808	36515	23292	47013	23882	22334	17465	32876
Cash on hand	50	607	500	200	110	601	6275	-	184	-	400
Stocks, bonds & life insurance	-	775	1110	300	450	1159	9571	3300	-	-	1800
Household goods & clothing	1900	2500	2500	500	1950	1266	1360	1400	1250	1100	1250
Personal share of auto & truck	88	881	127	192	84	946	111	210	180	152	337
Farm dwelling	1975	10200	3000	7468	540	1919	5000	6000	3350	4705	4573
Other non-farm assets	10	125	1629	-	809	-	6050	6	455	63	200
Total non-farm assets	4023	15088	8866	8660	3943	5891	28367	10916	5419	6020	8560
Total assets	37854	47530	38553	37468	40458	29183	75380	34798	27753	23485	41436
Real estate mortgages	2000	2666	4514	-	800	7122	-	-	3500	6000	12900
Chattel mortgages	10470	-	5500	7561	7663	6196	-	-	2693	-	2765
Notes payable	869	500	300	250	-	100	-	-	2000	-	2000
Accounts payable	-	-	800	1155	7079	3148	-	1439	-	-	474
Total liabilities	13001	3166	11114	8966	15542	16566	-	1439	8193	8975	18139
Net Worth	24853	44364	27439	28502	24916	12617	75380	33359	19560	14510	23297
Change in Net Worth	+4872	+1522	+1325	+3547	-72	-1746	+3668	+563	+1441	+492	+16248

1 Arranged in descending order of labor earnings.

Table 5. Net Worth Statement for Those Farmers Who Kept a Record of All Assets and Liabilities (Operator's Share) 1960 (continued)

Items	Farm Number												
	5	24	3	26	12	16	22	8	17	6	25	23	
Total acres - owned	320	360	160	400	160	280	160	240	275	105	160	390	
- - rented	40	65	17	-	-	-	-	-	25	-	160	160	
Farm Capital	\$11,580	29822	25051	38220	28970	20551	18,413	19550	29709	10711	44,483	36710	
Cash on hand	158	10452	4465	187	400	760	214	602	107	-	710	5	
Stocks, bonds & life insurance	566	-	1446	977	850	-	743	2387	800	300	1100	-	
Household goods & clothing	1100	1000	825	3000	2000	100	1500	1500	1200	1200	2400	2000	
Personal share of auto & truck	15	199	178	308	32	23	706	-	197	38	-	300	
Farm dwelling	1000	2000	2200	3000	3000	1800	1138	380	6500	2055	-	3500	
Other non-farm assets	11	-	80	866	10	-	250	-	3500	-	1072	20	
Total non-farm assets	\$ 2850	13651	9194	8338	6292	2683	4551	4869	12304	3593	5282	5825	
Total assets	\$17,430	43,473	34,245	46,558	35,262	23,234	22,964	24,419	42,013	14,304	49,765	36,535	
Real estate mortgages	1327	-	6000	4500	-	7500	2032	-	-	-	1500	7259	
Chattel mortgages	931	-	-	5737	3030	666	1494	931	5257	3115	12061	3454	
Notes payable	4800	-	-	2529	-	-	-	1000	4714	-	-	743	
Accounts payable	91	-	-	2581	-	-	-	1000	70	749	380	454	
Total liabilities	\$ 7149	-	6000	15,347	3030	8166	3526	2931	10,041	3864	13,941	11,910	
Net Worth	\$10,281	43,473	28,245	31,211	32,232	15,068	19,438	21,488	31,972	10,440	35,824	26,625	
				December 31									
Farm Capital	\$14,029	28607	27790	37065	29077	21,085	18,278	19,998	31,460	14,147	42,131	30,266	
Cash on hand	130	12855	3675	182	200	949	1300	765	115	-	710	170	
Stocks, bonds, & life insurance	566	-	1521	1045	900	-	793	2542	850	300	1100	-	
Household goods & clothing	1100	1000	775	3200	2000	100	1500	1600	1200	1200	2400	2000	
Personal share of auto & truck	70	99	142	218	-	10	531	-	176	29	225	200	
Farm dwelling	1244	2000	2200	3000	2900	1700	1075	360	6900	1955	-	3500	
Other non-farm assets	11	-	130	1930	25	-	250	-	3000	-	1072	30	
Total non-farm assets	\$ 3121	15,954	8443	9575	6025	2759	5449	5267	12,241	3484	5507	5900	
Total assets	\$17,150	44,561	36,233	46,639	35,102	23,844	23,727	25,265	43,701	17,630	47,637	36,166	
Real estate mortgages	1101	-	6000	4500	-	6500	2032	-	5637	1933	1500	7138	
Chattel mortgages	629	-	-	5095	1969	966	1306	2100	6983	4214	13,076	3717	
Notes payable	4300	-	1800	2429	-	-	-	1000	-	-	350	1443	
Accounts payable	515	-	-	1918	-	-	680	757	281	376	506	519	
Total liabilities	\$ 6545	-	7800	13,942	1969	7466	4018	3857	12,901	6523	15,432	12,817	
Net Worth	\$10,605	44,561	28,433	32,697	33,133	16,378	19,709	21,408	30,800	11,107	32,205	23,349	
Change in Net Worth	\$ +324	+1088	+188	+1486	+901	+1310	+271	-80	-1172	+667	-3619	-3276	

Table 6. Household and Personal Expenses for Those Farmers Who Kept Accounts of These Expenses, 1960<sup>1</sup>

