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1971

Farm Business

Summary

By Type of Farming

for Southern Minnesota

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1971 MINNESOTA FARM BUSINESS SUMMARIES
BY TYPES OF FARMING FOR SOUTHERN MINNESOTA

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Introduction

This report summarizes the 1971 farm business records by types of farming for 1000 southern Minnesota farmers. Farm records were supplied by the area vocational-technical schools at Mankato, Austin, Winona, Willmar and Jackson, and the Southeastern and Southwestern Minnesota Farm Management Associations. The area included in this report can be roughly defined as the region south of a line drawn from Elbow Lake to Hastings, Minnesota. This publication will be useful to farmers, teachers, extension workers, researchers, and others who desire specific information about average costs and returns from farming operations by types of farms.

Records were obtained from 11 types of farms for this report (table 1). Farms were classified according to the source of cash income received from various livestock enterprises and from the sale of crops. The following

* Agricultural and Applied Economics, Agricultural Education, and Agricultural and Applied Economics, respectively.

The authors are indebted to Dorothy T. Spreck for making many of the calculations included in the tables appearing in this report.

classifications were used.

1. Specialized farms - 80 percent or more of the cash income was from one enterprise or source.
2. Two enterprise farms - 80 percent or more of the income was from two enterprises, with a minimum of 20 percent from the smallest of the two.
3. Three enterprise farms - 80 percent or more of the income came from three enterprises, with a minimum of 20 percent from the smallest.

Specialized dairy farms were further divided into four categories based on the average number of dairy cows maintained. Fattening hog operations are reported in combination with cash crops. All other types of farms which include hogs are based upon complete hog programs (farrowing and finishing).

Table 1. Number of Farms by Type Included in This Report, 1971

Type	Number
Cash crops	124
Dairy - 25-34 cows	61
- 35-44 cows	52
- 45-54 cows	21
- 55 cows and over	35
Hogs (complete program)	23
Dairy and hogs (complete program)	74
Dairy and cash crops	164
Hogs (finish) and cash crops	36
Hogs (complete program) and feeder cattle	39
Hogs (complete program) and cash crops	185
Feeder cattle and cash crops	96
Dairy, hogs (complete program), and cash crops	31
Hogs (complete program), feeder cattle, and cash crops	<u>59</u>
Total	1000

Because farmers included in this study are, in general, above the average in managerial ability and operate larger and more productive farms, their returns to labor and management are higher than the average returns that may be reported in census type data. Wide variations in management and practices followed do exist between farms. It can be assumed that similar variations occur among all farmers in the area.

Capital Managed and Earnings

The average value of capital used per farm for the various types of farming is reported in table 2. These data represent values as reported by farmers in their farm business records. The values deviate somewhat from current market values for assets with a long useful life, such as real estate. Real estate improvements are customarily valued at cost and depreciated on the basis of estimated life. In periods of rising prices, book values upon which this table is based tend to be below present market values. Land is also valued at cost and has not been corrected for the price inflation which occurred after many of the farms were purchased. Capital managed includes the value of all farm assets owned by the operators and those assets used by operators but owned by landlords.

Capital managed per farm varied widely between the types of farming included in this study. Among the factors contributing to the wide variation are the number of acres per farm, value of land, investment in livestock, and the buildings and equipment associated with each type of farm. Types of farming which can be classified as extensive require large amounts of capital. For example, while cash crops and cattle feeding are major enterprises, large amounts of capital are used. More intensive farms, such as those with dairy cattle, tend to have smaller investments in farm capital.

Cash receipts and expenses, changes in farm capital managed, and other items are shown in table 3. In order to make all farms comparable, receipts and expenses of landlords are included. "Labor earnings" is the amount that would be left as a salary to the farm operator for his labor and management if he paid wages equivalent to that of a hired man for the labor of other members of the family, and a charge of six percent interest on farm capital managed was included as a part of the farm expenses. There is considerable variation in

