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# **SPECIALIZED HOG FARMS IN SOUTHERN MINNESOTA**

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# SPECIALIZED HOG FARMS IN SOUTHERN MINNESOTA, 1968-1970

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## INTRODUCTION

This report summarizes 1968-1970 farm business records of approximately 160 farmers who have hogs as a major enterprise. The purpose of the publication is (1) to provide hog raisers, vocational agriculture instructors, county agents, and others working with farmers with specific information relative to costs and returns from the entire farm operation as well as from the hog enterprise and (2) to show earnings variations which occur among farmers. Individual farm records were secured from the Southeastern and Southwestern Minnesota Farm Management Associations and the vocational-technical schools in Winona, Austin, Mankato, Jackson and Willmar.

Three types of hog farms are summarized in this report: (1) highly specialized hog farms (farrowing and feeding to market weight--complete hog enterprise), (2) complete hog enterprise and cash crops, and (3) purchased

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\* The authors are indebted to Dorothy T. Spreck for her help in preparing the tables included in this report.

feeder pigs and cash crops. In this study, a hog farm is considered highly specialized when 80 percent or more of the cash income comes from the hog enterprise. The two enterprise farms (complete hogs and cash crops and purchased feeder pigs and cash crops) have 80 percent or more of the cash income from the two enterprises, with a minimum of 20 percent from the smallest of the two.

The data in table 1 show the number of farms in each category for which averages were secured. Where the number of cases allows, each category is further divided into high and low earnings groups.

Simple arithmetic averages are used throughout the report. Calculations were made for each group or category each year and the results for each of the three years were averaged.

Table 1. Number of Farms Included

Type	1968	1969	1970	Average of 3 years
Complete hog program	22	38	26	29
Purchased feeder pigs and cash crops	25	33	30	29
Complete hog program and cash crops				
Less than 175 work units*	15	15	14	15
175-274 work units	35	42	38	38
275-399 work units	23	29	51	34
400 work units and over	<u>12</u>	<u>9</u>	<u>21</u>	<u>14</u>
Total	132	166	180	159

\* For a discussion of work units, see Pherson, C. L. and T. R. Nodland, "Work Unit Estimates for Measuring Size of Business." Department of Agricultural Economics, University of Minnesota Report No. R68-4, September 1968.

Hog raisers experienced relatively high incomes during the years included in this study. The price break occurring early in the fall of 1970 affected returns during the following year more than in 1970. Even though earnings were above average, there were wide differences in the accomplishments of farmers during this three-year period.

#### CAPITAL MANAGED

Average capital managed for the various classifications of hog farms is shown in table 2. These values approximate current market values except for real estate. Land is valued at cost and real estate improvements are valued at cost less an annual depreciation based on estimated length of life. No corrections have been made for price inflation which occurred after the farms were purchased.

Per acre values of land and farm buildings and other real estate improvements vary by type of farm and by size groups within a type of farm. Highly specialized complete hog farms had the lowest per acre values for farm real estate. From crop yield records, there is no evidence to suggest the farms are of lower value or have less productive capacity. Owners probably purchased these farms several years ago and decided to expand hog production on their present acreage rather than buy more land at current higher land prices. Farms with cash crops probably have had some expansion by means of land purchases at more current price levels.

The data in table 3 show capital managed per litter of pigs raised for the highly specialized farms. Over one-half of the investment is in land and buildings. High earnings farms had the lowest total investment per litter as well as the lowest investment in each classification of capital managed.

Table 2. Average Capital Managed on Hog Farms in Southern Minnesota, 1968-1970

Item	Complete hog program			Purchased feeder pigs and cash crops		
	1/2 high in earnings	Average	1/2 low in earnings	1/2 high in earnings	Average	1/2 low in earnings
1. Number of farms	14	29	14	14	29	14
2. Acres in farm	232	219	205	448	388	334
3. Number of work units	396	339	282	304	262	218
Average capital managed as of January 1						
4. Hogs	\$20080	\$16498	\$12916	\$ 8105	\$ 6879	\$ 5690
5. Other livestock	698	884	1070	1827	1609	1450
6. Crops, seed, feed	14915	12567	10220	19061	16161	13640
7. Auto & truck (fm. sh.)	1883	1536	1189	2285	1961	1640
8. Tractors & crop machinery	11594	10138	8681	15302	13162	11064
9. Livestock equipment	3800	3691	3583	2160	1789	1464
10. Land	37200	33320	29439	95176	82064	69761
11. Buildings, fencing*	19982	18943	17904	26042	21299	16998
12. Total capital	\$110152	\$97577	\$85002	\$169958	\$144924	\$121707
Per acres values:						
13. Land	\$160	\$152	\$144	\$212	\$212	\$209
14. Buildings*	<u>86</u>	<u>86</u>	<u>87</u>	<u>58</u>	<u>55</u>	<u>51</u>
15. Total land & buildings*	<u>\$246</u>	<u>\$238</u>	<u>\$231</u>	<u>\$270</u>	<u>\$267</u>	<u>\$260</u>
Average capital managed as of December 31						
16. Total capital	\$117988	\$103506	\$89024	\$179663	\$149875	\$122140

\* Not including farm dwelling.

If one were to add \$100 per acre to the value of land in order to reflect more current prices, the average per litter investment would increase by \$200 or to about \$1000 per litter on the high earnings farms and \$1200 per litter on low earnings farms.