Items	Ave. of Farm Number							
	15 farms	13	20	24	22	21	26	4
Number of persons--family	5.1	7.0	7.0	4.0	4.0	7.0	7.0	6.0
Adult equivalents--family	3.7	4.5	4.9	3.8	3.2	4.7	5.0	4.4
other*	.2	-	.4	.1	1.0	-	-	-
<b>Expenses</b>								
Food and meals bought	\$ 831	1165	1192	1293	754	812	699	889
Operating and supplies	217	102	325	300	305	330	246	292
Furnishings and equipment	83	100	150	6	45	103	119	81
Clothing & clothing materials	237	210	414	177	357	238	276	380
Personal care & spending	109	5	117	660	81	18	44	71
Education & recreation	89	1	82	-	67	40	49	200
Gifts & special events	89	2	208	11	99	106	163	116
Medical & hosp. insurance	344	13	81	956	311	470	480	307
Church & welfare	83	-	86	37	64	72	35	346
Personal share of auto expense	123	37	96	173	260	71	179	440
Upkeep on dwelling	126	-	53	132	735	5	386	-
Personal share of tel. & elec. expense	111	45	88	160	87	236	116	75
Total cash living expense	\$ 2442	1680	2892	3905	3165	2501	2792	3197
Personal share of new autos	32	-	-	-	-	-	-	401
New dwelling	16	-	-	-	-	-	-	-
Taxes	13	-	-	-	-	-	-	-
Life insurance	85	119	-	-	41	133	269	189
Other savings & investments	18	100	-	-	-	-	-	120
Total household & personal cash expense	\$ 2606	1901	2892	3905	3206	2634	3061	3907
Family living from the farm	280	384	506	265	271	288	404	364
Total cash expense and prerequisites	\$ 2886	2285	3398	4170	3477	2922	3465	4271
<b>Receipts</b>								
Return to capital and family labor	\$ 3123	6565	5658	5131	1396	4370	4180	3704
Other personal income	473	-	172	-	3425	34	-	49
Total income	\$ 3596	6565	5830	5131	4821	4404	4180	3753

<sup>1</sup> Arranged by descending order of return to capital and family labor plus personal income.  
\* Hired help or others boarded.



Table 6. Household and Personal Expenses for Those Farmers Who Kept Accounts of These Expenses, 1960 (continued)

Items	Farm Number									
	3	2	5	6	16	8	17	23		
Number of persons--family	8.0	6.0	4.0	5.0	2.0	2.0	2.0	5.0		
Adult equivalents--family	4.8	3.6	3.6	3.6	1.8	1.8	1.8	4.6		
other	-	-	-	.4	-	.3	.5	-		
<b>Expenses</b>										
Food and meals bought	\$ 998	870	883	469	347	598	564	932		
Operating and supplies	319	98	139	104	38	461	176	16		
Furnishings and equipment	71	48	166	4	2	223	102	21		
Clothing & clothing materials	438	325	167	199	14	107	107	142		
Personal care & spending	145	87	95	24	9	147	38	88		
Education & recreation	207	181	355	34	-	82	-	35		
Gifts & special events	69	178	42	49	59	100	90	50		
Medical & hosp. insurance	420	283	163	205	434	309	541	185		
Church & welfare	299	111	55	41	13	27	61	-		
Personal share of auto expense	60	89	121	40	37	19	32	182		
Upkeep on dwelling	-	-	154	12	-	-	420	-		
Personal share of tel. & elec. expense	74	139	147	92	86	106	125	95		
Total cash living expense	\$ 3100	2409	2487	1273	1039	2179	2256	1746		
Personal share of new autos	-	-	75	-	-	-	-	-		
New dwelling	-	-	250	-	-	-	-	-		
Taxes	102	36	5	8	-	-	-	45		
Life insurance	278	75	-	24	-	102	50	-		
Other savings & investments	-	-	-	-	-	45	-	-		
Total household & personal cash exp.	\$ 3480	2520	2817	1305	1039	2326	2306	1791		
Family living from the farm	178	314	317	144	109	83	228	339		
Total cash expense and prerequisites	\$ 3658	2834	3134	1449	1148	2409	2534	2130		
<b>Receipts</b>										
Return to capital and family labor	\$ 3647	3553	3432	-115	2175	1611	1327	213		
Other personal income	3	4	-	2996	-	-	-	406		
Total income	\$ 3650	3557	3432	2881	2175	1611	1327	619		

Table 7. Family Living From the Farm, 1960<sup>1</sup>

Items	Ave. of 24 farms															Total value
	15	9	5.7	4.9	2.8	4.5	4.4	19	7	21	2	1	5			
No. of adult equivalents:																
Family	2.6	5.7	4.9	2.8	4.5	4.4	6.6	10.4	4.7	3.6	3.8	3.6	3.6			
Other*	.2	-	.4	.1	-	-	-	-	-	-	.2	-	-			
Whole milk	1474	1600	2160	2200	1400	1627	2170	2488	2360	1080	2160	1035				
Cream	37	40	-	12	-	-	96	-	-	42	-	360				
Cattle	656	-	-	1400	-	1000	-	1900	-	800	-	700				
Hogs	349	950	-	1400	-	400	300	-	800	400	-	575				
Lamb	8	-	-	-	-	-	-	-	200	-	-	-				
Poultry	7	-	-	-	-	-	-	-	-	-	-	-				
Eggs	13	-	-	-	-	-	-	-	-	-	-	-				
Total value	\$ 277	256	158	506	92	384	244	440	288	314	149	317				