Table 2. Farm Capital Managed by Type of Farming, 1971

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over	Hogs (complete program)
1. Number of cases	124	61	52	21	35	23
2. Acres in farm	528	242	278	341	373	234
Average farm capital managed as of January 1, 1971						
3. Dairy cows	\$ 98	\$ 8891	\$11094	\$15398	\$21078	\$ -
4. Other dairy cattle	48	5396	6834	8993	11155	616
5. Beef cattle	1598	186	215	447	668	1110
6. Hogs	851	316	373	488	333	14735
7. Other livestock	<u>166</u>	<u>70</u>	<u>19</u>	<u>59</u>	<u>66</u>	<u>225</u>
8. Total livestock	\$ 2761	\$14859	\$18535	\$25385	\$33300	\$16686
9. Crops, seed, feed	\$21703	\$ 5980	\$ 9280	\$10910	\$14121	\$14573
10. Auto & truck (fm.sh.)	\$ 2358	\$ 1395	\$ 1789	\$ 1970	\$ 1674	\$ 1558
11. Tractors & crop mach.	17941	7842	11904	14473	17152	12238
12. Livestock equipment	<u>518</u>	<u>2585</u>	<u>4148</u>	<u>4794</u>	<u>6929</u>	<u>3813</u>
13. Total equipment	\$20817	\$11822	\$17841	\$21237	\$25755	\$17609
14. Land	\$130783	\$24314	\$31291	\$41711	\$45844	\$39313
15. Buildings, fencing*	<u>18278</u>	<u>15853</u>	<u>21780</u>	<u>28288</u>	<u>40359</u>	<u>22137</u>
16. Total capital	\$194342	\$72838	\$98727	\$127531	\$159379	\$110318
Per acre values:						
17. Land	\$248	\$100	\$113	\$122	\$123	\$168
18. Buildings*	<u>35</u>	<u>66</u>	<u>78</u>	<u>83</u>	<u>108</u>	<u>95</u>
19. Total land & buildings	\$283	\$166	\$191	\$205	\$231	\$263
Average farm capital managed as of December 31, 1971						
20. Total capital	\$206023	\$76847	\$105166	\$134639	\$172408	\$113409

* Not including farm dwelling.

earnings between types of farming. Labor earnings varied from \$6513 for farms with a complete hog program for their only enterprise to a high of \$13273 for dairy farms with over 55 cows. The same types of farms had low and high earnings in 1970. It is important to bear in mind that the relative profitableness of various enterprises can and often do vary from year to year. For example, in 1969, farms specializing in hogs

Table 2. Farm Capital Managed by Type of Farming, 1971 (continued)

	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy, hogs, cash crops	Hogs, feeder cattle, cash crops
1.	74	164	36	39	185	96	31	59
2.	256	368	428	363	347	497	379	456
Average farm capital managed as of January 1, 1971								
3.	\$ 8300	\$ 9309	\$ 383	\$ 62	\$ 19	\$ 3	\$ 8329	\$ -
4.	4936	5470	100	65	105	-	4912	25
5.	129	366	2362	31190	1520	27551	294	23060
6.	4437	664	5391	6737	7831	926	4519	5710
7.	<u>52</u>	<u>120</u>	<u>167</u>	<u>66</u>	<u>210</u>	<u>61</u>	<u>15</u>	<u>74</u>
8.	\$17854	\$15929	\$ 8403	\$38120	\$ 9685	\$28541	\$18069	\$28869
9.	\$11195	\$13962	\$18902	\$19057	\$17165	\$28099	\$17099	\$26707
10.	\$ 1826	\$ 1797	\$ 2549	\$ 1772	\$ 2080	\$ 2328	\$ 1612	\$ 2334
11.	9791	13860	16003	14179	13114	18210	13126	17692
12.	<u>3392</u>	<u>3017</u>	<u>2689</u>	<u>3119</u>	<u>2031</u>	<u>2142</u>	<u>3010</u>	<u>2481</u>
13.	\$15009	\$18674	\$21241	\$19070	\$17225	\$22680	\$17748	\$22507
14.	\$34944	\$69439	\$100413	\$76956	\$84107	\$121172	\$78359	\$95738
15.	<u>23943</u>	<u>21185</u>	<u>19992</u>	<u>22167</u>	<u>18792</u>	<u>25329</u>	<u>22939</u>	<u>25496</u>
16.	\$102945	\$139189	\$168951	\$175370	\$146974	\$225821	\$154214	\$199317
Per acre values:								
17.	\$136	\$164	\$235	\$212	\$242	\$244	\$207	\$210
18.	94	58	47	61	54	51	61	56
19.	<u>\$230</u>	<u>\$222</u>	<u>\$282</u>	<u>\$273</u>	<u>\$296</u>	<u>\$295</u>	<u>\$268</u>	<u>\$266</u>
Average farm capital managed as of December 31, 1971								
20.	\$108062	\$151996	\$176998	\$188549	\$154270	\$247350	\$159883	\$213933

and feeder cattle produced the greatest return to labor and management. There is also a wide variation in earnings within a particular farm type. Thus, one cannot assume that the type of farm which ranked first in profitability in 1971 will be the most profitable in succeeding years, nor that having a particular type of farm is most profitable. These data should be studied in the light of current prices, yields, and similar information.