Table 2. Average Capital Managed on Hog Farms in Southern Minnesota, 1968-1970 (cont'd)

	Complete hog program and cash crops							400 work units & over
	Less than 175 work units	175-274 work units		275-399 work units		Average in earnings	Average in earnings	
		1/2 high in earnings	1/2 low in earnings	1/2 high in earnings	1/2 low in earnings			
1.	15	19	38	19	17	34	17	14
2.	196	311	301	292	384	386	388	578
3.	142	232	225	218	321	325	328	522
Average capital managed as of January 1								
4.	\$ 4243	\$ 5829	\$ 6115	\$ 6404	\$10047	\$10592	\$11085	\$15481
5.	442	1400	1352	1298	1358	1744	2109	2063
6.	9035	11896	12367	12901	18349	15645	13004	26767
7.	1283	1662	1774	1894	2254	2045	1843	2493
8.	5773	9890	10547	11222	14174	12824	11526	21074
9.	961	1270	1594	1928	1459	1821	2191	3117
10.	41075	75235	69076	62936	75453	77248	79456	123751
11.	10262	14627	16973	19373	19433	19589	19772	30904
12.	\$73074	\$121809	\$119798	\$117956	\$142527	\$141508	\$140986	\$225650
Peraacresvalues:								
13.	\$210	\$242	\$229	\$216	\$196	\$200	\$205	\$214
14.	<u>52</u>	<u>47</u>	<u>56</u>	<u>66</u>	<u>51</u>	<u>51</u>	<u>51</u>	<u>53</u>
15.	\$262	\$289	\$285	\$282	\$247	\$251	\$256	\$267
Average capital managed as of December 31								
16.	\$75555	\$129343	\$124573	\$119925	\$149638	\$146252	\$143474	\$237867

Table 3. Average Capital Managed Per Litter on Complete Hog Farms in Southern Minnesota, 1968-1970

Item	1/2 high in earnings	Average	1/2 low in earnings
Number of litters	142	113	84
Acres per litter	1.6	1.9	2.4
Average capital managed as of January 1			
Hogs	\$141.41	\$146.00	\$153.76
Other livestock	4.92	7.82	12.74
Crops, seed, feed	105.04	111.21	121.67
Auto and trucks	13.26	13.59	14.15
Tractors and crop machinery	81.65	89.72	103.35
Livestock equipment	26.76	32.66	42.65
Land	261.96	294.87	350.46
Buildings, fencing	<u>140.72</u>	<u>167.64</u>	<u>213.14</u>
Total	\$775.72	\$863.51	\$1011.92



## EARNINGS STATEMENTS

Receipts, expenses and labor earnings are shown in table 4. Any landlord's share, in the case of rented farms, is included to make the records comparable on a whole farm basis. "Labor earnings" is the amount remaining as a salary to the farm operator if a value is entered for the labor of other members of the family and a charge of about 6 percent interest on all capital managed is included as part of the farm expenses.

There were wide variations in earnings within each category. On highly specialized hog farms, the one-half of the farmers with high earnings averaged \$18357; the one-half of the farmers with low earnings averaged only \$3339. Within the two intermediate size groups of the complete hog and cash crop farms, the one-half of the farmers highest in earnings averaged \$9000 to \$10,000 above the low one-half in earnings. In the case of purchased feeder pigs and cash crops, high earnings farmers had incomes four and one-half times as large as low earnings farmers.

Large quantities of feed were purchased by the operators of the highly specialized complete hog farms. They purchased corn and protein feeds. In all the other categories, feed purchases were largely protein feeds.

Income, expenses and earnings are calculated on a per litter basis in table 5 for the specialized complete hog farms. There is little difference in gross income per litter between high and low earnings farms but there are great differences in expenses. Most items of expenses are higher on low earnings farms. The additional \$89 in income per litter which high earnings farmers secure is a substantial reward for greater efficiency. Failure to control expenses appears to be a major reason for differences in earnings.

Table 4. Summary of Earnings - Cash Statement - for Hog Farms in Southern Minnesota 1968-1970

Item	Complete hog program			Purchased feeder pigs and cash crops		
	1/2 high in earnings	Average	1/2 low in earnings	1/2 high in earnings	Average	1/2 low in earnings
RECEIPTS						
1. Hogs sold	\$52536	\$41583	\$30630	\$34256	\$28384	\$23265
2. Other livestock sold	1147	1177	1207	2044	1975	1997
3. Crops - corn	1450	1288	1126	10560	9134	7910
4. - other crops	3214	2986	2758	14944	12728	10695
5. Other capital assets sold	284	295	305	938	604	268
6. Work off the farm	213	236	260	607	643	564
7. Miscel. farm income	709	549	389	1028	918	845
8. Total sales	\$59553	\$48114	\$36675	\$64377	\$54386	\$45544
9. Increase in capital	7836	5929	4022	9705	4951	433
10. Family living from farm	214	171	128	134	128	123
11. Total receipts	\$67603	\$54214	\$40825	\$74216	\$59465	\$46100
EXPENSES						
12. Hogs bought	\$ 703	\$ 1040	\$ 1231	\$12942	\$10940	\$ 9377
13. Other livestock bought	416	683	1096	1170	993	855
14. Miscel. livestock expense	1533	1285	1037	412	355	306
15. Feed bought	17099	14141	11184	7115	6765	6625
16. Fertilizer bought	2848	2435	2021	3167	2916	2754
17. Other crop expense	2402	2240	2078	3881	3225	2643
18. Custom work hired	926	1057	1188	1125	1064	1033
19. Gas, oil, grease bought	1115	1059	1003	1557	1447	1351
20. Repair power & crop mach.	1377	1258	1139	1988	1666	1374
21. Repair real estate	755	629	503	453	348	244
22. Repair livestock equip.	535	412	288	204	212	225
23. Wages of hired labor	1200	994	787	656	522	412
24. Electricity expense	618	542	466	372	335	306
25. Real estate taxes	1167	1059	951	2322	2030	1774
26. General farm expense	692	641	590	592	550	519
27. Total operating expense	\$33386	\$29475	\$25562	\$37956	\$33368	\$29798
28. New power & machinery	3745	3356	2968	6029	4443	2986
29. New livestock equipment	1539	1131	724	298	553	834
30. New buildings, etc.	3660	3059	2458	3237	2235	1299
31. Total purchases	\$42330	\$37021	\$31712	\$47520	\$40599	\$34917
32. Decrease in farm capital	-	-	-	-	-	-
33. Interest on capital managed	6494	5721	4948	9979	8489	7095
34. Unpaid family labor	364	535	706	513	456	413
35. Board for hired labor	58	89	120	34	39	45
36. Total expenses	\$49246	\$43366	\$37486	\$58046	\$49583	\$42470
37. Labor earnings	\$18357	\$10848	\$ 3339	\$16170	\$ 9882	\$ 3630

