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1961 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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1961 ANNUAL REPORT OF THE CENTRAL MINNESOTA FARM MANAGEMENT
SERVICE FOR T. V. A. TEST DEMONSTRATION COOPERATION

Prepared by T. R. Nodland and D. E. Erickson

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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 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, Duane Erickson 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 Duane E. Erickson, 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 and James Rabehl	3
East Otter Tail	Gerald Ness and Sherman Mandt	5
Hubbard	Wm. Dorsey and John Eix	5
Todd	Richard Brand and Loyal Hyatt	4
Wadena	Miles Rowe	5

Table 1. Summary of Farm Inventories, 1961¹

Items	Farm Number										
	7	19	4	27	21	25	20	3	12	22	
Ave. of 21 farms	335	280	294	160	365	425	380	175	160	240	
Size of farms (acres)	620	280	294	160	365	425	380	175	160	240	
Size of business* (work units)	576	526	434	443	230	698	472	373	333	323	
Dairy cattle	\$7455	\$8040	\$7310	\$7460	\$7141	\$12086	\$9720	\$5450	\$6475	\$2985	
Other livestock	--	882	--	915	--	--	105	1537	430	900	
Horses	--	--	--	--	--	--	--	--	--	--	
Crop, seed and feed	2010	3410	2162	1920	2060	3005	2331	1904	2185	1411	
Auto & truck (share)	--	644	110	--	270	1305	760	568	2048	617	
Tractors	1715	1264	82	147	460	2520	2746	1276	1512	900	
Crop & general mach.	894	11399	1566	2368	2407	3849	2934	1312	4177	1642	
Livestock equip. & sup.	2264	2568	535	156	182	3815	1111	455	297	1749	
Land	4800	12000	7084	16000	6600	20000	9712	16415	8000	7380	
Buildings, fences, etc.	4684	7796	4943	5084	2314	8550	1980	5879	4100	4060	
Total farm capital	23822	48003	23792	34050	21434	55130	31399	34796	29224	21644	
Dairy cattle	\$7835	\$7295	\$7405	\$7915	\$8326	\$13916	\$10325	\$6135	\$6190	\$3917	
Other livestock	--	1513	--	1781	--	--	71	1173	770	2100	
Horses	--	--	--	--	--	--	--	--	--	--	
Crop, seed and feed	2474	3158	3329	2000	1790	2668	1977	3028	4205	2190	
Auto & truck (share)	--	1976	351	--	180	1131	500	424	1792	356	
Tractors	1958	1092	116	122	345	2370	2379	1057	3146	800	
Crop & general mach.	751	10865	1215	3579	2093	3532	2720	985	4049	1479	
Livestock equip. & sup.	2058	2393	2591	140	120	3542	2070	365	246	1661	
Land	4800	12000	7084	16000	6600	20000	9712	16415	8000	7380	
Buildings, fences, etc.	4406	8016	6425	4845	2233	8098	2800	5597	4100	4590	
Total farm capital	\$31049	24282	48308	36382	21687	55257	32554	35179	32498	24473	

¹ Arranged in descending order by labor earnings

* See page 17 for an explanation of work units

Table 1. Summary of Farm Inventories, 1961 (continued)

Items	Farm Number												
	26	2	1	18	5	24	16	11	8	23	13		
Size of farms (acres)	400	240	361	547	357	360	320	240	240	550	315		
Size of business (work units)	615	346	440	382	312	464	338	387	226	444	285		
Dairy cattle	\$14580	\$2775	\$7205	\$8130	\$3375	\$10110	\$4740	\$6545	\$2285	\$6425	\$ --		
Other livestock	--	512	1476	--	160	--	805	450	5008	--	12542		
Horses	--	--	300	--	--	--	--	--	--	--	500		
Crop, seed and feed	2783	1827	2480	2563	1484	4249	1563	2445	2541	2467	3688		
Auto & truck (share)	1106	607	1011	768	730	219	90	--	--	300	756		
Tractors	722	3050	2620	1374	487	1470	297	2796	446	2290	2480		
Crop & general mach.	2316	2098	3317	2645	1508	2976	764	3735	1336	4546	4338		
Livestock equip. & sup.	2866	52	2640	2973	1512	137	1550	56	134	572	1392		
Land	5000	9840	4300	5410	4500	5800	8800	10000	5450	9700	9500		
Buildings, fences, etc.	7595	3844	10352	5155	1073	3646	3366	4125	2798	10700	3894		
Total farm capital	\$36968	24605	35701	29018	14829	28607	21975	30152	19998	37000	39090		
Dairy cattle	\$15122	\$2840	\$8220	\$8755	\$3450	\$10315	\$4615	\$5530	\$2850	\$5965	\$ --		
Other livestock	--	645	1972	--	324	--	805	--	4947	--	7598		
Horses	--	--	300	--	--	--	--	--	--	--	1425		
Crop, seed and feed	3050	1516	3614	2247	990	2592	1005	3261	751	2342	2112		
Auto & truck (share)	1066	405	2201	576	1345	49	--	1337	--	200	567		
Tractors	1704	2640	2120	1146	375	1109	170	2393	343	1965	2166		
Crop & general mach.	4924	1755	3656	2798	1272	4142	938	6500	1027	4037	3631		
Livestock equip. & sup.	2438	--	2514	2568	1369	357	1439	36	101	503	2246		
Land	5000	9840	4300	5410	4500	5800	8800	10000	5450	9700	9500		
Buildings, fences, etc.	6889	4057	9758	4900	1279	3330	3186	3685	2666	10030	3534		
Total farm capital	\$40193	23698	38655	28400	14904	27694	20958	32742	18135	34742	32779		

Capital Investment

The average value of capital used per farm is shown in table 1. Capital investment per farm varied from \$55,198 to \$14,866. 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 21 farmers included in this report has average farm sales of \$13,194 and farm purchases of \$9,130, or a net cash income of \$4,064 per farm (table 2). Farm purchases amounted to 69 percent of total farm sales leaving 31 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 \$7,436 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>\$4726</u>	
Value of cows on beginning of year inventory	\$4800	
Purchases	--	
Value of heifers transferred to cow herd	200	
Total	<u>\$5000</u>	
Net change in value of cows		-274
Returns and net increases from milk cows		<u>\$6159</u>

Table 2. Summary of Farm Earnings (Cash Statement) 1961¹

Items	Ave. of	Farm Number					
	24 farms	7	19	4	27	21	25
<u>Farm Receipts</u>							
1. Dairy cattle	\$1819	\$1233	\$2067	\$2660	\$1996	\$ --	\$1064
2. Dairy products	7274	10429	7437	8034	9129	--	14873
3. Beef cattle	408	--	--	--	--	--	--
4. Hogs	2068	--	6070	--	1985	10592	--
5. Sheep	294	--	--	--	--	2023	--
6. Horses	26	--	--	--	--	--	--
7. Poultry	14	--	--	--	80	--	--
8. Eggs	35	--	--	--	270	--	--
9. Crops	515	800	428	101	--	1100	2030
10. Mach. & equipment sold	166	114	281	358	102	165	353
11. Inc. from work off farm	216	90	81	--	--	39	75
12. Miscellaneous	359	203	732	15	--	2354	776
13. Total farm sales	<u>\$13194</u>	<u>12869</u>	<u>17096</u>	<u>11168</u>	<u>13562</u>	<u>16273</u>	<u>19171</u>
14. Inc. in farm capital	514	461	305	4724	2332	253	127
15. Family living from farm	301	328	259	494	612	168	176
16. Total farm receipts	<u>\$14009</u>	<u>13658</u>	<u>17660</u>	<u>16386</u>	<u>16506</u>	<u>16694</u>	<u>19474</u>
<u>Farm Expenses</u>							
17. Dairy cattle bought	\$100	\$ --	\$ --	\$ --	\$ --	\$ --	\$105
18. Beef cattle bought	83	--	--	--	--	1216	--
19. Hogs bought	98	--	45	--	24	--	--
20. Sheep bought	14	--	--	--	--	220	--
21. Horses bought	39	--	--	--	--	--	--
22. Poultry bought	3	--	--	--	--	--	--
23. Misc. livestock expense	371	29	292	423	395	111	509
24. Feed	2361	650	1377	894	3566	4777	3128
25. Fertilizers	407	184	780	416	574	723	443
26. Other crop expenses	347	287	561	399	92	332	695
27. Custom work hired	840	679	640	490	307	807	983
28. Cas, oil, grease (farm share)	705	437	857	811	447	623	1338
29. Rep. tract., trucks, autos (farm share)	352	301	216	222	438	175	674
30. Repair farm real estate	96	--	79	44	47	116	191
31. Rep. crop & gen. machinery	279	174	223	258	390	87	538
32. Rep. livestock equipment	97	87	37	--	206	129	182
33. Wages of hired labor	153	--	680	56	186	25	203
34. Electricity expense (farm share)	245	157	181	159	50	139	448
35. Real estate & personal property taxes	517	524	642	615	561	391	774
36. Tel. & gen. farm expense	227	333	106	186	350	210	252
37. Total cash oper. expense	<u>\$7334</u>	<u>3842</u>	<u>6716</u>	<u>4973</u>	<u>7633</u>	<u>10081</u>	<u>10463</u>
38. Mech. power bot. (farm share)	491	844	1575	298	--	--	250
39. Crop & gen. mach. bought	756	75	740	--	1566	225	450
40. Livestock equip. bought	254	--	50	2439	--	--	--
41. New real estate improvement	295	--	761	1664	--	117	--
42. Total farm purchases	<u>\$9130</u>	<u>4761</u>	<u>9842</u>	<u>9374</u>	<u>9199</u>	<u>10423</u>	<u>11163</u>
43. Decrease in farm capital	--	--	--	--	--	--	--
44. Interest on farm capital	1540	1203	2408	1308	1761	1078	2760
45. Unpaid family labor	555	1800	--	450	630	300	600
46. Board fur. hired labor	50	--	--	6	7	--	60
47. Total farm expenses	<u>\$11275</u>	<u>7764</u>	<u>12250</u>	<u>11138</u>	<u>11597</u>	<u>11801</u>	<u>14593</u>
48. Labor earnings	\$2734	5894	5410	5248	4909	4893	4870