Table 3. Summary of Earnings - Cash Statement, by Type of Farming, 1971

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over	Hogs (complete program)
RECEIPTS						
1. Dairy cattle	\$ 57	\$ 4854	\$ 5874	\$ 7288	\$ 8508	\$ 465
2. Dairy products	145	18294	25136	29845	48798	-
3. Beef cattle	1336	270	375	722	724	1279
4. Hogs	1816	894	792	1298	524	41417
5. Other livestock	389	140	51	139	71	497
6. Crops - corn	22689	444	1044	1239	852	920
7. - other	19141	1220	1750	1811	2946	3470
8. Other cap. assets sold	2153	158	250	316	602	186
9. Work off the farm	1704	365	359	402	335	383
10. Misc. farm income	1116	611	657	520	1117	389
11. Total sales	\$50546	\$27250	\$31288	\$43580	\$64477	\$49006
12. Increase in capital	11681	4019	6438	7108	13029	3091
13. Fam. living from farm	51	457	534	599	607	195
14. Total received	\$62278	\$31726	\$43260	\$51287	\$78113	\$52292
EXPENSES						
15. Dairy cattle bought	\$ 118	\$ 458	\$ 1404	\$ 1795	\$ 1857	\$ 95
16. Beef cattle bought	458	-	3	46	39	303
17. Hogs bought	278	114	21	60	6	1275
18. Other livestock bought	211	9	8	11	8	95
19. Misc. lvstk. expense	91	1126	1603	1944	3131	1498
20. Feed bought	1248	2961	3559	4152	6647	18150
21. Fertilizer bought	5447	1010	1554	2096	2485	2392
22. Other crop expense	5778	1172	1580	1816	2564	2547
23. Custom work hired	1048	1282	1696	2225	3022	1246
24. Gas, oil, grease bought	1725	941	1170	1283	2043	1143
25. Rep. pow. & crop mach.	2586	1351	1660	1813	2761	1699
26. Repair real estate	392	447	553	544	977	514
27. Repair lvstk. equip.	38	245	351	434	706	502
28. Wages of hired labor	1210	665	978	1415	3487	512
29. Electricity expense	286	432	551	589	805	654
30. Real estate taxes	3139	1040	1392	1451	2200	1343
31. Gen. farm expense	709	563	724	717	1131	717
32. Total cash expense	\$24762	\$13816	\$18807	\$22391	\$33869	\$34685
33. New power & machinery	8939	3086	4431	5593	5979	2004
34. New lvstk. equipment	62	465	1525	1160	3247	512
35. New real estate	8286	1983	3124	3609	8933	813
36. Total purchases	\$42049	\$19350	\$27887	\$32753	\$52028	\$38014
37. Decrease in farm cap.	-	-	-	-	-	-
38. Interest at 6%	12010	4490	6117	7865	9953	6712
39. Unpaid family labor	310	701	1365	719	2584	1005
40. Board for hired labor	54	80	51	364	275	48
41. Total expense	\$54423	\$24621	\$35420	\$41701	\$64840	\$45779
42. Labor earnings	\$ 7855	\$ 7105	\$ 7840	\$ 9586	\$13273	\$ 6513

Table 3. Summary of Earnings - Cash Statement, by Type of Farming, 1971 (continued)