  

Items	Farm Number															Total value
	24	3	4.8	5.0	2.6	11	15	22	8	17	6	25	23			
No. of adult equivalents:																
Family	3.8	4.8	5.0	2.6	2.0	1.8	3.2	1.8	1.8	3.6	5.1	4.6				
Other*	.1	-	1.0	-	-	-	1.0	.3	.5	.4	.2	-				
Whole milk	2160	1664	2700	1080	288	1560	833	575	600	-	2160	1440				
Cream	-	24	-	-	96	-	-	83	-	-	72	72				
Cattle	675	-	1000	1000	1000	-	1145	-	1200	-	1600	1300				
Hogs	-	225	200	440	200	-	245	210	-	90	600	-				
Poultry	-	-	-	130	-	-	-	-	-	30	-	-				
Eggs	-	164	-	-	-	-	-	-	-	44	-	-				
Total value	\$ 265	197	404	308	258	109	270	83	228	144	537	339				

<sup>1</sup> Arranged in descending order of labor earnings.  
 \* Hired help or others boarded.

### 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 737 work units to 115 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 power, mach., equip., and bldg. expense per work unit shown in table 9. A second measure is that of power and machinery expenses per crop acre as shown in table 12. Another measure can be determined by calculating the proportion of farm sales needed to cover farm expenses. (Table 2: item 40 ÷ item 12). An average of 70-75 percent of the farm sales are usually needed to pay farm expenses. This, however, varies considerably among farmers. 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 & dual-purpose cows	10.0 per cow	Small grain	.7 per acre
Other dairy & 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- $\frac{1}{4}$  beef cows or bull, 1 feeder steer or heifer, 3- $\frac{1}{3}$  other beef cattle, 7 sheep, 14 lambs, 2- $\frac{1}{2}$  hogs, 5 pigs, 50 hens, or 1,100 pounds of turkeys produced.

Table 9. Measures of Farm Organization and Management Efficiency, 1960<sup>1</sup>

Items	Farm Number												
	24 farms	15	9	20	18	13	4	19	7	21	2	1	
Labor earnings	\$2334	6866	5259	4741	4417	3989	3704	3660	3591	3566	2807	2762	
Crop yields*	100	108	153	117	120	73	107	106	100	59	110	120	
Index of return for \$100 feed to prod. livestock**	100	91	115	105	134	87	101	113	127	108	83	101	
Livestock units per 100 acres***	22.5	13.7	25.8	28.3	10.4	32.3	23.3	21.4	26.8	28.9	21.1	17.8	
Size of business-- work units	399	529	430	469	484	319	397	412	552	258	324	424	
Work units per worker	266	378	307	335	372	177	305	242	276	172	249	303	
Power, mach., equip., & bldg. expense per work unit	\$8.64	6.43	9.87	8.43	7.43	8.93	6.33	11.57	4.27	9.50	8.41	11.04	
Items related to above measures:													
Index of return for \$100 feed from:													
Dairy cattle	100	88	115	91	134	--	101	129	127	--	82	93	
Market Hog production	100	--	--	--	--	--	--	80	--	84	--	166	
Feeder Pig production	100	92	--	168	--	77	--	--	--	--	84	--	
Sheep	100	--	--	--	--	84	--	--	--	144	--	--	
Chickens	100	--	--	--	--	--	--	--	--	--	--	--	
Number of animal units	46.9	41.2	41.3	57.8	39.6	72.1	47.4	52.0	56.3	73.3	41.5	45.5	
Work units:													
Crops	95	166	75	85	112	138	66	97	101	91	83	93	
Productive Livestock	284	273	349	375	279	147	330	309	445	167	230	321	
Other	20	90	6	9	93	34	1	6	6	0	11	10	
No. of workers:													
Family	1.3	1.2	1.0	1.0	1.1	1.8	1.3	1.0	2.0	1.2	1.3	1.1	
Hired	.2	.2	.4	.4	.2	--	--	.7	--	--	--	.3	
Total	1.5	1.4	1.4	1.4	1.3	1.8	1.3	1.7	2.0	1.2	1.3	1.4	
Expense per work unit:													
Power	\$4.95	3.98	4.43	4.67	4.67	4.51	4.19	5.46	2.62	6.14	5.00	5.44	
Crop mach.	1.90	1.84	2.56	2.77	1.38	1.38	1.38	3.82	.67	2.37	2.09	2.78	
Livestock equip.	.62	.27	.92	.68	.84	1.39	.10	.63	.38	.30	.23	.68	
Bldgs. & fencing	1.17	.34	1.96	.31	.54	1.65	.66	1.66	.60	.69	1.09	2.14	

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, 1960 (continued)