¹ Arranged in descending order of labor earnings

Table 2. Summary of Farm Earnings (Cash Statement) 1961 (continued)

Items	Farm Number						
	20	3	12	22	26	2	1
<u>Farm Receipts</u>							
1. Dairy cattle	\$3777	\$980	\$1897	\$842	\$4107	\$1563	\$2067
2. Dairy products	11810	6427	6123	5449	11845	5865	9622
3. Beef cattle	--	--	--	--	--	--	--
4. Hogs	44	4908	1775	3364	--	1992	3322
5. Sheep	--	--	--	--	--	--	--
6. Horses	--	--	--	--	--	--	--
7. Poultry	--	--	--	--	--	--	--
8. Eggs	--	468	--	--	--	--	--
9. Crops	--	338	--	1325	735	223	--
10. Mach. & equipment sold	79	251	103	196	300	107	204
11. Inc. from work off farm	461	55	--	--	472	310	67
12. Miscellaneous	810	37	108	50	555	53	45
13. Total farm sales	\$16981	13464	10006	11226	18014	10113	15327
14. Increase in farm capital	1156	383	3274	2830	3224	--	2954
15. Family living from farm	393	316	436	282	238	259	309
16. Total farm receipts	\$18530	14163	13716	14338	21476	10372	18590
<u>Farm Expenses</u>							
17. Dairy cattle bought	\$228	\$ --	\$225	\$712	\$130	\$ --	\$50
18. Beef cattle bought	--	--	--	--	--	--	--
19. Hogs bought	16	50	285	949	--	50	555
20. Sheep bought	--	--	--	--	--	--	--
21. Horses bought	--	--	--	--	--	--	--
22. Poultry bought	--	--	11	8	--	--	--
23. Misc. livestock expense	570	441	211	568	408	195	557
24. Feed	3387	3186	1771	2279	3052	1505	4016
25. Fertilizers	249	605	248	321	449	290	682
26. Other crop expenses	353	486	352	307	326	378	395
27. Custom work hired	1105	349	226	873	1951	625	718
28. Gas, oil, grease (farm share)	801	626	415	531	1415	523	809
29. Rep. tract., trucks, autos (farm share)	434	344	190	304	702	104	438
30. Repair farm real estate	56	210	6	70	108	11	227
31. Rep. crop & gen. machinery	278	107	184	170	619	134	329
32. Rep. livestock equipment	144	37	98	--	321	90	123
33. Wages of hired labor	227	47	111	--	945	8	375
34. Electricity expense (farm share)	346	249	246	267	359	200	338
35. Real estate & personal property taxes	416	279	516	384	699	682	426
36. Tel. & gen. farm expense	178	412	156	145	375	108	58
37. Total cash oper. expense	\$8788	7428	5251	7888	11859	4903	10096
38. Mech. power bot. (farm share)	100	--	2000	--	1375	--	1738
39. Crop & gen. mach. bought	485	--	465	110	3297	--	1225
40. Livestock equip. bought	1179	--	--	72	60	--	110
41. New real estate improvement	964	--	--	823	--	500	--
42. Total farm purchases	\$11516	7428	7716	8893	16591	5403	13169
43. Decrease in farm capital	--	--	--	--	--	906	--
44. Interest on farm capital	1599	1749	1543	1153	1929	1208	1859
45. Unpaid family labor	450	300	330	--	--	375	900
46. Board fur. hired labor	160	--	88	440	--	--	240
47. Total farm expenses	\$13725	9477	9677	10486	18520	7892	16168
48. Labor earnings	\$4805	4686	4039	3852	2956	2480	2422

Table 2. Summary of Farm Earnings (Cash Statement) 1961 (continued)

	Farm Number							
	18	5	24	16	11	8	23	13
<u>Farm Receipts</u>								
1.	\$2848	\$1282	\$3823	\$1655	\$2086	\$1155	\$1104	\$ --
2.	8621	3838	9192	5506	10087	1280	7184	--
3.	--	--	--	--	--	--	--	8556
4.	--	488	--	--	1127	--	--	7770
5.	--	--	--	948	--	2906	--	302
6.	--	--	--	--	--	--	--	544
7.	--	--	--	--	--	--	--	209
8.	--	--	--	--	--	--	--	--
9.	232	176	37	--	--	923	1606	512
10.	123	148	157	148	102	62	62	259
11.	503	1068	408	--	--	323	332	303
12.	576	217	175	32	--	130	674	--
13.	\$12903	7217	13792	8289	13402	6779	10962	18455
14.	--	74	--	--	2590	--	--	--
15.	86	315	299	185	34	178	470	492
16.	\$12989	7606	14091	8474	16026	6957	11432	18947
<u>Farm Expenses</u>								
17.	\$455	\$ --	\$ --	\$ --	\$ --	\$ --	\$185	\$ --
18.	--	--	--	--	--	--	--	520
19.	--	--	--	--	--	--	--	85
20.	--	--	--	--	--	70	--	--
21.	--	--	--	--	--	--	--	820
22.	--	--	--	--	--	--	--	37
23.	475	187	601	211	368	441	227	578
24.	2795	197	869	1453	1930	2035	480	6239
25.	411	100	576	116	489	217	313	367
26.	298	154	291	239	442	148	403	342
27.	1131	583	184	550	3752	404	1282	--
28.	769	614	908	819	524	263	615	667
29.	183	216	611	305	672	92	532	247
30.	111	89	156	236	22	87	134	22
31.	381	280	294	94	252	93	732	234
32.	34	--	70	32	152	34	118	149
33.	56	--	74	79	--	30	--	99
34.	307	120	210	245	188	233	236	472
35.	530	348	595	357	663	373	588	489
36.	170	207	155	93	609	194	215	263
37.	\$8106	3095	5594	4829	10063	4714	6060	11630
38.	--	750	52	--	1338	--	--	--
39.	425	100	2599	314	3248	--	535	--
40.	--	--	327	16	--	--	70	1016
41.	--	260	--	--	--	113	1000	--
42.	\$8531	4205	8572	5159	14649	4827	7665	12646
43.	619	--	913	1017	--	1862	2258	6311
44.	1435	744	1408	1073	1572	953	1794	1797
45.	150	525	1800	--	113	375	1200	1350
46.	20	--	--	32	--	--	--	--
47.	\$10755	5474	12693	7281	16334	8017	12917	22104
48.	\$2234	2132	1398	1193	-308	-1060	-1485	-3157