\* Interest was charged at the rate of 5 percent in 1968 and 6 percent in 1969 and 1970.

Table 4. Summary of Earnings - Cash Statement - for Hog Farms in Southern Minnesota  
1968-1970 (continued)

Complete hog program and cash crops								
Less than 175 work units	175-274 work units			275-399 work units			400 work units & over	
	1/2 high in earnings	Average in earnings	1/2 low in earnings	1/2 high in earnings	Average in earnings	1/2 low in earnings		
RECEIPTS								
1.	\$ 9986	\$14860	\$14764	\$14662	\$25771	\$25590	\$25445	\$40058
2.	481	1776	1478	1169	1577	1926	2261	2050
3.	2950	8362	7529	6685	10059	8612	7174	13484
4.	5721	10008	9146	8285	12774	11617	10505	16023
5.	168	361	340	320	292	319	346	753
6.	131	489	411	332	397	303	208	440
7.	437	786	677	571	912	713	520	1900
8.	\$19874	\$36642	\$34345	\$32024	\$51782	\$49080	\$46459	\$74708
9.	2481	7534	4775	1969	7111	4744	2488	12217
10.	123	154	142	131	183	169	155	247
11.	\$22478	\$44330	\$39262	\$34124	\$59076	\$53993	\$49102	\$87172
EXPENSES								
12.	\$ 549	\$ 691	\$ 823	\$ 954	\$ 965	\$ 1194	\$ 1471	\$ 1708
13.	135	1241	806	360	634	576	509	480
14.	217	454	456	457	658	804	954	1179
15.	2943	5718	5478	5232	8416	8904	9329	11526
16.	1191	2159	2175	2193	3196	2824	2469	5238
17.	1194	2172	2257	2343	3271	3178	3083	5719
18.	575	750	893	1039	989	1286	1592	916
19.	861	1169	1188	1208	1420	1432	1444	2124
20.	885	1313	1288	1262	1656	1629	1600	2766
21.	198	351	399	449	447	536	624	772
22.	114	137	176	216	276	326	378	445
23.	195	348	410	477	726	761	790	2649
24.	233	297	314	331	428	431	434	548
25.	950	1625	1486	1346	1850	1862	1876	2706
26.	394	511	518	524	633	648	664	953
27.	\$10634	\$18936	\$18667	\$18391	\$25565	\$26391	\$27217	\$39729
28.	2078	4034	3803	3573	4523	4263	4028	6570
29.	187	511	653	798	883	768	650	1217
30.	886	1903	1913	1924	2296	2253	2226	4622
31.	\$13785	\$25384	\$25036	\$24686	\$33267	\$33675	\$34121	\$52138
32.								
33.	4211	7141	6932	6732	8331	8168	8038	13054
34.	160	345	435	531	609	609	618	1746
35.	17	21	32	43	29	57	83	73
36.	\$18173	\$32891	\$32435	\$31992	\$42236	\$42509	\$42860	\$67011
36.								
37.	\$ 4305	\$11439	\$ 6827	\$ 2132	\$16840	\$11484	\$ 6242	\$20161

Table 5. Cash Statement on a Per Litter Basis for Complete Hog Farms in Southern Minnesota, 1968-1970

Item	1/2 high in earnings	Average	1/2 low in earnings
RECEIPTS			
Hogs sold	\$ 370	\$ 368	\$ 365
Other livestock sold	8	11	14
Crops - corn	10	11	13
- other	23	26	33
Other farm income	8	10	11
Total sales	\$ 419	\$ 426	\$ 436
Increase in farm capital	55	52	48
Family living from the farm	2	2	2
Total receipts	\$ 476	\$ 480	\$ 486
EXPENSES			
Hogs bought	\$ 5	\$ 9	\$ 15
Other livestock bought	3	6	13
Miscellaneous livestock expense	11	11	12
Feed bought	120	125	133
Fertilizer bought	20	22	24
Other crop expense	17	20	25
Custom work hired	7	9	14
Gas, oil, and grease bought (farm share)	8	9	12
Repair of power and crop machinery	10	11	14
Repair of real estate	5	6	6
Repair of livestock equipment	4	4	3
Wages of hired labor	8	9	9
Electrical expense	4	5	6
Real estate taxes	8	9	11
General farm expense	5	6	7
Total operating expense	\$ 235	\$ 261	\$ 304
New power and crop machinery	26	30	36
New livestock equipment	11	10	9
New buildings	26	27	29
Total purchases	\$ 298	\$ 328	\$ 378
Decrease in farm capital	-	-	-
Interest on capital managed	46	50	59
Unpaid family labor	3	5	8
Board for hired labor	-	1	1
Total expenses	\$ 347	\$ 384	\$ 446
Labor earnings	\$ 129	\$ 96	\$ 40

The data in table 6 show earnings on an enterprise basis. Instead of stressing cash expenses and cash receipts, this arrangement stresses net value produced and net expenses. Net increase in value produced includes sales, value used in the home, changes in inventories, and accounts for transfers between enterprises. The value of purchased livestock is subtracted so the result is the value of livestock and livestock products added by the enterprise during the year.