Items	Farm Number													
	5	24	3	26	12	11	16	8	17	6	25	23		
Labor earnings	\$2531	2326	2128	2095	1466	1180	1137	694	594	211	-639	-1049	-2027	
Crop yields*	104	90	100	118	118	92	70	87	69	98	139	76	56	
Index of ret. for \$100 feed to prod. livestock**	91	108	89	93	94	113	98	92	98	97	78	68	93	
Livestock units per 100 acres***	8.9	16.0	40.1	21.8	29.1	22.9	18.2	25.1	18.8	14.4	38.6	24.8	12.2	
Size of business														
--work units	370	498	367	570	337	396	310	265	246	318	115	737	456	
W. u. per worker	264	237	306	317	241	189	310	189	154	227	82	491	268	
Power, mach., equip., & bldg. exp. per work unit	\$5.93	7.92	7.51	10.94	8.94	7.29	7.87	9.84	10.42	7.38	14.99	7.21	8.96	
Items related to above measures:														
Index of return for \$100 feed from:														
Dairy cattle	91	108	90	93	90	108	78	93	139	97	--	68	93	
Hogs - market hogs	85	--	85	--	--	--	--	--	--	--	--	--	--	
Feeder pigs	--	--	--	--	97	122	--	85	--	--	74	--	--	
Sheep	--	--	--	--	--	--	132	--	40	--	--	--	--	
Chickens	--	--	84	--	--	--	--	--	--	--	116	--	--	
No. of animal units	25.3	48.6	46.5	68.6	39.9	39.9	40.3	33.1	35.2	30.7	39.0	69.4	41.4	
Work units:														
Crops	68	143	81	119	77	87	88	61	82	58	20	174	125	
Produce livestock	171	333	284	447	260	292	222	204	144	260	92	563	322	
Other	131	22	2	4	0	17	0	0	20	0	3	0	9	
No. of workers:														
Family	1.4	2.0	1.2	1.7	1.3	2.0	1.0	1.0	1.2	1.1	1.0	1.2	1.7	
Hired	--	.1	--	.1	.1	.1	--	.4	.4	.3	.4	.3	--	
Total	1.4	2.1	1.2	1.8	1.4	2.1	1.0	1.4	1.6	1.4	1.4	1.5	1.7	
Exp. per work unit:														
Power	\$3.50	4.51	4.91	6.58	5.69	3.75	5.65	5.81	5.79	3.83	9.02	3.79	4.77	
Crop mach.	1.75	2.13	1.17	2.02	2.57	1.95	.88	1.56	1.50	1.32	1.56	1.73	2.53	
Livestock equipment	.41	.18	.35	1.08	.20	.47	.50	.58	1.90	.33	1.25	.85	.30	
Bldgs. & fencing	.27	1.10	1.08	1.26	.48	1.12	.84	1.89	1.23	1.90	3.16	.84	1.36	

Table 10. Distribution of Acres in Farm, 1960 <sup>1</sup>

Crop	Ave. of 24 farms	Farm Number											
		15	9	20	18	13	4	19	7	21	2	1	
Oats for grain and silage	31.8	15	14	11	12.0	36	15	35	15	23	31	51	
Other small grains	1.9	--	--	--	--	11	--	--	16	--	--	--	
Total small grains	33.7	15	14	11	12.0	47	15	35	31	23	31	51	
Corn grain	27.6	146	23	20	--	114	--	42	--	62	17	34.5	
Corn silage & fodder	28.6	37	17	30	31.0	17	30	20	40	12	27	22	
Total cultivated crops	56.2	183	40	50	31.0	131	30	62	40	74	44	56.5	
Alfalfa & alfalfa mix hay	35.1	15	52	33	31.0	29	38	50	53	42	39	33.5	
Red clover hay	5.2	--	--	--	--	--	--	--	--	--	--	--	
Timothy or brom hay	1.6	8	--	25	5.0	--	--	--	--	--	--	--	
Other hay & seed crops	5.5	18	10	--	--	--	5	--	35	--	--	19	
T. tillable land in hay	47.4	41	62	58	36.0	29	43	50	88	42	39	52.5	
Alfalfa & alfalfa mix pasture	22.8	5	4	35	61.0	16	20	49	20	70	4	--	
Other tillable pasture	2.6	20	--	--	--	--	11	--	--	--	--	--	
Total tillable land in pasture	25.4	25	4	35	61.0	16	31	49	20	70	4	--	
Soil bank	.8	--	--	--	--	--	10	--	--	--	--	--	
Tillable land not cropped	7.9	12	--	--	--	--	--	27	13	32	--	--	
Total tillable land	171.4	276	120	154	140	223	129	223	192	241	118	160	
Wild hay	11.6	--	--	15	140	--	8	--	--	--	13.5	95	
Non-tillable pasture	43.3	25	40	35	100	--	66	20	18	13	65.5	40	
Timber not pastured, roads, waste, and farmstead	97.3	242	58	81	247	92	37	37	410	111	43	15	
Total acres in farm	323.6	550	218	285	627	315	240	280	620	365	240	310	
Percent land tillable	53	50	55	54	22	71	54	80	31	66	49	52	

<sup>1</sup> Arranged in descending order of labor earnings.

Table 10. Distribution of Acres in Farm, 1960 (continued)