Table 3. Summary of Farm Earnings (Enterprise Statement) 1961¹

Items	Ave. of Farm Number										
	21 farms	7	19	4	27	21	25	20	3	12	22
RETURNS AND NET INCREASES											
Dairy cows	\$7436	\$10499	\$7510	\$8738	\$9794	\$	\$15073	\$11623	\$6554	\$6229	\$5718
Other dairy cattle	2170	2115	1683	2756	2572	--	3181	4681	1823	1560	1005
Beef cattle	149	--	--	--	--	210	--	--	--	--	--
Hogs	2143	--	6746	--	3162	9999	--	74	4617	1936	3656
Sheep	306	--	--	--	--	2323	--	--	--	--	--
Chickens	67	--	--	--	271	--	--	--	556	40	52
Total livestock	\$12271	12614	15939	11494	15799	12532	18254	16378	13550	9765	10431
Value of feed fed	6685	4236	6653	5959	8923	7050	11121	7546	7156	5388	5951
Lvstk. return											
over feed	\$5586	8378	9286	5535	6876	5482	7133	8832	6394	4377	4480
Crops; seed & feed	3969	4137	3846	5309	4340	2048	8132	3176	4411	5037	5118
Income from labor											
off farm	117	22	24	--	--	--	30	130	--	--	--
Miscellaneous	359	202	733	15	--	2354	775	810	38	108	49
Total returns & net increases	\$10031	12739	13889	10859	11216	9884	16070	12948	10843	9522	9647
EXPENSES AND NET DECREASES											
Truck (farm share)	\$239	\$	\$143	\$245	\$285	\$	\$378	\$214	\$302	\$483	\$211
Auto (farm share)	258	--	353	140	89	235	302	318	340	31	437
Tractors & horses	778	1203	674	522	427	623	1447	1219	636	600	351
Elec. motors exp. (farm share)	257	156	188	170	50	139	523	367	249	256	268
Hired power	499	378	384	186	156	422	550	726	204	135	427
Total power	\$2031	1737	1742	1263	1007	1419	3200	2844	1731	1505	1694
Crop & gen. mach.	851	383	1472	762	827	656	1373	765	442	777	540
Livestock equipment	258	293	262	163	222	190	455	364	126	150	158
Buildings, fences, etc.	464	278	620	226	286	315	643	200	492	5	362
Misc. lvstk. expense	371	28	292	423	395	111	509	570	441	211	568
Labor	1038	2066	936	665	898	621	1225	1208	485	619	790
Real estate taxes	354	399	396	456	355	279	560	231	178	391	251
Personal property tax	163	125	246	159	206	112	214	185	101	125	134
Insurance	101	145	35	77	164	76	167	98	246	74	111
General farm expense	126	188	70	109	186	134	85	79	166	83	34
Interest on farm cap.	1540	1203	2408	1308	1761	1078	2760	1599	1749	1543	1153
Total exp. and net decreases	\$7297	6845	8479	5611	6307	4991	11191	8143	6157	5483	5795
Labor earnings	\$2734	5894	5410	5248	4909	4893	4879	4805	4686	4039	3852

¹ Arranged by descending order of labor earnings

Table 3. Summary of Farm Earnings (Enterprise Statement) 1961 (continued) *

Items	Farm Number												
	26	2	I	18	5	24	16	11	8	23	13		
RETURNS AND NET INCREASES													
Dairy cows	\$11901	\$6030	\$9730	\$8799	\$4018	\$9531	\$5814	\$10240	\$1380	\$6963	\$ --		
Other dairy cattle	4774	1662	3173	3098	1505	4061	1691	1086	1798	1356	--		
Beef cattle	--	--	--	--	--	--	--	--	--	--	2926		
Hogs	--	2155	3323	--	700	--	--	677	--	--	7947		
Sheep	--	--	--	--	--	--	948	--	2775	--	390		
Chickens	--	--	--	--	--	--	--	--	--	--	480		
All productive livestock	16675	9847	16226	11897	6223	13592	8453	12003	5953	8319	11743		
Value of feed fed	10260	5276	7920	6396	2750	5960	4413	7165	5027	4394	10838		
Livestock return													
over feed	6415	4571	8306	5501	3473	7632	4040	4838	926	3925	905		
Crops, seed and feed	7361	2995	3961	2636	1919	2532	1762	4986	1760	4473	3411		
Income from labor													
off farm	179	251	67	267	923	146	--	--	224	90	102		
Miscellaneous	555	53	45	575	217	175	33	--	130	674	--		
Total returns & net increases	14510	7870	12379	8979	6532	10485	5835	9824	3040	9162	4418		
EXPENSES AND NET DECREASES													
Truck (share)	339	--	194	628	183	689	369	344	--	--	--		
Auto (share)	775	481	671	--	93	204	--	134	80	353	383		
Tractor & horses	1031	602	1225	537	595	951	825	910	246	1077	641		
Elec. exp. (share)	359	200	338	310	120	217	245	297	233	236	472		
Hired power	1212	305	424	636	305	61	321	2691	234	727	--		
Total power	3716	1588	2852	2111	1296	2122	1760	4376	793	2393	1496		
Crop & gen. mach.	1119	568	1220	560	603	1628	245	936	387	1802	810		
Lvstk. equip.	810	142	358	439	143	177	159	172	67	257	311		
Buildings, fences, etc.	814	297	821	366	143	472	416	462	331	1804	382		
Misc. lvstk. ex.	408	195	557	475	187	601	211	368	441	228	578		
Labor	1685	602	1805	660	731	1929	328	973	562	1567	1449		
Real estate taxes	488	502	288	337	202	361	248	522	263	387	346		
Per. property taxes	210	180	138	193	146	234	109	141	110	201	143		
Insurance	158	55	27	91	29	73	31	125	100	128	119		
Gen. farm expenses	217	53	32	78	177	82	62	485	93	87	144		
Interest on farm capital	1929	1208	1859	1435	743	1408	1073	1572	953	1793	1797		
Total expenses & net decreases	11554	5390	9957	6745	4400	9087	4642	10132	4100	10647	7575		
Labor earnings	2956	2480	2422	2234	2132	1398	1193	-308	-1060	-1485	-3157		

* 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 year. 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 19 farmers who kept complete records of assets and liabilities in 1961 was \$27,893. These farmers realized an average increase of \$898 in net worth during 1961.

Family Income and Expenses

Total cash family living expenses for 16 farm families that kept records of these expenditures amounted to an average of \$2,428 per family (table 6). In addition, these families used farm produce valued at \$301, or a total of \$3,612 for cash family expenses plus prerequisites. Their average total income available for payment of family living amounted to \$4,080. Thus, the 16 farmers who kept records of family living expenses had an average of about \$360 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) 1961¹

Items	Ave. of												
	Farm Number												
	21 farms	7	19	3	27	25	4	20	12	21	22		
<u>Farm Income</u>													
1. Total farm sales	\$13159	\$12869	\$17096	\$13464	\$13562	\$19171	\$11168	\$16981	\$10006	\$16273	\$11226		
2. Increase in capital	1790	461	305	383	2332	126	4724	1968	15374	253	2830		
3. Family living from farm	301	328	259	316	612	176	494	393	436	168	282		
4. Total farm receipts	15250	13658	17660	14163	16506	19473	16386	19342	25816	16694	14338		
<u>Farm Expenses</u>													
5. Total farm purchases	\$10271	\$4818	\$9842	\$7475	\$9837	\$12969	\$10198	\$13100	\$20146	\$11118	\$9288		
6. Decrease in capital	661	--	--	--	--	--	--	--	--	--	--		
7. Board fur. hired labor	50	--	--	--	6	66	6	160	88	--	440		
8. Total farm expenses	10982	4818	9842	7475	9843	13035	10204	13260	20234	11118	9728		
9. Return to capital and family labor	4268	8840	7818	6688	6663	6438	6182	6082	5582	5576	4610		
<u>Farm Number</u>													
Items	24	1	26	18	2	5	16	11	23	8	13		
<u>Farm Income</u>													
1. Total farm sales	\$13792	\$15327	\$18014	\$12902	\$10113	\$7041	\$8289	\$13402	\$10815	\$6779	\$18038		
2. Increase in capital	--	2954	3224	--	--	74	--	2590	--	--	--		
3. Family living from farm	299	309	238	86	260	315	185	34	470	178	492		
4. Total farm receipts	14091	18590	21476	12988	10373	7430	8474	16026	11285	6957	18530		
<u>Farm Expenses</u>													
5. Total farm purchases	\$8572	\$14269	\$17491	\$8727	\$6116	\$4474	\$5339	\$15379	\$8800	\$4937	\$12797		
6. Decrease in capital	913	--	--	619	907	--	1017	--	2258	1862	6311		
7. Board fur. hired labor	--	240	--	20	--	--	32	--	--	--	--		
8. Total farm expenses	9485	14509	17491	9366	7023	4474	6388	15379	11058	6799	19108		
9. Return to capital and family labor	4606	4081	3985	3622	3350	2956	2086	647	227	158	-578		