	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy, hogs, cash crops	Hogs, feeder cattle, cash crops
RECEIPTS								
1.	\$ 4322	\$ 4936	\$ 119	\$ 13	\$ 121	\$ -	\$ 4464	\$ -
2.	18853	19177	673	103	10	-	17259	6
3.	347	535	3087	63760	1915	56595	292	47818
4.	11414	1620	28997	18256	20405	3935	10970	16669
5.	101	204	422	84	290	205	52	125
6.	985	7406	13842	2314	9914	12667	6148	7131
7.	2238	7838	14087	4452	11581	15901	9171	14509
8.	279	1289	293	297	931	1201	339	982
9.	305	893	1923	785	673	1167	526	955
10.	504	908	841	723	719	1150	711	855
11.	\$39348	\$44806	\$64284	\$90787	\$46559	\$92821	\$49932	\$89050
12.	5117	12897	8045	13179	7295	21529	5669	14616
13.	425	419	204	378	137	345	549	369
14.	\$44890	\$58032	\$72533	\$104344	\$53991	\$114695	\$56150	\$104035
EXPENSES								
15.	\$ 805	\$ 1528	\$ -	\$ 268	\$ 27	\$ -	\$ 247	\$ 37
16.	70	104	1331	39700	1779	39392	4	32431
17.	407	286	11950	1253	1060	1262	981	1067
18.	13	31	81	4	181	52	15	63
19.	1718	1457	356	1109	831	669	1634	1156
20.	6852	3229	9193	13895	7776	5797	5615	11438
21.	1885	2990	4365	3348	3277	5244	3365	4379
22.	2005	3177	4713	3016	3594	4771	3624	4683
23.	1872	1857	1263	1583	879	1786	2195	1613
24.	1289	1537	1556	1457	1397	1870	1551	1922
25.	1615	2036	2065	1869	1766	2674	1893	2913
26.	635	500	508	682	450	460	656	769
27.	347	349	276	381	241	298	389	413
28.	801	1454	943	1278	771	1437	1307	2120
29.	530	477	390	399	423	366	552	453
30.	1458	2297	2848	2045	2097	3071	2402	3012
31.	635	665	780	647	702	767	702	769
32.	\$22937	\$23974	\$42618	\$72934	\$27251	\$69916	\$27132	\$69238
33.	2938	5840	6745	4336	4437	7904	4154	6717
34.	1148	1054	313	719	718	440	1037	1008
35.	2578	9334	6428	2058	4690	9351	2978	3261
36.	\$29601	\$40202	\$56104	\$80047	\$37096	\$87611	\$35301	\$80224
37.	-	-	-	-	-	-	-	-
38.	6330	8736	10378	10917	9037	14195	9423	12397
39.	1253	1256	349	822	563	566	1854	1081
40.	92	120	36	69	50	74	90	130
41.	\$37276	\$50314	\$66867	\$91855	\$46746	\$102446	\$46668	\$93832
42.	\$ 7614	\$ 7718	\$ 5666	\$12489	\$ 7245	\$12249	\$ 9482	\$10203

Since capital purchases, such as machinery, equipment and buildings, are used for more than one year, only the annual depreciation enters into the calculation of labor earnings by showing increases in capital as a receipt and decreases as an expense. Increases or decreases in farm capital are the differences in the average farm capital between January 1, 1971 and December 31, 1971, as shown in table 2. This summarizes in one figure the net effect of the following changes:

1. Products bought but not fully used up during the year, such as depreciable assets and also supplies bought for use next year.
2. Depreciation on capital assets.

Table 4. Purchases per \$100 of Total Sales, by Type of Farming, 1971*

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over	Hogs (complete program)
1. Dairy cattle bought	\$.23	\$ 1.68	\$ 4.49	\$ 4.12	\$ 2.88	\$.19
2. Beef cattle bought	.91	-	.01	.10	.06	.62
3. Hogs bought	.55	.42	.07	.14	.01	2.60
4. Other livestock bought	.42	.03	.02	.02	.01	.20
5. Misc. lvstk. expense	.18	4.13	5.12	4.46	4.86	3.06
6. Feed bought	2.47	10.87	11.37	9.53	10.31	37.04
7. Fertilizer bought	10.78	3.71	4.97	4.81	3.85	4.88
8. Other crop expenses	11.43	4.30	5.05	4.16	3.98	5.20
9. Custom work hired	2.07	4.70	5.42	5.11	4.69	2.54
10. Gas, oil, grease bought	3.41	3.45	3.74	2.94	3.17	2.33
11. Rep. power & crop mach.	5.12	4.96	5.31	4.16	4.28	3.43
12. Repair real estate	.78	1.64	1.77	1.25	1.52	1.05
13. Repair lvstk. equip.	.08	.90	1.12	1.00	1.09	1.02
14. Wages of hired labor	2.39	2.44	3.13	3.25	5.41	1.04
15. Electricity expense	.56	1.59	1.76	1.35	1.25	1.33
16. Real estate taxes	6.21	3.82	4.45	3.33	3.41	2.74
17. General farm expense	<u>1.40</u>	<u>2.06</u>	<u>2.31</u>	<u>1.65</u>	<u>1.75</u>	<u>1.46</u>
18. Total cash operating expense	\$48.99	\$50.70	\$60.11	\$51.38	\$52.53	\$70.78
19. New power & machinery	17.68	11.32	14.17	12.83	9.27	4.09
20. New lvstk. equipment	.12	1.71	4.87	2.66	5.04	1.04
21. New real est. improv.	<u>16.40</u>	<u>7.28</u>	<u>9.98</u>	<u>8.28</u>	<u>13.85</u>	<u>1.66</u>
22. Total purchases	\$83.19	\$71.01	\$89.13	\$75.15	\$80.69	\$77.57