In the calculation of return from crops, credit is given to crops for feed raised on the farm and consumed by livestock. The return to crops, as shown in table 6, becomes the net value produced from crops for that year less the cost of purchased seed, fertilizer and similar expenses.

Each category of expenses is calculated in a similar manner. Depreciation, repairs, gas, oil, etc., are accounted for. This type of earnings statement more accurately reflects annual production for each productive enterprise and annual costs for each service enterprise.<sup>1</sup>

Some comparisons can be made between the average farms under the complete hog program and the complete hog and cash crops farms with 400 or more work units (table 7). Farmers in both groups farrow approximately the same number of litters and have about the same net increase in value from hogs, feed cost, and return over feed. The major differences between the two groups arise from the fact that the hog and cash crop farmers operate nearly three times as much tillable land as the more highly specialized hog farms. The complete hog farms operate 219 acres per farm. Nearly all the crops are fed to hogs

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1. For the method of calculation of income and expenses on an enterprise basis, see Nodland, Truman R., "Know Your Farm Business," University of Minnesota Agricultural Extension Service Pamphlet 138, revised 1971.

Table 6. Summary of Earnings - Enterprise Statement - for Hog Farms in Southern Minnesota, 1968-1970

Item	Complete hog program			Purchased feeder pigs and cash crops		
	1/2 high in earnings	Average	1/2 low in earnings	1/2 high in earnings	Average	1/2 low in earnings
RECEIPTS AND NET INCREASES						
1. Hogs	\$52288	\$40745	\$29202	\$21473	\$17428	\$13447
2. Other livestock	753	832	810	1829	1404	1420
3. Total prod. livestock	\$53041	\$41577	\$30112	\$23302	\$18832	\$14867
4. Feed fed	28127	23410	18694	14671	12807	11307
5. Return over feed	\$24914	\$18167	\$11418	\$ 8631	\$ 6025	\$ 3560
6. Crops, seed, feed	14694	11677	8662	31916	24967	18356
7. Income labor off farm	68	117	166	351	376	293
8. Misc. farm income	709	549	389	1028	918	845
9. Total receipts	\$40385	\$30510	\$20635	\$41926	\$32286	\$23054
EXPENSES AND NET DECREASES						
10. Truck and auto	\$ 1248	\$ 1105	\$ 963	\$ 1518	\$ 1408	\$ 1311
11. Electricity expense	618	542	466	372	335	306
12. Tractors & crop mach.	4393	3978	3562	5999	5308	4706
13. Livestock equipment	1493	1158	823	577	597	634
14. Buildings, fencing	2486	2218	1949	2438	1978	1563
15. Misc. lvstk. expense	1533	1285	1037	412	355	306
16. Labor*	1904	1955	2007	1547	1354	1210
17. Taxes	1167	1059	951	2322	2030	1774
18. General farm expense	692	641	590	592	550	519
19. Interest on capital man.	6494	5721	4948	9979	8489	7095
20. Total expenses	\$22028	\$19662	\$17296	\$25756	\$22404	\$19424
21. Labor earnings	\$18357	\$10848	\$ 3339	\$16170	\$ 9882	\$ 3630

\* Includes wages paid and value of board to hired labor, unpaid family labor, and a part of the payment for custom work hired.

and large amounts of feed are purchased. Large hog and cash crop farms operate 578 acres of land and thus produce more crops than can be utilized by the hog enterprise. Their added expense over the complete hog farms is \$168 per litter but the added

Table 6. Summary of Earnings - Enterprise Statement - for Hog Farms in Southern Minnesota, 1968-1970

	Complete hog program and cash crops						400 work units & over	
	Less than 175 work units	175-274 work units		275-399 work units				
	1/2 high in earnings	Average	1/2 low in earnings	1/2 high in earnings	Average	1/2 low in earnings		
RECEIPTS AND NET INCREASES								
1.	\$ 9835	\$15997	\$15054	\$14094	\$26442	\$25175	\$23932	\$38830
2.	381	1162	917	666	966	1166	1358	1426
3.	\$10216	\$17159	\$15971	\$14760	\$27408	\$26341	\$25290	\$40256
4.	6278	9642	9773	9897	15236	15658	16038	22329
5.	\$ 3938	\$ 7517	\$ 6198	\$ 4863	\$12172	\$10683	\$ 9252	\$17927
6.	11175	20866	18251	15600	26231	23130	20133	37366
7.	67	151	126	102	168	151	137	192
8.	437	786	677	571	912	713	520	1900
9.	\$15617	\$29320	\$25252	\$21136	\$39483	\$34677	\$30042	\$57385
EXPENSES AND NET DECREASES								
10.	\$ 975	\$ 1258	\$ 1224	\$ 1189	\$ 1407	\$ 1350	\$ 1297	\$ 1884
11.	233	297	314	331	428	431	434	548
12.	2501	3742	4081	4429	5041	5203	5368	7827
13.	288	396	514	635	608	735	8 5	1312
14.	988	1512	1742	1979	2024	2174	2330	3015
15.	217	454	456	457	658	804	954	1179
16.	555	945	1158	1382	1663	1818	1974	4746
17.	950	1625	1486	1346	1850	1862	1876	2706
18.	394	511	518	524	633	648	664	953
19.	4211	7141	6932	6732	8331	8168	8038	13054
20.	\$11312	\$17881	\$18425	\$19004	\$22643	\$23193	\$23800	\$37224
21.	\$ 4305	\$11439	\$ 6827	\$ 2132	\$16840	\$11484	\$ 6242	\$20161

income per litter from net increases in crops is \$240. This accounts for much of the difference of \$89 in labor earnings per litter in favor of the large hog and cash crop farms.