¹ 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) 1961¹

Items	Farm Number									
	19 farms	19	4	27	21	25	20	3	12	22
Total acres - owned	251	280	240	100	365	160	280	160	160	160
rented	74	--	54	60	--	265	100	15	--	80
Farm Capital	\$27855	\$48003	\$23292	\$28050	\$21434	\$42130	\$29687	\$34296	\$17124	\$18443
Cash on hand	1533	6275	601	200	--	710	500	3675	200	1300
Stocks, bonds & life insurance	481	8721	--	--	--	--	--	--	--	26
Household goods & clothing	1547	1360	1266	2500	1250	2400	2500	775	2000	1500
Personal share of auto & truck	207	111	946	--	180	225	430	142	--	531
Farm dwelling	2718	5000	1919	6000	3350	--	3000	2200	--	1075
Other non-farm assets	1422	6900	1159	350	1355	2172	2036	1651	925	1017
Total non-farm assets	7908	28367	5891	9050	6135	5507	8466	8443	3125	5449
Total assets	35763	76370	29183	37100	27569	47637	38153	42739	20249	23892
Real estate mortgages	3348	--	7122	--	3500	1500	4514	6000	--	2032
Chattel mortgages	3665	--	6196	4400	2693	13076	5500	--	1969	1306
Notes payable	910	--	100	--	2000	350	300	1800	--	--
Accounts payable	845	--	3014	--	--	506	800	--	--	680
Total liabilities	8768	--	16432	4400	8193	15432	11114	7800	1969	4018
Net worth	26995	76370	12751	32700	19376	32205	27039	34939	18280	19874
Farm Capital	\$28942	\$48308	\$28016	\$30382	\$21687	\$42257	\$31654	\$34679	\$32498	\$21273
Cash on hand	1512	6650	912	200	--	710	500	1450	235	186
Stocks, bonds & life insurance	579	10575	--	--	--	--	--	--	--	26
Household goods & clothing	1666	1960	1250	2860	1250	2400	2500	775	2000	1500
Personal share of auto	262	587	1404	--	120	207	255	106	--	356
Farm dwelling	2815	5000	1836	6000	3260	--	3000	2200	2800	1002
Other non-farm assets	1688	8208	1068	350	1355	2172	1066	8216	975	950
Total non-farm assets	8522	32980	6470	9410	5985	5489	7321	12747	6010	4020
Total assets	37464	81288	34486	39792	27672	47746	38975	47426	38508	25293
Real estate mortgages	3949	--	7263	--	2500	1500	4436	10500	7000	2032
Chattel mortgages	3227	--	6872	4100	3039	12359	5878	--	--	564
Notes payable	1336	--	3077	--	--	--	1000	--	--	--
Accounts payable	1059	--	2673	--	12	500	1680	--	8600	--
Total liabilities	9571	--	19885	4100	5551	14359	12994	10500	15600	2596
Net worth	27893	81288	14601	35692	22121	33387	25981	36926	22908	22697
Change in net worth	+898	+4918	+1850	+2992	+2745	+1182	-1058	+1987	+4628	+2823

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) 1961
(continued)

Items	Farm Number												
	26	2	1	18	5	24	16	8	23	13			
Total acres - owned	400	120	280	240	320	360	280	240	390	235			
- rented	--	120	81	307	37	--	40	--	160	80			
Farm Capital	\$36968	\$18605	\$32901	\$25418	\$14029	\$28607	\$21175	\$19998	\$33000	\$36090			
Cash on hand	182	--	400	100	130	12854	949	765	170	110			
Stocks, bonds & life insurance	--	--	--	400	--	--	--	--	--	--			
Household goods & clothing	3200	1100	1250	500	1150	--	100	1600	2000	1950			
Personal share of auto & truck	218	152	337	192	70	1000	10	--	200	84			
Farm dwelling	3000	4705	4573	7468	1244	100	1700	360	3500	540			
Other non-farm assets	2975	63	2000	--	577	2000	--	2542	30	1267			
Total non-farm assets	9575	6020	8560	8660	3171	15954	2759	5267	5900	3951			
Total assets	46543	24625	41461	34078	17200	44561	23934	25265	38900	40041			
Real estate mortgages	4500	6000	12900	--	1101	--	6500	--	7138	800			
Chattel mortgages	5095	2850	3415	8069	629	--	966	2100	3717	5063			
Notes payable	2429	--	2000	1155	4720	--	--	1000	1443	2600			
Accounts payable	1918	125	474	--	95	--	--	757	519	7165			
Total liabilities	13942	8975	18789	9224	6545	--	7466	3857	12817	15628			
Net worth	32601	15650	22672	24854	10655	44561	16468	21408	26083	24413			
Farm Capital	\$40193	\$17698	\$35855	\$24800	\$14104	\$27694	\$20158	\$18135	\$30742	\$29779			
Cash on hand	--	--	30	100	349	15429	1010	609	196	169			
Stocks, bonds, & life insurance	--	--	--	400	--	--	--	--	--	--			
Household goods & clothing	3200	1100	1250	1800	1150	--	100	1600	2000	1950			
Personal share of auto & truck	128	101	600	144	750	1000	10	--	100	63			
Farm dwelling	3000	4490	4603	7202	1231	50	1600	360	3500	400			
Other non-farm assets	1125	80	2200	--	567	2000	--	2695	--	1038			
Total non-farm assets	7453	5771	8683	9646	4047	18479	2720	5264	5796	3620			
Total assets	47646	23469	44538	34446	18151	46173	22878	23399	36538	33399			
Real estate mortgages	4500	5500	12650	--	873	--	5500	--	7020	3750			
Chattel mortgages	5450	2350	3950	5829	275	--	1099	2100	2867	4586			
Notes payable	2329	--	2500	1625	5900	--	--	--	363	--			
Accounts payable	900	7850	404	--	162	--	--	695	395	4850			
Total liabilities	13179	15700	19504	7454	7210	--	6599	2795	10645	13186			
Net worth	34467	7769	25034	26992	10941	46173	16279	20604	25893	20213			
Change in net worth	+1866	-7881	+2362	+2138	+286	+1612	-189	-804	-190	-4200			

Table 6. Household and Personal Expenses for Those Farmers Who Kept Accounts of These Expenses, 1961¹

Items	Farm Number									
	Ave. of 16 farms	22	20	3	27	4	21	24		
Number of persons--family	5.0	4.0	7.0	9.0	7.0	6.0	7.0	7.0		
Adult equivalents--family*	3.7	3.3	5.1	5.6	4.4	4.7	4.7	4.7		
other	.1	.9	.3	--	--	--	--	--		
<u>Expenses</u>										
Food and meals bought	\$848	\$740	\$1195	\$1227	\$590	\$1000	\$1036	\$1165		
Operating and supplies	168	295	175	317	71	345	394	77		
Furnishings and equipment	183	36	184	443	437	227	103	36		
Clothing & clothing materials	266	326	576	444	272	487	317	220		
Personal care & spending	101	77	142	68	32	75	97	283		
Education & recreation	94	75	271	136	5	201	47	6		
Gifts & special events	82	110	152	83	113	52	112	20		
Medical & hosp. insurance	253	340	431	377	192	440	147	20		
Church & welfare	90	89	87	328	195	344	47	10		
Personal share of auto expense	150	262	142	49	90	688	97	154		
Upkeep on dwelling	54	708	66	--	--	--	14	4		
Personal share of tel. & elec. expense	139	96	98	69	461	145	189	120		
Total cash living expense	2428	3154	3519	3541	2458	4004	2600	2115		
Personal share of new autos	183	--	--	--	--	836	--	--		
New dwelling	74	--	150	--	--	1036	--	--		
Taxes	51	64	12	--	--	--	98	201		
Life insurance	115	41	107	294	536	187	118	--		
Other savings & investments	460	--	--	6500	--	311	162	--		
Total household & personal cash expense	3311	3259	3788	10335	2994	6374	2978	2316		
Family living from the farm	301	282	394	316	612	494	168	299		
Total cash expense and prerequisites	3612	3541	4182	10651	3606	6868	3146	2615		
<u>Receipts</u>										
Return to capital and family labor	\$3554	\$4610	\$6082	\$6688	\$6662	\$6182	\$5576	\$4606		
Other personal income	526	3403	1074	--	--	235	64	232		
Total income	4080	8013	7156	6688	6662	6417	5640	4838		

¹ 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, 1961 (continued)