* Total purchases and sales are shown in table 3.

3. Products produced but not sold during the year, so they are on the end of the year inventory.
4. Products that were produced during the previous year or years (on hand at the beginning of the year) and sold this year.
5. Products sold that were previously purchased for later resale, such as feeder cattle and feeder pigs.
6. Casualty losses.

Approximately 50 to 80 percent of each dollar of sales is required to pay cash operating costs (table 4). Another 10 to 30 percent of each dollar of sales is required for capital expenditures. The latter includes the purchase of power, machinery,

Table 4. Purchases per \$100 of Total Sales, by Type of Farming, 1971 (continued)

	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy, hogs, cash crops	Hogs, feeder, cattle, cash crops
1.	\$ 2.05	\$ 3.42	\$ -	\$.30	\$.06	\$ -	\$.49	\$.04
2.	.18	.23	2.07	43.73	3.82	42.44	.01	36.42
3.	1.03	.64	18.59	1.38	2.28	1.36	1.96	1.20
4.	.03	.07	.13	-	.39	.06	.03	.07
5.	4.37	3.25	.55	1.22	1.78	.72	3.27	1.30
6.	17.41	7.21	14.30	15.31	16.70	6.25	11.25	12.84
7.	4.79	6.68	6.79	3.69	7.04	5.65	6.74	4.92
8.	5.10	7.09	7.33	3.32	7.72	5.14	7.26	5.26
9.	4.76	4.14	1.96	1.74	1.89	1.92	4.40	1.81
10.	3.28	3.43	2.42	1.60	3.00	2.01	3.11	2.16
11.	4.10	4.54	3.21	2.06	3.79	2.88	3.79	3.27
12.	1.61	1.12	.79	.75	.97	.50	1.31	.86
13.	.88	.78	.43	.42	.52	.32	.78	.46
14.	2.04	3.24	1.47	1.41	1.66	1.55	2.62	2.38
15.	1.35	1.06	.61	.44	.91	.39	1.10	.51
16.	3.71	5.13	4.43	2.25	4.50	3.31	4.81	3.38
17.	<u>1.60</u>	<u>1.48</u>	<u>1.22</u>	<u>.72</u>	<u>1.50</u>	<u>.83</u>	<u>1.41</u>	<u>.87</u>
18.	\$58.29	\$53.51	\$66.30	\$80.34	\$58.53	\$75.33	\$54.34	\$77.75
19.	7.47	13.03	10.49	4.77	9.53	8.52	8.32	7.55
20.	2.92	2.35	.49	.79	1.54	.47	2.08	1.13
21.	<u>6.55</u>	<u>20.83</u>	<u>10.00</u>	<u>2.27</u>	<u>10.07</u>	<u>10.07</u>	<u>5.96</u>	<u>3.66</u>
22.	\$75.23	\$89.72	\$87.28	\$88.17	\$79.67	\$94.39	\$70.70	\$90.09

livestock equipment, and real estate improvements. Thus, 70 to 90 percent of each dollar of receipts is required to pay for farm purchases, leaving the balance for family living expenses, interest on money borrowed, debt retirement, and other savings. Farms with feeder livestock (finishing hogs or feeder cattle) spent a large portion of their income on livestock purchases and feed.

The data in table 5 show earnings on an enterprise basis. Instead of emphasizing purchases and sales, the enterprise basis stresses net value produced and net expenses.