Crop	Farm Number															
	5	24	3	26	12	11	16	22	8	17	6	25	23			
Oats for grain and silage	54	89	30	71	35	43	--	31	26	20	12	38	55			
Other sm. grains	--	--	--	--	--	--	--	--	--	--	--	6	12			
T. sm. grain	--	89	30	71	35	43	--	31	26	20	12	44	67			
Corn grain	--	--	20	6	12	40	32	4	20	6	--	20	44			
Corn sil. or fodder	--	31	32	53	38	16	22	26	30	19	5	90	43			
T. cult. crops	--	31	52	59	50	56	54	30	50	25	5	110	87			
Alfalfa and alfalfa mixed hay	22	113	30	65	12	26	55	27	37	41	16	73	37			
Red clover hay	--	--	--	--	--	--	--	--	--	--	--	--	--			
Timothy or brome hay	--	--	--	--	--	--	--	--	--	--	--	--	--			
Other hay and seed crops	--	--	--	--	--	--	27	--	7	--	--	10	--			
Total tillable land in hay	22	113	30	65	12	26	82	27	44	41	16	83	37			
Alfalfa and alfalfa mix. pasture	--	20	--	20	--	--	83	27	29	41	5	21	14			
Other till. pasture	--	--	--	--	--	--	--	3	9	--	--	22	--			
Total tillable land in pasture	--	20	--	20	--	--	83	30	38	41	5	43	14			
Soil bank	--	--	--	--	--	--	--	--	10	--	--	--	--			
Tillable land not cropped	18	--	--	--	--	--	--	--	19	61	--	--	9			
Total tillable land	94	253	112	215	97	125	219	118	187	188	38	280	214			
Wild hay	70	--	4	--	14	14	--	--	--	--	--	--	--			
Non-tillable pasture	120	50	--	100	26	35	2	14	46	25	63	--	126			
Timber not pastured, roads, waste, and farmstead	76	122	61	85	23	66	59	28	7	87	4	40	210			
Total acres in farm	360	425	177	400	160	240	280	160	240	300	105	320	550			
Percent land tillable	26	60	63	118	61	52	78	74	78	63	36	88	39			

Table 11. Crop Yields per Acre, 1960 1

Crop	Ave. of farms raising each crop	Farm Number														
		15	9	20	18	13	4	19	7	21	2	1	5			
Oats silage, tons	5.2	--	--	9.1	--	--	--	--	--	--	--	--	--	--	--	4.5
Oats grain, bu.	39.0	40.0	70.0	--	65.0	12.5	60.7	34.3	40.0	24.3	37.3	41.2	31.7			
Corn grain, bu.	38.8	38.5	73.9	20.0	--	26.2	--	61.2	--	17.6	40.3	34.8	--			
Corn silage, tons	5.5	8.8	9.2	6.0	4.2	7.1	4.3	2.5	7.5	3.0	6.0	9.1	--			
Alfalfa & alfalfa mix, hay, tons	1.6	1.5	2.0	1.8	2.2	1.5	1.7	1.5	.9	1.2	1.8	1.6	2.3			
Timothy & brome hay, tons	1.1	1.3	--	1.6	1.4	--	--	--	--	--	--	--	--			
Annual hay, tons	.9	.7	1.0	--	--	--	.8	--	1.0	--	--	1.6	--			
Wild hay, tons	1.0	--	--	1.0	1.0	--	.8	--	--	--	2.2	--	.7			

  

Crop	Ave. of farms raising each crop	Farm Number														
		24	3	26	12	11	16	22	8	17	6	25	23			
Oats silage, tons	--	--	1.9	--	--	--	--	--	--	--	--	--	--	--	--	--
Oats grain, bu.	38.0	38.2	36.6	60.0	27.3	--	--	32.0	26.9	25.0	50.0	50.0	17.0			
Corn grain, bu.	--	30.5	35.0	58.3	22.5	38.8	50.0	50.0	45.0	66.7	--	20.0	18.2			
Corn silage, tons	5.2	5.6	5.3	5.0	7.2	4.5	4.0	4.0	3.3	4.5	6.0	4.4	4.2			
Alfalfa & alfalfa mix hay, tons	1.2	1.7	2.7	1.0	2.3	.6	1.5	.9	1.7	1.7	2.3	.6	.8			
Timothy & brome hay, tons	--	--	--	--	--	--	--	--	--	--	--	--	--			
Annual hay, tons	--	--	--	--	--	.7	--	--	.2	--	--	1.3	--			
Wild hay, tons	--	1.0	--	1.1	0	--	--	--	--	--	--	--	--			

1 Arranged by descending order of labor earnings.





Table 14. Factors of Cost and Returns from Dairy Cows, 1960<sup>1</sup>

Items	Farm Number										
	Ave. of 21 farms	15	1	9	20	17	24	2	26	18	3
Pounds of butterfat per cow	344	453	448	396	392	372	369	367	359	358	352
Pounds of milk per cow	9644	12880	12909	10453	11187	8858	11335	10601	10670	10971	10072
Ave. test of milk (percent)	3.6	3.5	3.5	3.8	3.5	4.2	3.4	3.5	3.4	3.3	3.5
Price per lb. BF sold (cents)	91.8	85.9	99.8	95.5	97.3	83.7	85.6	85.9	99.5	99.5	88.0
Price per cwt. milk sold	3.34	3.02	3.46	3.62	3.41	3.51	2.88	3.36	3.34	3.23	3.07
Feed per cow, lbs.:											
Corn	1492	1504	4041	1516	797	2082	1372	---	1322	1394	1453
Small grain	962	270	1531	1269	609	559	1612	186	1227	1484	226
Commercial feeds	691	2567	820	453	1603	432	357	1826	730	479	365
Legume hay	4239	6948	---	6306	4636	1453	3665	6977	555	1810	6375
Other hay	1390	---	9764	---	662	5983	---	---	4630	2172	---
Total concentrates	3145	4341	6392	3238	3009	3073	3341	2012	3279	3357	2044
Total hay	5629	6948	9764	6306	5298	7436	3665	6977	5185	3982	6375
Silage	9863	14085	9133	8408	12914	7265	7968	19186	17593	6516	9875
Feed cost per cow:											
Concentrates	68.11	100.69	123.28	69.82	90.95	61.87	67.58	54.07	64.46	68.06	48.93
Roughages	81.81	113.52	97.39	88.81	88.99	79.31	53.39	128.90	94.46	49.41	94.25
Pasture	10.35	11.62	10.63	7.96	10.76	9.08	11.95	12.79	10.80	9.05	7.50
Total feed cost	160.27	225.83	231.30	166.59	190.70	150.26	132.92	195.76	169.72	126.52	150.68
Value of produce per cow:											
Dairy product sales	301.80	366.70	423.46	373.05	375.79	272.95	309.14	310.24	325.71	345.07	290.08
Used in home	5.35	5.54	5.87	5.02	5.09	2.05	5.77	4.88	4.75	4.17	7.63
Fed	9.22	18.03	15.87	---	---	38.17	1.07	1.06	23.04	6.95	12.92
Net inc. in value of cows	2.52	-2.97	-.82	-5.20	-28.96	3.17	-13.57	4.78	-.39	-6.36	-15.44
Total value produced	318.89	387.30	444.38	372.87	351.92	316.34	302.41	320.96	353.11	349.83	295.19
Ret. above feed cost per cow:	158.62	161.47	213.08	206.28	161.22	166.08	169.49	125.20	183.39	223.31	144.51
Returns for \$100 of feed	\$203	171	192	224	185	211	228	164	208	277	196
Feed cost per lb. BF (cents)	46.5	49.9	51.6	42.1	48.6	40.4	36.0	53.3	47.3	35.4	42.8
Number of cows	23.9	21.3	25.4	31.4	30.2	23.4	25.1	17.2	32.4	22.1	16.0