Items	Farm Number								
	26	18	2	5	16	13	8	11	23
Number of persons--family	7.0	2.0	6.0	4.0	3.0	7.0	2.0	1.1	5.0
Adult equivalents--family	5.2	1.8	3.8	3.6	2.2	5.1	1.8	1.1	4.6
other	.2	--	--	--	.1	--	--	--	--
<u>Expenses</u>									
Food and meals bought	\$723	\$485	\$972	\$907	\$395	\$1064	\$438	\$605	\$1031
Operating and supplies	126	28	102	113	40	78	281	237	2
Furnishings and equipment	428	258	433	57	1	--	110	150	26
Clothing & clothing materials	339	168	289	266	25	170	147	60	159
Personal care & spending	40	199	133	34	26	3	119	291	--
Education & recreation	148	19	151	224	--	10	97	59	49
Gifts & special events	61	308	118	18	15	--	47	45	50
Medical & hosp. insurance	413	83	233	51	617	146	102	244	237
Church & welfare	36	--	225	67	1	--	13	2	--
Personal share of auto expense	178	109	81	94	31	20	13	134	253
Upkeep on dwelling	--	--	--	72	2	--	--	--	--
Personal share of tel. & elec. expense	127	108	135	163	108	133	109	68	89
Total cash living expense	2619	1765	2872	2066	1261	1624	1476	1895	1896
Personal share of new autos	--	--	--	750	--	--	--	1338	--
New dwelling	--	--	--	--	--	--	--	--	--
Taxes	35	--	39	--	30	204	--	136	--
Life insurance	280	58	75	--	--	66	35	42	--
Other savings & investments	--	--	--	48	--	200	54	--	82
Total household & personal cash exp.	2934	1823	2986	2864	1291	2094	1565	3411	1978
Family living from the farm	238	86	259	315	185	492	179	34	469
Total cash expense and prerequisites	3172	1909	3245	3179	1476	2586	1744	3445	2447
<u>Receipts</u>									
Return to capital and family labor	\$3985	\$3622	\$3350	\$2955	\$2086	\$-578	\$158	\$647	\$227
Other personal income	141	--	211	--	--	1741	1000	--	320
Total income	4126	3622	3561	2955	2086	1163	1158	647	547

Table 7. Family Living From the Farm, 1961¹

Items	Ave. of 9 farms										Farm Number												
	7	19	4	27	21	25	3	12	22		20	5.1	5.6	3.0	3.3		20	5.1	5.6	3.0	3.3		
No. of adult equivalents:																							
Family	4.3	6.8	4.7	4.4	4.7	5.3	5.1	3.0	3.3		5.1	5.1	5.6	3.0	3.3		5.1	5.1	5.6	3.0	3.3		
Other	.8	--	--	--	--	.1	.3	.2	.9		.3	.3	--	.2	.9		.3	.3	--	.2	.9		
Whole milk	1445	2170	1543	2430	--	2400	2190	1490	816		2400	2190	1490	1130	816		2400	2190	1490	1130	816		
Cream	43	54	--	119	--	72	--	--	--		72	--	--	--	--		72	--	--	--	--		
Cattle	661	500	1900	900	--	--	1100	--	630		--	1100	--	1200	630		--	1100	--	1200	630		
Hogs	296	--	--	1400	1000	--	486	695	240		--	486	695	800	240		--	486	695	800	240		
Lamb	--	--	--	--	--	--	--	--	--		--	--	--	--	--		--	--	--	--	--		
Poultry	72	--	--	294	--	--	--	216	200		--	--	216	160	200		--	--	216	160	200		
Eggs	33	--	--	102	--	--	--	230	--		--	--	230	--	--		--	--	230	--	--		
Total value	\$301	\$258	\$494	\$612	\$168	\$176	\$394	\$316	\$282		\$394	\$394	\$316	\$436	\$282		\$394	\$394	\$316	\$436	\$282		

Items	Farm Number										Farm Number														
	26	1	18	5	24	16	11	8	23	13	16	11	8	23	16	11	8	23	13	16	11	8	23	13	
No. of adult equivalents:																									
Family	5.2	3.8	1.8	3.6	2.8	2.2	1.1	1.8	4.6	5.1	2.2	1.1	1.8	4.6	5.1	2.2	1.1	1.8	4.6	5.1	2.2	1.1	1.8	4.6	5.1
Other	.2	.5	--	--	--	.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Whole milk	2700	2160	1305	800	2160	1200	288	600	1585	--	1200	288	600	1585	--	1200	288	600	1585	--	1200	288	600	1585	
Cream	--	--	--	437	--	--	96	--	98	--	--	96	--	98	--	--	96	--	98	--	--	96	--	98	
Cattle	400	600	--	1000	900	560	--	640	1650	800	--	--	640	1650	800	--	--	640	1650	800	--	--	640	1650	
Hogs	--	400	--	300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Poultry	--	--	--	--	--	--	--	--	--	650	--	--	--	--	650	--	--	--	--	--	650	--	--	650	
Eggs	--	--	--	--	--	--	--	--	--	360	--	--	--	--	360	--	--	--	--	--	360	--	--	360	
Total value	\$238	\$309	\$86	\$315	\$299	\$185	\$34	\$178	\$470	\$492	\$185	\$34	\$178	\$470	\$492	\$185	\$34	\$178	\$470	\$492	\$185	\$34	\$178	\$470	\$492

¹ 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	1.2 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, 1961¹

Items	Farm Number									
	7	19	4	27	21	25	20	3	12	22
Labor earnings	\$2734	\$5410	\$5248	\$4910	\$4892	\$4879	\$4805	\$4686	\$4039	\$3852
Crop yeilds*	100	104	178	228	58	91	72	133	135	88
Index of return for \$100 feed to prod. livestock	100	124	97	93	102	83	107	101	90	92
Livestock units per 100 acres***	24.2	24.8	19.2	58.6	30.2	16.6	19.5	40.8	28.4	17.0
Size of business-- work units	412	526	434	443	230	698	472	373	333	323
Work units per worker	293	309	334	316	192	465	295	311	278	231
Power, mach., equip., & bldg. expense per work unit	\$8.80	\$4.67	\$5.56	\$5.28	\$11.22	\$8.12	\$8.83	\$7.48	\$7.32	\$8.52
Items related to above measures:										
Index of return for \$100 feed from:										
Dairy cattle	100	133	97	86	--	83	107	111	92	74
Hogs	100	105	--	115	92	--	--	78	80	123
Sheep	100	--	--	--	118	--	--	--	--	--
Chickens	100	--	--	81	--	--	--	120	--	--
Number of animal units	53.4	60.5	46.9	65.0	74.2	63.9	53.1	46.5	38.9	357
Work units:										
Crops	88	103	81	46	79	175	83	72	62	95
Productive livestock	312	409	353	397	151	520	376	301	271	228
Other	12	2	--	--	--	3	13	--	--	--
No. of workers:										
Family	1.3	2.0	1.3	1.4	1.2	1.3	1.3	1.2	1.2	1.0
Hired	.1	.7	--	--	--	.2	.3	--	--	.4
Total	1.4	2.0	1.3	1.4	1.2	1.5	1.6	1.2	1.2	1.4
Expense per work unit:										
Power	\$4.99	\$3.02	\$2.91	\$2.27	\$6.17	\$4.58	\$6.02	\$4.64	\$4.52	\$5.24
Crop mach.	2.07	.66	1.76	1.87	2.85	1.96	1.62	1.18	2.33	1.67
Livestock equip.	.61	.51	.37	.50	.83	.66	.77	.34	.45	.49
Bldgs. & fencing	1.13	.48	.52	.64	1.37	.92	.42	1.32	.02	1.12

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, 1961 (continued)

Items	Farm Number												
	26	2	I	18	5	24	16	11	8	23	13		
Labor earnings	\$2956	\$2480	\$2423	\$2234	\$2132	\$1398	\$1192.63	\$308	\$-1060	\$-1485	\$-3157		
Crop yields*	111	102	122	96	93	78	52	140	44	66	56		
Index of ret. for \$100 feed to prod. livestock**	80	98	104	93	113	114	116	83	76	96	79		
Livestock units per 100 acres***	25.6	22.0	20.3	13.4	9.9	22.4	19.2	21.8	30.8	10.0	29.2		
Size of business--													
work units	615	346	440	382	312	464	338	387	226	444	285		
Work units per worker	512	288	220	347	240	232	307	387	188	261	158		
Power, mach., equip., & bldg. expense per work unit	\$10.50	\$7.50	\$11.93	\$9.10	\$7.00	\$9.48	\$7.63	\$15.36	\$6.98	\$14.09	\$10.52		
Items related to above measures:													
Index of return for \$100 feed from:													
Dairy cattle	80	85	98	93	113	114	98	83	100	96	--		
Hogs	--	130	116	--	109	--	--	84	--	--	66		
Sheep	--	--	--	--	--	--	157	--	67	--	59		
Chickens	--	--	--	--	--	--	--	--	--	--	--		
No. of animal units	75.3	42.8	62.2	42.5	27.8	53.4	46.3	38.3	57.6	43.9	86.6		
Work units:													
Crops	109	73	102	55	53	89	74	84	47	95	165		
Productive livestock	488	248	332	301	167	361	264	303	157	340	110		
Other	18	25	6	26	92	14	--	--	22	9	10		
No. of workers:													
Family	1.0	1.2	1.5	1.1	1.3	2.0	1.0	1.0	1.2	1.7	1.8		
Hired	.2	--	.5	--	--	--	.1	--	--	--	--		
Total	1.2	1.2	2.0	1.1	1.3	2.0	1.1	1.0	1.2	1.7	1.8		
Expense per work unit:													
Power	\$6.04	\$4.59	\$6.48	\$5.52	\$4.15	\$4.57	\$5.21	\$11.31	\$3.51	\$5.39	\$5.25		
Crop mach.	1.82	1.64	2.77	1.47	1.93	3.51	.72	2.42	1.71	4.06	2.84		
Livestock equip.	1.32	.41	.81	1.15	.46	.38	.47	.44	.29	.58	1.09		
Bldgs. & fencing	1.32	.86	1.87	.96	.46	1.02	1.23	1.19	1.47	4.06	1.34		