Table 7. Enterprise Statement on a Per Litter Basis for Hog Farms in Southern Minnesota, 1968-1970

Item	Complete hog program		
	1/2 high in earnings	Average	1/2 low in earnings
1. Average number of litters	142	113	84
2. Acres per farm	232	219	205
RECEIPTS AND NET INCREASES			
3. Hogs	\$ 368	\$ 361	\$ 348
4. Other livestock	5	7	11
5. Total livestock	\$ 373	\$ 368	\$ 359
6. Feed fed	198	207	223
7. Return over feed	\$ 175	\$ 161	\$ 136
8. Crop, seed, feed	103	103	103
9. Miscellaneous farm income	6	6	7
10. Total receipts	\$ 284	\$ 270	\$ 246
EXPENSES AND NET DECREASES			
11. Truck and auto	\$ 9	\$ 10	\$ 12
12. Electricity expense	4	5	6
13. Tractors and crop machinery	31	36	42
14. Livestock equipment	11	10	10
15. Buildings	17	20	23
16. Miscellaneous livestock expense	11	11	12
17. Labor	13	17	24
18. Real estate taxes	8	9	11
19. General farm expense	5	6	7
20. Interest on capital managed	46	50	59
21. Total expense	\$ 155	\$ 174	\$ 206
22. Labor earnings	\$ 129	\$ 96	\$ 40



Table 7. Enterprise Statement on a Per Litter Basis for Hog Farms in Southern Minnesota, 1968-1970 (continued)

	Complete hog program and cash crops							
	Less than 175 work units	175-274 work units		275-399 work units		400 work units & over		
		1/2 high in earnings	Average	1/2 low in earnings	1/2 high in earnings	Average	1/2 low in earnings	
1.	30	47	47	46	69	72	75	109
2.	196	311	301	292	384	386	388	578
RECEIPTS AND NET INCREASES								
3.	\$ 328	\$ 340	\$ 320	\$ 306	\$ 383	\$ 350	\$ 319	\$ 357
4.	13	25	20	15	14	16	18	13
5.	<u>\$ 341</u>	<u>\$ 365</u>	<u>\$ 340</u>	<u>\$ 321</u>	<u>\$ 397</u>	<u>\$ 366</u>	<u>\$ 337</u>	<u>\$ 370</u>
6.	209	205	208	215	221	218	214	205
7.	<u>\$ 132</u>	<u>\$ 160</u>	<u>\$ 132</u>	<u>\$ 106</u>	<u>\$ 176</u>	<u>\$ 148</u>	<u>\$ 123</u>	<u>\$ 165</u>
8.	372	444	388	339	380	321	268	343
9.	<u>17</u>	<u>20</u>	<u>17</u>	<u>14</u>	<u>16</u>	<u>13</u>	<u>9</u>	<u>19</u>
10.	<u>\$ 521</u>	<u>\$ 624</u>	<u>\$ 537</u>	<u>\$ 459</u>	<u>\$ 572</u>	<u>\$ 482</u>	<u>\$ 400</u>	<u>\$ 527</u>
EXPENSES AND NET DECREASES								
11.	\$ 33	\$ 27	\$ 26	\$ 26	\$ 20	\$ 19	\$ 17	\$ 17
12.	8	6	7	7	6	6	6	5
13.	83	80	87	96	73	73	72	72
14.	10	8	11	14	9	10	11	12
15.	33	32	37	43	29	30	31	28
16.	7	10	10	10	10	11	13	11
17.	18	20	25	30	24	25	26	43
18.	32	35	31	29	27	26	25	25
19.	13	11	11	11	9	9	9	9
20.	<u>140</u>	<u>152</u>	<u>147</u>	<u>147</u>	<u>121</u>	<u>113</u>	<u>107</u>	<u>120</u>
21.	<u>\$ 377</u>	<u>\$ 381</u>	<u>\$ 392</u>	<u>\$ 413</u>	<u>\$ 328</u>	<u>\$ 322</u>	<u>\$ 317</u>	<u>\$ 342</u>
22.	\$ 144	\$ 243	\$ 145	\$ 46	\$ 244	\$ 160	\$ 83	\$ 185

## THE CROPPING PROGRAM

Data in tables 8 and 9 show the average acreage per farm and yields per acre. Corn harvested for grain is the major crop on all farms. Soybeans are second in importance and land in the feed grain program represents the third major use of land. There is little need for hay and pasture when hogs are the major enterprise.

The cropping system reflects the need for corn as a feed for hogs. Also, since a large proportion of the land in these farms is tillable, these farms are adapted to the production of grains and the raising of hogs.