<sup>1</sup> Arranged in descending order of pounds of butterfat per cow.

Table 11. Factors of Cost and Returns from Dairy Cows, 1960 (continued)

Items	Farm Number										
	22	4	19	11	5	25	12	16	8	23	7
Lbs. of b.f. per cow	348	338	334	333	327	305	305	296	279	255	247
Lbs. of milk per cow	9966	9877	9173	10029	9640	8849	8465	8779	7023	5363	5430
Ave. test of milk (pct)	3.5	3.4	3.6	3.3	3.3	3.4	3.6	3.4	4.0	4.7	4.6
Price per lb. B.F. sold (cents)	98.0	85.7	96.7	87.0	87.0	99.7	85.4	99.2	94.8	79.7	93.0
Price per cwt. milk sold	3.42	2.94	3.52	2.88	2.91	3.43	3.08	3.34	3.74	3.78	4.25
Feeds per cow, lbs.:											
Corn	1840	1098	1176	1625	---	1063	1345	4158	1050	2462	441
Small grain	1393	589	316	1352	2470	924	918	---	2380	821	74
Commercial feeds	1153	334	198	582	32	1065	490	401	450	145	21
Legume hay	7143	3569	5714	3568	6400	7273	3432	6182	5625	1392	---
Other hay	---	627	---	563	---	---	1078	---	---	---	3717
Total concentrates	4386	2021	1690	3559	2502	3052	2753	4559	3880	3428	136
Total hay	7143	4196	5714	4131	6400	7273	4510	6182	5625	1392	3717
Silage	6667	9961	7563	7700	6240	15757	10294	7272	6250	6520	9947
Feed cost per cow:											
Concentrates	100.06	57.94	34.18	74.89	53.38	65.01	60.43	89.04	79.38	63.21	3.08
Roughages	90.53	70.22	79.33	62.56	81.12	122.12	68.70	83.91	75.16	37.84	58.16
Pasture	10.37	12.84	9.24	13.38	11.60	12.07	10.30	9.24	3.12	10.62	12.43
Total feed cost	200.96	141.00	122.75	150.83	146.10	199.20	139.43	182.19	157.66	111.67	73.67
Value of produce per cow:											
Dairy product sales	331.13	272.43	303.78	281.94	272.98	291.41	257.07	283.62	256.21	186.33	208.60
Used in home	3.91	6.38	8.16	1.60	10.33	2.93	3.71	6.62	7.05	5.10	5.88
Fed	5.24	14.68	10.78	6.30	1.49	8.19	---	2.52	---	12.75	14.74
Net increase in value of cows	-17.66	-17.33	-5.35	3.14	-2.15	-7.70	1.41	-5.65	190.81	-13.61	-7.22
Total value produced	322.62	276.16	317.37	292.98	282.65	294.83	262.19	287.11	454.07	190.57	221.93
Return above feed cost per cow:	121.66	135.16	194.62	142.15	136.55	95.63	122.76	104.92	296.41	78.90	148.26
Returns for \$100 of feed	\$161	196	259	194	193	148	188	158	288	171	301
Feed cost per lb. B.F. (cents)	57.7	41.7	36.8	45.3	44.6	65.4	45.7	61.6	56.6	43.8	29.8
Number of cows	14.7	25.5	23.8	21.3	12.5	49.5	20.4	16.5	8.0	27.3	38.2

Table 15. Feed Costs and Returns from Other Dairy Cattle, 1960<sup>1</sup>

Items	Ave. of Farm Number														
	21 farms	15	1	9	20	17	21	2	26	18	3				
Feed per head, lbs.:															
Concentrates	299	295	427	92	291	613	145	367	56	413	203				
Hay and fodder	1845	937	1151	1515	2128	685	2132	2083	3636	3610	2902				
Silage	2148	6125	1818	1414	2926	---	2004	4418	---	1031	2694				
Skim milk	---	---	---	---	---	---	---	---	---	---	---				
Whole milk	279	750	382	---	---	1649	18	27	348	148	335				
Total feed costs per head	\$43.90	59.63	46.71	22.60	39.18	91.73	35.41	39.76	42.41	39.70	58.98				
Net increase in value	76.65	102.78	68.72	70.71	71.01	87.37	68.85	68.94	54.00	95.12	81.22				
Return above feed cost	32.75	43.15	22.01	48.11	31.83	-4.36	33.44	29.18	11.59	55.42	22.24				
Return for \$100 of feed	\$194	172	147	313	181	95	194	173	127	240	138				
Number of head of cattle	28.6	16.0	33.0	19.8	37.6	14.6	46.9	24.0	69.3	34.9	19.3				