Table 10. Distribution of Acres in Farm, 1961¹

Crop	Ave. of 21 farms											
	7	19	4	27	21	25	20	3	12	22		
Oats for grain and silage	24.4	47	36	--	10	83.4	31	30	29	--		
Other small grains	4.1	15	--	--	5	12	--	--	--	21		
Total small grains	28.5	62	36	--	15	95.4	31	30	29	21		
Corn grain	25.8	55	20	--	50	34	--	23	36	53		
Corn silage	25.6	70	30	--	10	60	28	17	9	21		
Total cultivated crops	51.4	70	50	--	60	94	28	40	45	74		
Alfalfa & alfalfa mix hay	37.6	74	27	77	45	81	15	40	23	44		
Red clover hay	4.4	--	--	--	--	--	--	--	--	--		
Timothy or brome hay	10.9	--	9	--	--	12	76	--	--	--		
Other hay & seed crops	8.7	20	--	--	--	--	--	--	--	--		
Total tillable land in hay	61.6	94	36	77	45	93	91	40	23	44		
Alfalfa & alfalfa mix pasture	14.3	25	20	17	--	22	22	--	--	--		
Other tillable pasture	16.1	--	18	--	43	20	--	--	--	57		
Total tillable land in pasture	30.4	25	38	17	43	42	22	--	--	57		
Soil bank	12.0	--	10	--	40	60.6	25	--	--	--		
Tillable land not cropped	4.4	--	--	--	30	--	10	--	--	--		
Total tillable land	188.3	192	170	94	233	385	207	110	97	196		
Wild hay	10.0	--	8	--	--	--	30	4	14	--		
Non-tillable pasture	46.5	18	66	17	13	--	35	--	26	14		
Timber not pastured, roads, waste, and farmstead	89.9	410	50	49	119	40	108	61	23	30		
Total acres in farm	334.7	620	294	160	365	425	380	175	160	240		
Percent land tillable	56	31	58	59	64	90	54	63	61	82		

¹ Arranged in descending order of labor earnings

Table 10. Distribution of Acres in Farm, 1961 (continued)

Crop	Farm Number												
	26	2	1	18	5	24	16	11	8	23	13		
Oats for grain and silage	18	37	--	--	16	47.5	--	28	--	47	53		
Other small grains	--	--	--	--	--	--	--	--	--	--	31		
Total small grains	18	37	--	--	16	47.5	--	28	--	47	84		
Corn grain	--	12	65	--	--	--	26	49	--	56	64		
Corn silage	55	22	30	33	--	39.5	29	16	10	16	29		
Total cultivated crops	55	34	95	33	--	39.5	55	65	10	72	93		
Alfalfa and alfalfa mix hay	10	40	3.5	8	23	43	--	34	50	26.5	72		
Red clover hay	93	--	--	--	--	--	--	--	--	--	--		
Timothy or brome hay	--	--	20	18	57	10	27	--	--	--	--		
Other hay & seed crops	--	--	40	26	22	--	40	--	18	--	17		
Total tillable land in hay	103	40	63.5	52	102	53	67	34	68	26.5	89		
Alfalfa & alfalfa mix pasture	1	3	--	4	14	48	--	--	72.4	12	16		
Other tillable pasture	--	--	--	64	--	--	97	--	--	8	14		
Total tillable land in pasture	1	3	--	68	14	48	97	--	72.4	20	30		
Soil bank	35	3	--	--	--	--	--	--	27.6	50	--		
Tillable land not cropped	--	--	22.5	5	--	--	--	--	9	15	--		
Total tillable land	212	117	181	158	132	188	219	127	187	230.5	296		
Wild hay	--	11	--	60	29	--	20	14	--	20	--		
Non-tillable pasture	82	66	125	100	120	50	2	35	--	187	--		
Timber not pastured, roads, waste and farmstead	106	46	55	229	76	122	79	64	53	112.5	19		
Total acres in farm	400	240	361	547	357	360	320	240	240	550	315		
Percent land tillable	53	49	50	29	37	52	68	53	78	42	94		

Table 11. Crop Yields per Acre, 1961¹

Crop	Ave. of farms raising each crop	Farm Number												
		7	19	4	27	21	25	20	3	12	22			
Oats silage, tons	5.0	--	--	--	--	--	2.5	3.2	--	--	--	--	--	
Oats grain, bu.	26.8	--	28.8	40.0	--	10.0	25.1	--	16.0	37.9	--	--	--	
Corn grain, bu.	41.2	--	50.7	65.0	--	25.0	24.7	--	60.0	55.5	40.0	--	--	
Corn silage, tons	6.8	6.0	6.8	6.2	--	4.0	4.2	6.0	9.9	14.1	10.0	--	--	
Alfalfa & alfalfa mix. hay, tons	1.3	.3	1.1	3.2	2.9	.8	1.3	.5	2.2	1.1	.5	--	--	
Timothy & brome hay, tons	1.0	--	--	3.8	--	--	1.6	.7	--	--	--	--	--	
Annual hay, tons	.8	.2	--	--	--	--	--	--	--	--	--	--	--	
Wild hay, tons	.9	--	--	.0	--	--	--	.4	2.3	1.4	--	--	--	

Crop	Ave. of farms raising each crop	Farm Number												
		26	2	1	18	5	24	16	11	8	23	13		
Oats silage, tons	11.1	3.3	--	--	--	--	--	--	--	--	--	--	--	
Oats grain, bu.	--	52.7	--	--	30.0	24.0	--	35.0	--	10.2	12.6	21.3	21.3	
Corn grain, bu.	--	40.0	53.8	--	--	--	20.4	50.0	--	29.3	21.3	21.3	21.3	
Corn silage, tons	5.5	7.0	8.3	4.9	--	6.1	3.0	10.8	4.0	7.6	5.2	5.2	5.2	
Alfalfa & alfalfa mix hay, tons	2.0	.8	.7	2.5	1.6	.7	--	2.0	.1	.9	.5	--	--	
Timothy & brome hay, tons	--	--	.4	.2	.7	.6	.2	--	--	--	--	--	--	
Annual hay, tons	--	--	1.2	1.2	.9	--	.6	--	1.0	--	.3	--	--	
Wild hay, tons	--	1.2	--	1.0	0	--	1.4	.4	--	.9	--	--	--	

¹ Arranged by descending order of labor earnings

Table 12. Power and Machinery Expenses per Crop Acre, 1961

Items	Ave. of 21 farms										
	7	19	4	27	21	25	20	3	12	22	
Crop acres per farm	141	167	184	122	77	120	268	150	110	97	139
Tractor exp. per crop acre	\$5.63	\$7.20	\$3.66	\$4.28	\$5.54	\$5.19	\$5.40	\$8.13	\$5.78	\$6.18	\$2.53
Crop & gen. mach. exp. per crop acre	6.24	2.29	8.00	6.24	10.74	5.47	5.12	5.10	4.02	8.01	3.89

Items	Farm Number										
	26	2	1	18	5	24	16	11	8	23	
Crop acres per farm	176	111	158.5	85	118	140	122	127	78	145.5	266
Tractor exp. per crop acre	\$5.86	\$5.42	\$7.73	\$6.32	\$5.04	\$6.79	\$6.76	\$7.17	\$3.16	\$7.40	\$2.65
Crop & gen. mach. exp. per crop acre	6.36	5.12	7.69	6.59	5.11	11.63	2.01	7.37	4.96	12.38	3.05

Table 13. Average Price of Feeds, 1961

Items	Value	Items	Value
Ear corn, per bu.	\$.94	Alfalfa hay, per ton	\$19.50
Oats, per bu.	.60	Red or alsike clover hay, per ton	16.50
Barley, per bu.	.93	Timothy, per ton	11.30
Wheat, per bu.	2.00	Wild hay, per ton	9.75
Soybean meal, per cwt.	4.35	Corn silage, per ton	6.75
Meat scraps, per cwt.	5.70	Pasture per mo. per cow	2.50