Table 8. Average Acres Per Farm for Hog Farms in Southern Minnesota, 1968-1970

Item	Complete hog program			Purchased feeder pigs and cash crops		
	1/2 high in earnings	Average	1/2 low in earnings	1/2 high in earnings	Average	1/2 low in earnings
1. Canning peas	.3	.1	-	.4	2.0	3.8
2. Oats for grain	12.1	12.4	12.6	16.6	16.1	15.6
3. Other small grain	.7	1.3	2.0	7.8	5.7	3.4
4. Total small grain & peas	13.1	13.8	14.6	24.8	23.8	22.8
5. Corn grain	117.5	108.2	99.0	165.8	144.5	127.5
6. Soybeans	42.6	38.0	33.4	144.4	111.1	76.7
7. Sweet corn	.4	1.1	1.8	2.7	2.5	2.4
8. Other cultivated crops	-	.3	.5	.6	.4	.2
9. Total cultivated crops	160.5	147.6	134.7	313.5	258.5	206.8
10. Total till. land in hay	4.8	6.2	7.5	3.9	5.7	7.7
11. Total till. land in pasture	4.0	3.5	3.0	1.0	.6	.3
12. Feed grain program	23.1	18.2	13.4	64.3	58.6	54.3
13. Till. land not cropped	-	.5	.9	.1	1.5	3.0
14. Total tillable land	205.5	189.8	174.1	407.6	348.7	294.9
15. Non-till. pasture & hay	6.7	7.9	9.1	5.8	8.1	10.1
16. Timber, waste, roads, farmstead	20.2	21.0	21.8	34.4	31.4	29.4
17. Total acres in farm	232.4	218.7	205.0	447.8	388.2	334.4
18. Percent land tillable	88.4	86.8	84.9	91.0	89.8	88.2

Average yields of corn for most of the groups of farms exceeded 100 bushels per acre. The differences in crop yields between the high and low earnings farms are large. Differences in corn yields between high and low farms ranged from 17 bushels per acre on the purchased feeder pigs and cash crop farms to five bushels per acre on the small complete hog and cash crop farms. Differences in expenses per acre, as shown in table 9, are not great. Similar variations are found in the yields of soybeans and other crops raised.

Table 8. Average Acres Per Farm for Hog Farms in Southern Minnesota, 1968-1970  
(continued)

	Complete hog program and cash crops							400 work units & over
	Less than 175 work units	175-274 work units		275-399 work units		400 work units & over		
		1/2 high in earnings	Average	1/2 low in earnings	1/2 high in earnings	Average	1/2 low in earnings	
1.	1.1	3.1	1.5	-	.8	.8	1.0	2.4
2.	9.8	11.4	13.5	15.6	18.8	16.0	13.0	22.2
3.	<u>2.7</u>	<u>2.2</u>	<u>5.2</u>	<u>8.0</u>	<u>3.3</u>	<u>5.7</u>	<u>8.0</u>	<u>6.0</u>
4.	13.6	16.7	20.2	23.6	22.9	22.5	22.0	30.6
5.	68.1	115.4	111.8	107.9	143.9	145.4	147.0	257.3
6.	57.5	97.2	89.4	81.5	118.7	114.6	111.3	136.8
7.	1.9	4.5	4.2	4.0	2.3	2.0	1.8	9.4
8.	<u>.1</u>	<u>.7</u>	<u>.8</u>	<u>1.0</u>	<u>1.7</u>	<u>1.4</u>	<u>1.0</u>	<u>9.3</u>
9.	127.6	217.8	206.2	194.4	266.6	263.4	261.1	412.8
10.	4.1	5.1	5.3	5.5	4.3	8.8	13.1	7.9
11.	.8	.7	.8	.8	1.4	1.6	1.8	6.2
12.	26.7	41.8	40.0	38.7	56.8	51.2	46.2	73.2
13.	<u>-</u>	<u>-</u>	<u>.1</u>	<u>.1</u>	<u>.2</u>	<u>.4</u>	<u>.5</u>	<u>1.4</u>
14.	172.8	282.1	272.6	263.1	352.2	347.9	344.7	532.1
15.	7.1	8.3	7.8	7.2	7.6	10.7	13.7	9.4
16.	<u>16.3</u>	<u>20.6</u>	<u>20.9</u>	<u>21.2</u>	<u>24.2</u>	<u>27.1</u>	<u>30.1</u>	<u>36.8</u>
17.	196.2	311.0	301.3	291.5	384.0	385.7	388.5	578.3
18.	88.1	90.7	90.5	90.3	91.7	90.2	88.7	92.0

Table 9. Average Crop Yields per Acre for Hog Farms in Southern Minnesota, 1968-1970

Item	Complete hog program			Purchased feeder pigs and cash crops		
	1/2 high in earnings	Average	1/2 low in earnings	1/2 high in earnings	Average	1/2 low in earnings
1. Oats for grain, bu.	67.3	61.8	*	73.6	69.1	64.1
2. Corn for grain, bu.	103.6	96.0	88.5	113.3	104.9	96.2
3. Soybeans, bu.	30.7	27.4	*	34.0	31.4	28.6
4. Alfalfa hay, tons	3.7	3.3	*	3.2	3.5	3.7
5. Feed grain program, \$	62	55	47	64	61	58
6. Fert. bot/till. acre	\$13.86	\$12.83	\$11.60	\$ 7.77	\$ 8.36	\$ 9.34
7. Other crop exp/till. A	11.69	11.80	11.94	9.52	9.25	8.96
8. Trac. & mach. exp/crop A	24.62	23.74	22.72	17.53	18.43	19.83

\* Less than 5 cases.