26

Items	Farm Number														
	22	4	19	11	5	25	12	16	8	23	7				
Feed per head, lbs.:															
Concentrates	321	131	610	6	647	523	853	144	---	144	---				
Hay and fodder	484	1789	769	1461	1282	4193	1513	2546	1980	567	1385				
Silage	2064	---	2857	913	1282	---	3784	926	2165	4043	4654				
Skim milk	---	---	---	---	---	---	---	---	---	---	---				
Whole milk	155	287	431	196	26	338	---	62	---	305	399				
Total feed costs per head	\$28.73	30.93	53.78	20.86	35.17	66.39	46.85	45.65	31.47	39.70	46.14				
Net increase in value	\$100.18	60.86	121.84	73.71	56.77	56.52	74.25	70.22	84.86	81.62	60.02				
Return above feed cost	71.45	29.93	68.06	52.85	21.60	-9.87	27.40	24.57	53.39	41.92	13.88				
Return for \$100 of feed	\$349	197	227	353	161	85	158	154	270	206	130				
Number of head of cattle	15.5	40.8	18.2	21.9	23.4	38.4	18.5	21.6	23.1	28.2	36.1				

<sup>1</sup> Arranged by descending order of pounds of butterfat per cow.



Table 17. Feed Costs and Returns from Market Hogs, 1960 <sup>1</sup>

Items	Ave. of					
	5 farms	1	21	3	5	19
Feed per cwt. hogs produced, lbs.:						
Corn	269	310	413	265	13	314
Small grain	92	39	45	115	192	67
Commercial Feeds	<u>53</u>	<u>7</u>	<u>48</u>	<u>112</u>	<u>127</u>	<u>41</u>
Total concentrates	414	386	506	422	332	422
Feed cost per cwt. hogs produced	\$8.79	6.89	10.23	9.23	8.52	9.07
Net increase in value per cwt. hogs produced	\$18.09	24.42	18.33	16.68	15.49	15.51
RETURNS ABOVE FEED COST PER CWT. HOGS PRODUCED	\$9.30	17.53	8.10	7.45	6.97	6.44
RETURNS FOR \$100 OF FEED	\$214	355	179	181	182	171
Price received per cwt. hogs sold	\$8.94	11.50	16.29	15.65	15.19	15.88
Average weight per hog sold	278	395	242	306	201	244
Total no. of litters raised	16.4	1	47	13	1	20
No. of pigs born per litter	8.9	5.0	10.0	9.8	11	8.9
No. of pigs weaned per litter	7.4	4.0	6.3	8.9	11	6.9
Pounds of hogs produced	22121	4445	58005	26078	2705	19370

<sup>1</sup> Arranged by descending order of return above feed cost per cwt. of hogs produced.

Table 18. Feed Costs and Returns from Feeder Pigs, 1961

Items	Ave. of 8 farms						Farm Number					
	13	12	15	20	11	2	13	12	15	20	11	2
Feed per litter, lbs.:												
Corn	2055	2138	3812	420	1315	1110	6020	2138	3812	420	1315	1110
Small grain	518	1484	246	240	--	610	984	1484	246	240	--	610
Commercial feeds	611	541	358	1703	164	753	660	541	358	1703	164	753
Total concentrates	3184	1163	1416	3172	1479	1490	7664	1163	1416	3172	1479	1490
Feed cost per litter	\$68	92	90	27	29	42	150	92	90	27	29	42
Net increase in value per litter	\$160	229	211	177	91	70	296	229	211	177	91	70
RETURN ABOVE FEED COST PER LITTER	\$92	137	121	96	62	33	146	137	121	96	62	33
Return for \$100 of feed	\$256	248	235	218	313	189	198	248	235	218	313	189
Total number of litters	27.8	40	13	14	12	27	40	11	13	20	12	27
Number of pigs born per litter	8.6	9.7	9.5	7.6	7.4	10.0	8.5	9.7	9.5	8.7	7.4	10.0
Number of pigs weaned per litter	7.4	7.5	7.6	6.9	5.9	6.4	7.4	7.5	7.6	6.9	5.9	6.4
Number of feeder pigs sold	148	33	59	49	129	422	107	33	59	49	129	422
Number of sows sold and butchered	11	4	14	2	--	6	51	4	14	11	--	6
Price received per pig sold	\$10.99	12.97	12.02	8.77	9.14	11.68	11.76	12.97	12.02	11.66	9.14	9.92
Number other hogs sold and butchered	47	62	46	37	5	4	218	62	46	5	5	1
Pounds of hogs and pigs produced	17165	11535	16035	14650	1926	22056	55959	11535	16035	14650	1926	22056

1 Arranged by descending order of return above feed cost per litter.

Table 19. Fertilizer Application, Crop Yields, and Return Over Cost of Fertilizer, 1960