Table 14. Factors of Cost and Returns from Dairy Cows, 1961¹

Items	Ave. of 19 farms									
	I	20	11	3	24	18	27	5	22	22
Pounds of butterfat per cow	344	410	399	386	384	375	375	375	375	357
Pounds of milk per cow	9624	11664	12504	11260	11666	11412	11016	10991	10282	10282
Ave. test of milk (percent)	3.6	3.5	3.2	3.4	3.3	3.3	3.4	3.4	3.5	3.5
Price per lb. BF sold (cents)	94.6	100.8	92.8	93.0	91.2	101.0	90.5	91.4	100.2	100.2
Price per cwt. milk sold	\$ 3.43	\$ 3.54	\$ 2.96	\$ 3.19	\$ 3.01	\$ 3.33	\$ 3.09	\$ 3.06	\$ 3.48	\$ 3.48
Feed per cow, lbs.:										
Corn	1306	2183	2462	1338	823	1465	-	1350	2109	2109
Small grain	818	1485	1332	274	2233	479	2287	-	1330	1330
Commercial feeds	896	1384	1154	566	312	2693	174	76	1317	1317
Legume hay	4800	2574	6918	5348	2910	4615	13032	7203	2857	2857
Other hay	928	2784	-	-	970	428	-	-	-	-
Total concentrates	3020	5052	4948	2178	3368	4637	2461	1426	4756	4756
Total hay	5728	5358	6918	5348	3880	5043	13032	7203	2857	2857
Silage	12000	13250	10842	12299	9478	12051	-	5254	26494	26494
Feed cost per cow:										
Concentrates	\$ 67.80	\$ 112.00	\$ 108.62	\$ 57.28	\$ 68.27	\$ 105.20	\$ 54.01	\$ 29.36	\$ 124.64	\$ 124.64
Roughages	89.68	85.80	104.98	93.65	61.87	88.09	126.62	86.00	117.27	117.27
Pasture	11.09	12.24	10.44	9.49	8.86	10.36	14.15	13.34	10.88	10.88
Total feed cost	168.57	210.04	224.04	160.42	139.00	203.65	194.78	128.70	252.79	252.79
Value of produce per cow:										
Dairy product sales	316.70	406.00	369.49	343.70	342.97	368.42	317.00	325.24	353.85	353.85
Used in home	5.18	6.29	1.24	5.58	5.32	3.68	6.25	10.73	3.66	3.66
Fed	5.46	--	4.91	9.63	2.73	7.30	14.94	5.22	1.99	1.99
Net increase in value of cows	-2.29	-1.76	-5.56	-8.40	4.60	-3.40	1.89	-6.66	11.82	11.82
Total value produced	325.05	410.35	375.08	350.51	355.62	376.00	340.08	340.53	371.32	371.32
Return above feed cost per cow:	156.48	200.49	151.04	190.09	216.62	172.35	145.30	211.83	118.53	118.53
Returns for \$100 of feed	\$203	\$195	\$167	\$218	\$256	\$185	\$175	\$265	\$147	\$147
Feed cost per lb. BF (cents)	48.8	51.2	56.2	42.0	36.0	54.0	52.0	34.0	70.0	70.0
Number of cows	25.2	23.7	27.3	18.7	26.8	23.4	28.8	11.8	15.4	15.4

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

Table 14. Factors of Cost and Returns from Dairy Cows, 1961 (continued)

Items	Farm Number									
	26	2	25	12	23	4	7	16	19	8
Pounds of butterfat per cow	347	341	334	328	312	304	295	279	267	258
Pounds of milk per cow	10026	9722	9504	9058	6421	8566	6292	8143	7422	5623
Ave. test of milk (percent)	3.5	3.5	3.5	3.6	4.9	3.5	4.7	3.4	3.6	4.6
Price per lb. BF sold (cents)	101.2	91.2	98.9	89.0	84.6	94.4	92.6	100.8	101.4	83.0
Price per cwt. milk sold	\$3.42	\$3.19	\$3.47	\$3.23	\$4.10	\$3.26	\$4.34	\$3.45	\$3.65	\$3.81
Feed per cow, lbs.:										
Corn	1318	--	982	1452	1684	1742	19	3858	721	135
Small grain	742	167	1403	1102	910	926	638	--	232	--
Commercial feeds	2074	2437	954	448	136	354	180	417	171	210
Legume hay	2812	5208	8574	4245	2350	6872	2293	2580	4110	6129
Other hay	1652	--	--	--	384	--	--	2797	--	3226
Total concentrates	4134	2604	3339	3002	2730	3022	837	4275	1124	345
Total hay	4464	5208	8574	4245	2734	6872	2293	5377	4110	9355
Silage	24464	17605	12500	14717	11188	8523	9323	6231	6506	12903
Feed cost per cow:										
Concentrates	\$87.11	\$58.57	\$74.11	\$68.13	\$51.87	\$59.19	\$20.36	\$77.62	\$24.97	\$11.56
Roughages	116.76	108.83	111.09	81.16	62.40	97.66	42.64	56.48	61.00	113.02
Pasture	11.31	12.23	7.35	10.73	9.26	12.45	11.60	10.05	13.70	10.08
Total feed cost	215.18	179.63	192.55	160.02	123.53	169.30	74.60	144.15	99.67	134.66
Value of produce per cow:										
Dairy product sales	343.32	305.46	326.16	288.84	251.21	276.09	261.38	276.70	254.70	206.41
Used in home	4.46	4.14	3.86	3.73	5.66	5.30	5.09	4.22	5.77	8.13
Fed	2.14	1.06	9.12	--	7.20	7.23	6.09	14.28	9.10	--
Net increase in value of cows	-4.96	3.41	-8.59	1.26	-20.60	11.65	-9.42	-3.03	-12.39	8.06
Total value produced	344.96	314.07	330.55	293.83	243.47	300.27	263.14	292.17	257.18	222.60
Return above feed cost per cow:	129.78	134.44	138.00	133.81	119.94	130.97	188.54	148.02	157.51	87.94
Returns for \$100 of feed	\$160	\$175	\$172	\$184	\$197	\$177	\$352	\$202	\$258	\$165
Feed cost per lb. BF (cents)	62.0	53.0	57.6	49.0	40.0	56.0	25.0	52.0	37.0	52.0
Number of cows	34.5	19.2	45.6	21.2	28.6	29.1	39.9	19.9	29.2	6.2

Table 15. Feed Costs and Returns from Other Dairy Cattle, 1961¹

Items	Ave. of									
	19 farms		1	20	11	3	Farm Number			
	248	263	510	61	47	154	257	262	230	186
Feed per head, lbs.:										
Concentrates	2411	4700	4502	2968	1074	2083	3874	2537	3238	1447
Hay and fodder	2333	8814	--	--	5463	4218	1100	--	--	4605
Silage	159	--	17	277	274	45	147	431	83	63
Whole milk										
Total feed costs per head	\$42.33	\$88.62	\$38.08	\$42.62	\$41.30	\$42.09	\$42.67	\$45.25	\$37.88	\$39.73
Net increase in value	79.58	179.29	101.33	70.08	88.90	76.49	81.10	68.58	61.69	66.12
Return above feed cost	37.25	90.67	63.25	27.46	47.60	34.40	38.43	23.33	23.81	26.39
Return for \$100 of feed	\$194	\$202	\$336	\$164	\$215	\$182	\$190	\$152	\$163	\$166
Number of head of cattle	31.6	17.7	46.2	15.5	20.5	53.1	38.2	37.5	24.4	15.2

Items	Farm Number									
	26	2	25	12	23	4	7	16	19	8
Feed per head, lbs.:										
Concentrates	67	596	530	744	275	314	15	53	148	2812
Hay and fodder	3264	1583	4557	1414	557	1528	740	2028	908	4420
Silage	74	3167	547	2727	1967	--	4466	2756	--	--
Whole milk	29	26	355	--	164	190	146	359	415	--
Total feed costs per head	\$34.80	\$43.09	\$63.96	\$40.28	\$28.21	\$28.99	\$30.57	\$41.03	\$34.64	\$40.43
Net increase in value	58.57	69.27	86.91	78.79	44.44	77.41	51.32	66.59	85.89	99.32
Return above feed cost	23.77	26.18	22.95	38.51	16.23	48.42	20.75	25.56	51.25	58.89
Return for \$100 of feed	\$168	\$160	\$136	\$196	\$158	\$267	\$168	\$162	\$248	\$246
Number of head of cattle	81.5	24.0	36.6	19.8	30.5	35.6	41.2	25.4	19.6	18.1