Table 9. Average Crop Yields Per Acre for Hog Farms in Southern Minnesota, 1968-1970  
(continued)

	Complete hog program and cash crops							400 work units & over
	Less than 175 work units	175-274 work units			275-399 work units			
		1/2 high in earnings	Average in earnings	1/2 low in earnings	1/2 high in earnings	Average in earnings	1/2 low in earnings	
1.	59.7	72.2	68.7	65.8	72.9	67.4	61.8	62.1
2.	94.8	105.1	102.7	100.3	110.1	102.2	94.3	102.7
3.	30.1	31.2	29.6	27.9	31.9	30.4	28.8	33.4
4.	2.9	4.1	3.5	2.9	3.4	3.3	3.2	2.9
5.	62	62	61	59	60	61	61	62
6.	\$ 6.89	\$ 7.65	\$ 7.98	\$ 8.34	\$ 9.07	\$ 8.12	\$ 7.16	\$ 9.84
7.	6.91	7.70	8.28	8.90	9.29	9.13	8.94	10.75
8.	17.21	15.62	17.61	19.82	17.16	17.66	18.12	17.34

#### FEED COSTS AND RETURNS FROM HOGS

Production and feed costs are shown for the hog enterprise in table 10. Home grown feeds have been charged to hogs at current market prices and purchased feeds have been charged at cost.

High earnings farms had the highest net increase in value, lowest feed cost, highest return over feed cost, and received the highest prices when hogs were sold. Small farms were relatively inefficient in hog production in terms of prices received, quantity of feed required to produce 100 pounds of hogs and in pigs weaned per litter, as compared to larger operations. Large farms (400 work units and over) rank high in each of these items, which represents general efficiency in production.

Farms which include purchased feeder pigs as an enterprise use less feed to produce 100 pounds of hogs since they do not have the overhead cost of maintaining a breeding herd. With less labor needed than is true for the complete hog program, a lower return for \$100 of feed is required in order to break even on the purchased feeder pigs.

Table 10. Average Feed Costs and Returns from Hogs on Hog Farms in Southern Minnesota, 1968-1970

Item	Complete hog program			Purchased feeder pigs and cash crops		
	1/2 high in earnings	Average	1/2 low in earnings	1/2 high in earnings	Average	1/2 low in earnings
1. Pounds produced	238022	193661	149277	129023	107792	89902
Per cwt. produced:						
2. Net increase in value	\$22.05	\$21.31	\$20.57	\$17.23	\$16.72	\$16.06
3. Feed cost	<u>11.77</u>	<u>12.10</u>	<u>12.44</u>	<u>10.61</u>	<u>10.91</u>	<u>11.20</u>
4. Return above feed cost	\$10.28	\$ 9.21	\$ 8.13	\$ 6.62	\$ 5.81	\$ 4.86
5. Return for \$100 feed	\$187	\$176	\$165	\$162	\$153	\$143
6. Price rec'd/cwt. sold	\$22.10	\$21.88	\$21.67	\$21.97	\$21.74	\$21.58
7. Weight per hog sold	222	225	228	229	227	224
8. Misc. cost per cwt. produced*	\$ .66	\$ .68	\$ .70	\$ .28	\$ .27	\$ .26
Feed per cwt. produced, lbs.:						
9. Corn	325	331	338	319	323	326
10. Small grain	13	18	23	11	13	17
11. Commercial feeds**	<u>77</u>	<u>92</u>	<u>107</u>	<u>64</u>	<u>63</u>	<u>62</u>
12. Total concentrates	415	441	468	394	399	405
13. Total no. litters raised	142	113	84			
14. No. pigs born per litter	9.4	9.4	9.4			
15. No. pigs weaned per litter	7.8	7.6	7.5			
16. No. feeder pigs bought				699	604	523
17. Total weight of pigs bought				28571	22668	18035
18. Price paid per feeder pig				\$17.52	\$17.94	\$18.44

\* Miscellaneous costs include items such as veterinary expenses, purchased bedding, breeding fees, registration fees, etc.

\*\* This includes protein feed and the purchase of complete hog feeds which have not been divided between corn, small grain and protein.



## SUMMARY

The data in table 11 summarizes earnings and some of the characteristics of farms that include hogs as a major enterprise. One-half of the complete hog farms earned an average of 1.5 percent return on capital managed as compared to 15.6 percent for the one-half most profitable farms. Similar variations can be noted among the feeder pig fattening and cash crop farms and the complete hog enterprise and cash crop farms. Anyone earning less than about eight percent on capital managed probably would experience difficulty in paying interest and even modest amounts on the principal of large sums of borrowed capital. An assumed charge of \$7000 as a value of the operator's labor was made in calculating rate earned on capital managed.

The following are some of the characteristics of the most profitable farms as compared to the least profitable farms:

1. More total acres and more tillable acres.
2. Little difference in number of workers.
3. More work units per worker (work accomplished per worker).
4. More capital managed in total and per worker.
5. Larger business in terms of total work units.
6. More pounds of hogs produced.
7. More pigs weaned per litter.
8. Less feed needed to produce 100 pounds of hogs.
9. More return for each \$100 of feed consumed by hogs.
10. Less power, machinery, equipment and building expense per work unit.
11. Less operating expenses per \$100 of sales.



Many of the above differences between high and low earnings farms are essentially differences in efficiency of production and in size of business. An increase in size of business does not guarantee an increase in earnings; there are great differences in earnings among farmers with operations of approximately the same size. The farmer who does a good job of managing a medium size farming operation is likely to have a larger income than a large scale poorly managed operation.