Farm Number	Pounds of Nutrients applied per acre			Yields <sup>(1)</sup>		Difference in Yield	Return from difference in yield over fert. cost <sup>(2)</sup>
	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Check	Fert.		
<u>Hay</u>							
20	20	40	60	2.6	4.3	1.7	\$15.50
4	0	30	90	2.7	3.5	.8	4.50
2	0	19	56	1.8	2.2	.4	1.30
4	0	23	68	2.4	2.8	.4	.30
10	0	15	45	1.3	1.5	.2	-.75
2	0	15	45	1.8	2.0	.2	-.75
10	0	15	45	1.4	1.5	.1	-1.25
19	0	23	68	.5	.7	.2	-2.70
4	0	23	68	1.1	1.3	.2	-2.70
5	0	27	81	.5	.7	.2	-3.75
19	0	45	135	.5	.8	.3	-6.75
<u>Corn Silage</u>							
17	35	20	15	2.5	6.6	4.1	\$20.70
26	35	20	15	5.9	8.4	2.5	9.50
10	10	20	30	6.9	8.0	1.1	2.70
2	12	24	36	4.9	6.0	1.1	1.70
4	10	20	30	8.5	9.5	1.0	1.50
10	10	20	30	7.2	8.0	.8	1.40
7	20	7	39	9.7	10.7	1.0	1.35
2	10	20	30	5.1	6.0	.9	1.30
2	10	20	30	5.2	6.0	.8	.60
11	10	20	30	6.1	6.8	.7	-.10
10	10	20	30	6.3	7.0	.7	-.10
10	10	20	30	7.4	8.0	.6	-.80
11	10	20	30	6.4	7.0	.6	-.80
12	10	20	30	7.7	8.0	.3	-2.90
9	20	40	30	8.0	9.0	1.0	-3.50
4	40	45	70	9.3	10.4	1.1	-6.55
<u>Corn-Grain</u>							
12	10	35	75	50.0	112.0	62.0	\$56.35 <sup>(3)</sup>
19	49	40	42	49.8	95.6	45.8	35.63 <sup>(4)</sup>
19	46	35	35	49.8	81.7	31.9	21.45 <sup>(4)</sup>

(1) Hay and silage yields in tons per acre. Corn, barley, wheat, and oat grain in bushels per acre.

(2) Prices used in calculating return from difference in yield over cost of fertilizer:

Corn - grain	- \$1.05 per bushel	Hay (tame)	- \$15.00 per ton
Oats - grain	- .55 per bushel	Actual nitrogen	- .15 per pound
Wheat - grain	- 1.80 per bushel	Actual phosphate	- .10 per pound
Barley - grain	- .88 per bushel	Actual potash	- .05 per pound
Corn silage	- 7.00 per ton		

(3) Optimum moisture and soil.

(4) Irrigated fields. Highest yield from higher plant population.



Farm Number	Pounds of Nutrients applied per acre			Yields <sup>(1)</sup>		Difference in Yield	Return from dif- ference in yield over fert. cost <sup>(2)</sup>
	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Check	Fert.		
<u>Corn - Grain (continued)</u>							
21	10	20	30	33.3	53.1	19.8	\$15.79
15	10	20	30	51.2	69.6	18.4	14.32
2	10	39	86	44.0	67.7	21.7	13.09
21	10	20	30	52.4	65.7	13.3	8.97
3	10	20	30	60.0	72.9	12.9	8.55
23	55	35	30	25.0	43.4	18.4	6.07
11	10	20	30	51.2	60.0	8.8	4.24
2	12	24	36	52.0	60.0	8.0	2.40
2	10	20	30	31.0	35.0	4.0	-.80
11	10	20	30	36.4	40.0	3.6	-1.22
11	10	20	30	50.8	52.4	1.6	-3.30
1	28	26	30	61.9	65.8	3.9	-4.20
21	55	35	30	34.0	32.5	-1.5	-12.36 <sup>(5)</sup>
15	15	5	30	51.2	43.4	-7.8	-12.44 <sup>(5)</sup>
3	11	22	33	66.4	59.6	-6.8	-12.69 <sup>(5)</sup>
<u>Oats</u>							
26	15	5	30	19.9	40.6	20.7	\$ 7.15
10	30	10	60	36.3	57.2	20.9	3.00
19	30	10	60	35.8	55.4	19.6	2.28
1	15	5	30	62.7	74.3	11.6	2.13
3	23	8	45	30.2	45.6	15.4	1.97
12	20	7	39	21.3	33.7	12.4	1.17
19	30	10	60	23.0	38.5	15.5	.03
18	17	6	33	59.3	66.8	7.5	-.67
21	15	5	30	23.2	28.0	4.8	-1.61
10	30	10	60	38.0	50.0	12.0	-1.90
4	34	43	75	71.0	91.2	20.2	-2.04
23	30	10	60	35.3	39.2	3.9	-2.10
10	30	10	60	40.1	50.0	9.9	-3.05
4	30	10	60	51.0	60.0	9.0	-3.55
2	30	10	60	39.3	46.8	7.5	-4.37
3	23	8	45	36.8	36.5	-.3	-6.67
11	20	40	60	76.9	81.3	4.4	-7.59
<u>Wheat</u>							
21	15	5	30	11.7	20.8	9.1	\$12.13
<u>Barley</u>							
13	30	10	60	28.2	40.8	12.6	\$ 2.59

<sup>(5)</sup>Some evidence of seed damage from fertilizer placement.

NOTES: No 1960 application on check areas.  
Hay - First cut only measured.  
Very few corn acres sidedressed due to droughty condition.