¹ Arranged by descending order of pounds of butterfat per cow

Table 16. Feed Costs and Returns from All Dairy Cattle, 1961

Items	Ave. of									
	19 farms									
	1	20	11	3	24	18	27	5	22	
Feeds per animal unit, lb.:										
Concentrates	2034	3005	3821	1442	1844	2784	1695	935	3308	
Hay and fodder	5300	5077	6597	4221	4019	6259	9884	6833	2870	
Silage	9132	11353	8315	11834	8951	7623	--	2583	20782	
Total feed cost per animal unit	\$130.13	\$158.12	\$186.59	\$126.86	\$110.24	\$146.48	\$144.45	\$99.23	\$194.18	
Value of prod., per animal unit										
Dairy products	195.24	236.02	284.30	226.00	174.80	204.88	195.58	165.18	239.37	
Net increase in value of cattle	57.47	75.64	30.07	57.62	78.36	71.02	55.17	62.40	51.61	
Total value produced	252.71	311.66	314.37	283.62	253.16	275.90	250.75	227.58	290.98	
Return above feed per animal unit	122.58	153.54	127.78	156.76	142.92	129.42	106.30	128.35	96.80	
Return per \$100 of feed	\$202	\$197	\$168	\$224	\$230	\$188	\$174	\$229	\$150	
Animal units of cattle	41.5	41.4	35.6	28.9	53.4	42.5	47.6	24.0	23.0	
Farm Number										
Items	26	2	25	12	23	4	7	16	19	8
Feeds per animal unit, lb.:										
Concentrates	1966	2060	2687	2521	1969	2114	559	2672	916	140
Hay and fodder	5578	4423	8729	3794	2168	5424	2016	4863	3533	7118
Silage	15227	13269	9233	11768	8656	5288	9190	5950	4872	10457
Total feed cost per animal unit	\$135.27	\$143.03	\$167.53	\$134.72	\$95.39	\$122.57	\$66.00	\$111.24	\$85.22	\$102.40
Value of prod., per animal unit										
Dairy products	159.34	190.52	235.51	199.43	167.34	174.60	175.74	171.48	195.02	86.94
Net increase in value of cattle	61.12	55.38	43.65	51.02	17.46	65.99	28.73	50.03	33.89	120.77
Total value produced	220.46	245.90	279.16	250.45	184.80	240.59	204.47	221.51	228.91	207.71
Return above feed per animal unit	85.19	102.87	111.63	115.73	89.41	118.02	138.47	110.27	143.69	105.31
Return per \$100 of feed	\$162	\$172	\$167	\$186	\$194	\$196	\$310	\$199	\$268	\$203
Animal units of cattle	75.3	31.2	63.9	31.1	43.9	46.9	60.5	32.6	39.0	15.3

Table 17. Feed Costs and Returns from Market Hogs, 1961¹

Items	Ave. of Farm Number			
	4 farms	22	19	3
Feed per cwt. hogs produced, lbs.:				
Corn	191	35	280	184
Small grain	53	--	36	60
Commercial feeds	111	179	41	181
Total concentrates	355	214	357	425
Feed cost per cwt. hogs produced	\$8.57	\$5.99	\$7.44	\$11.08
Net increase in value per cwt. hogs produced	16.54	15.41	16.38	18.01
RETURNS ABOVE FEED COST PER CWT. HOGS PRODUCED	7.97	9.42	8.94	6.93
RETURNS FOR \$100 OF FEED	\$202	\$258	\$220	\$162
Price received per cwt. hogs sold	\$17.00	\$16.58	\$16.29	\$17.63
Average weight per hog sold	237	254	245	224
Total number of litters raised	12	11	18	12
Number of pigs born per litter	9.7	7.6	11.9	10.2
Number of pigs weaned per litter	8.4	6.9	9.6	9.3
Pounds of hogs produced	25586	23675	41175	25630

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

Table 18. Feed Costs and Returns from Feeder Pigs, 1961¹

Items	Ave. of 7 farms						
	21	2	27	5	11	1	13
Feed per litter, lbs.:							
Corn	1434	3444	1224	39	210	3266	254
Small grain	369	211	389	193	1512	--	--
Commercial feeds	598	498	212	1180	160	17	713
Total concentrates	2401	4153	1825	1412	1882	3283	967
Feed cost per litter	\$53	\$88	\$38	\$41	\$38	\$65	\$31
Net increase in value per litter	107	170	103	99	87	113	75
RETURN ABOVE FEED COST PER LITTER	54	82	65	58	49	48	44
Return for \$100 of feed	\$213	\$193	\$272	\$240	\$228	\$175	\$242
Total number of litters	35	59	21	32	8	6	44
Number of pigs born per litter	10.0	9.9	10.6	8.3	9.8	13.3	9.1
Number of pigs weaned per litter	7.6	8.0	9.4	7.5	7.0	7.5	6.9
Number of feeder pigs sold	196	259	179	198	28	35	235
Number of sows sold and butchered	8	12	1	3	4	6	14
Price received per pig sold	\$11.02	\$12.88	\$11.13	\$9.70	\$10.09	\$10.47	\$11.61
Number other hogs sold and butchered	36	187	--	1	1	10	2
Pounds of hogs and pigs produced	18762	56676	7055	11651	3121	4290	16330
							32212

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

Table 19. Feed Costs and Returns from a Farm Flock of Sheep, 1961

Items	Farm Number			
	Ave. of 4 farms	16	21	8
Feeds per head,* lbs.:				13
Concentrates	250	--	224	393
Legume hay	622	410	484	484
Other hay	90	204	--	154
Silage	210	--	580	259
Feed cost per head:				
Concentrates	\$4.66	\$.07	\$4.42	\$7.17
Roughages	6.85	4.38	6.68	5.52
Pasture	2.42	2.72	2.10	2.21
TOTAL FEED COSTS	13.93	7.17	13.20	14.90
Value of produce per head:				
Wool	\$5.06	\$5.80	\$5.33	\$3.94
Net increase in value of sheep	9.60	7.73	13.40	8.01
TOTAL VALUE PRODUCED	14.66	13.53	18.73	11.95
RETURNS ABOVE FEED COST PER HEAD	.73	6.36	5.53	-2.95
RETURNS FOR \$100 OF FEED	\$120	\$188	\$142	\$80
Price per cwt. of lambs sold	\$15.94	\$14.09	\$16.98	\$15.66
Price per lb. wool sold (cents)	62.4	78.9	68.8	45.9
Pounds of wool per sheep sheared	7.9	7.5	7.4	8.6
Percent lamb crop**	95	107	110	78
Percent death loss**	8.3	13.5	6.8	5.0
Number of ewes*	113	70	124	232
				27

* Two lambs under six months of age considered as one head

** Lambs which die during month of birth are not included

Table 20. Fertilizer Application, Crop Yields, and Return Over Cost of Fertilizer, 1961

Farm Number	Pounds of Nutrients applied per acre			Yields(1)		Difference in Yield	Return from difference in yield over fert. cost (2)	Returns per fert. dollar
	N	P ₂ O ₅	K ₂ O	Check	Fert.			
<u>Corn-Grain</u>								
12	10	35	75	82.4	110.3	27.9	\$20.55	\$3.35
12	10	35	75	55.6	67.2	11.6	3.48	1.39
2	14	28	42	28.3	73.9	45.6	40.88	6.84
10	10	20	30	30.0	43.0	13.0	8.65	2.73
4	10	20	30	68.1	92.9	24.8	20.94	5.19
11	10	20	90	53.7	71.2	17.5	10.38	2.80
17	10.5	3.5	21	31.4	50.3	18.9	16.87	6.66
9	10	20	30	62.1	77.6	15.5	11.28	3.26
1	16.5	5.5	33	57.0	64.2	7.2	2.88	1.62
25	10	20	30	8.1	27.6	19.5	15.48	4.01
21	13	26	39	36.1	45.0	8.9	2.85	1.44
3	10	20	30	61.9	69.9	8.0	3.40	1.68
19	9	18	29	46.4	48.3	1.9	-2.50	.44
19	48.5	39.5	42	62.6	90.2	27.6	15.65	2.17
<u>Corn Silage</u>								
7	15	5	30	3.0	3.7	.7	\$.65	\$1.02
<u>Wheat</u>								
25	15	5	30	21.9	31.0	9.1	\$12.13	\$3.85
<u>Oats (3)</u>								
24	15	5	30	27.1	34.1	7.0	\$-2.16	\$.49
2	15	5	30	44.3	48.4	4.1	-1.99	.53
10	22.5	7.5	45	16.2	18.6	2.4	-5.06	.21
19	20	40	60	32.3	54.2	21.9	2.05	1.21

(1) Hay and silage yields in tons per acre. Corn, varley, 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) Yield response on alfalfa should also be considered the following year in analyzing the returns from fertilizer use in oats.