Table 11. Some Characteristics of Hog Farms in Southern Minnesota, 1968-1970

Item	Complete hog program			Purchased feeder pigs and cash crops		
	1/2 high in earnings	Average	1/2 low in earnings	1/2 high in earnings	Average	1/2 low in earnings
<b>Earnings</b>						
1. Net cash income	\$17223	\$11093	\$ 4963	\$16857	\$13787	\$10627
2. Labor earnings	18357	10848	3339	16170	9882	3630
3. Int. on capital managed	6494	5721	4948	9979	8489	7095
4. Total (2 + 3)	24851	16569	8287	26149	18371	10725
5. Value of operator's labor	7000	7000	7000	7000	7000	7000
6. Return to capital managed	17851	9569	1287	19149	11371	3725
7. Rate earned on capital	15.6	9.5	1.5	11.0	7.7	3.1
<b>Land</b>						
8. Total acres	232	219	205	448	388	334
9. Tillable acres	206	190	174	408	349	295
10. Percent till land in-corn	57.0	56.9	56.9	40.6	41.4	43.2
11.        - soybeans	20.7	20.0	19.2	35.4	31.8	26.0
<b>Labor</b>						
12. Number of workers	1.39	1.40	1.41	1.33	1.27	1.22
13. Work units per worker	285	242	200	229	206	179
<b>Capital</b>						
14. Total capital managed	\$114070	\$100542	\$87013	\$174810	\$147400	\$121924
15. Capital managed/worker	82065	71816	61711	131436	116063	99938
<b>Size of business</b>						
16. Total work units	396	339	282	304	262	218
17. Total farm sales	\$59553	\$48114	\$36675	\$64377	\$54386	\$45544
<b>Hogs</b>						
18. Pounds produced	238022	193661	149277	129023	107792	89902
19. Number of litters raised	142	113	84	-	-	-
20. Pigs weaned per litter	7.8	7.6	7.5	-	-	-
21. Lbs. feed to produce						
100 lbs. hogs	415	441	468	394	399	405
22. Return for \$100 feed	\$187	\$176	\$165	\$162	\$153	\$143
<b>Source of gross income</b>						
23. Percent from livestock	61.7	59.5	55.3	20.6	18.7	15.4
24. Percent from crops	36.4	38.3	42.0	76.1	77.3	79.6
25. Percent from misc. income	1.9	2.2	2.7	3.3	4.0	4.9
<b>Expenses</b>						
26. Pow. & mach., equip, & bldg. exp. per work unit	\$25.85	\$26.55	\$27.53	\$35.87	\$36.74	\$39.08
27. Tractor & mach. expense per crop acre	24.62	23.74	22.72	17.48	18.35	19.68
28. Lvstk. equip. exp. per 100 lbs. hogs	.63	.59	.55	.45	.55	.70
29. Oper. exp. per \$100 sales	56.06	61.26	69.70	58.96	61.35	65.43
30. Total purch./\$100 sales	71.07	76.94	86.47	73.82	74.65	76.67

Table 11. Some Characteristics of Hog Farms in Southern Minnesota, 1968-1970 (cont'd)

	Complete hog program and cash crops							400 work units & over
	Less than 175 work units	175-274 work units		275-399 work units				
		1/2 high in earnings	Average	1/2 low in earnings	1/2 high in earnings	Average	1/2 low in earnings	
Earnings								
1.	\$ 6089	\$11258	\$ 9309	\$ 7338	\$18515	\$15405	\$12338	\$22570
2.	4305	11439	6827	2132	16840	11484	6242	20161
3.	4211	7141	6932	6732	8331	8168	8038	13054
4.	8516	18580	13759	8864	25171	19652	14280	33215
5.	7000	7000	7000	7000	7000	7000	7000	7000
6.	1516	11580	6759	1864	18171	12652	7280	26215
7.	2.0	9.2	5.5	1.6	12.4	8.8	5.1	11.3
Land								
8.	196	311	301	292	384	386	388	578
9.	173	282	273	263	352	348	45	532
10.	39.4	40.9	41.0	41.0	40.9	41.8	42.6	48.4
11.	33.3	34.5	32.8	31.0	33.7	32.9	32.3	25.7
Labor								
12.	1.06	1.17	1.22	1.27	1.33	1.36	1.41	2.08
13.	134	198	184	172	241	239	233	251
Capital								
14.	74314	125576	122186	118940	146082	143880	142230	231758
15.	70108	107330	100152	93653	109836	105794	100872	111422
Size of business								
16.	142	232	225	218	321	325	328	522
17.	19874	36642	34345	32024	51782	49080	46459	74708
Hogs								
18.	47112	74132	73573	72963	124423	122567	120618	194864
19.	30	47	47	46	69	72	75	109
20.	6.8	7.6	7.3	7.0	7.6	7.3	7.1	7.6
21.	478	423	442	464	426	436	447	405
22.	\$161	\$184	\$167	\$152	\$183	\$171	\$161	\$183
Source of gross income								
23.	25.2	25.6	24.5	23.0	30.8	30.8	30.8	31.2
24.	71.6	71.2	72.3	73.8	66.4	66.7	67.0	65.1
25.	3.2	3.2	3.2	3.2	2.8	2.5	2.2	3.7
Expenses								
26.	35.10	\$31.06	\$35.00	\$39.28	\$29.62	\$30.44	\$31.38	\$27.94
27.	17.21	15.62	17.61	19.82	17.16	17.66	18.12	17.34
28.	.61	.53	.70	.87	.48	.60	.69	.67
29.	53.50	51.68	54.35	57.43	49.37	53.77	58.58	53.18
30.	69.36	69.28	72.90	77.08	64.24	68.61	73.44	69.79