Table 5. Summary of Earnings - Enterprise Statement, by Type of Farming, 1971

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy 55 cows & over	Hogs (complete program)
RECEIPTS AND NET INCREASES						
1. Milk cows	\$ 147	\$18346	\$25154	\$29400	\$49036	\$ 2
2. Other dairy cattle	70	5900	7171	8497	10054	324
3. Beef breeding herd	232	53	13	156	159	70
4. Feeder cattle	479	99	198	214	276	697
5. Hogs	1535	723	756	1300	350	45497
6. Other livestock	211	153	84	153	77	437
7. Total livestock	\$ 2674	\$25274	\$33376	\$39720	\$59952	\$47027
8. Feed fed	1931	11676	15115	18549	25947	29453
9. Return over feed	\$ 743	\$13598	\$18261	\$21171	\$34005	\$17574
10. Crops, seed, feed	34252	9305	11756	14647	19674	10752
11. Income labor off farm	686	232	191	230	194	230
12. Misc. farm income	1116	612	657	520	1117	389
13. Total receipts	\$36797	\$23747	\$30865	\$36568	\$54990	\$28945
EXPENSES AND NET DECREASES						
14. Truck and auto	\$ 1748	\$ 1382	\$ 1596	\$ 1767	\$ 2169	\$ 1468
15. Electricity expense	286	432	551	589	805	654
16. Tractors & machinery	6947	3501	4899	5718	8512	4522
17. Livestock equipment	132	711	1074	1444	2076	1239
18. Buildings, fencing	1992	1507	2079	2239	4339	2292
19. Misc. lvstk. expense	91	1126	1603	1944	3131	1498
20. Labor*	1888	1890	2990	3248	7401	1987
21. Real estate taxes	3139	1040	1392	1451	2200	1343
22. General farm expense	709	563	724	717	1131	717
23. Interest at 6%	12010	4490	6117	7865	9953	6712
24. Total expenses	\$28942	\$16642	\$23025	\$26982	\$41717	\$22432
25. Labor earnings	\$ 7855	\$ 7105	\$ 7840	\$ 9586	\$13273	\$ 6513

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

On the enterprise basis, value of livestock and livestock products produced includes sales, value used in the home, changes in inventories, and accounts for transfers between enterprises. Purchases of livestock are subtracted so the data represents the value of livestock and livestock products added by the enterprise.

In the calculation of the 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 5, becomes the net value of crops produced that year less the cost of seed,

Table 5. Summary of Earnings - Enterprise Statement, by Type of Farming, 1971 (cont'd)

	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy, hogs, cash crops	Hogs, feeder cattle, cash crops
RECEIPTS AND NET INCREASES								
1.	\$18855	\$19065	\$ 678	\$ 139	\$ 12	\$ -	\$17506	\$ -
2.	5535	6045	161	90	97	-	5608	26
3.	-	24	201	747	274	442	42	118
4.	166	408	821	32550	915	28312	104	24856
5.	12525	1392	21267	19776	22349	3239	11700	18080
6.	82	133	349	58	231	165	67	118
7.	\$37163	\$27067	\$23477	\$53360	\$23878	\$32158	\$35027	\$43198
8.	19353	13158	16530	33104	14970	19824	17592	27298
9.	\$17810	\$13909	\$ 6947	\$20256	\$ 8908	\$12334	\$17435	\$15900
10.	12157	19990	24316	19209	21267	32385	21155	28067
11.	158	411	880	439	351	526	314	392
12.	504	908	841	723	719	1150	711	855
13.	\$30629	\$35218	\$32984	\$40627	\$31245	\$46395	\$39615	\$45214
EXPENSES AND NET DECREASES								
14.	\$ 1513	\$ 1664	\$ 1597	\$ 1302	\$ 1506	\$ 2110	\$ 1753	\$ 1840
15.	530	477	390	399	423	366	552	453
16.	4708	5925	6089	5686	5067	7397	6188	7617
17.	1087	979	745	1039	701	672	1073	919
18.	2252	1856	2423	2302	1979	2230	2427	2967
19.	1718	1457	356	1109	831	669	1634	1156
20.	2784	3444	1712	2692	1657	2669	3979	3881
21.	1458	2297	2848	2045	2097	3071	2402	3012
22.	635	665	780	647	702	767	702	769
23.	6330	8736	10378	10917	9037	14195	9423	12397
24.	\$23015	\$27500	\$27318	\$28138	\$24000	\$34146	\$30133	\$35011
25.	\$ 7614	\$ 7718	\$ 5666	\$12489	\$ 7245	\$12249	\$ 9482	\$10203

fertilizers and other miscellaneous cash expenses for crop production.

Costs of operating each service enterprise (truck and auto, tractors and crop machinery, etc.) are calculated in a similar manner. Expenses and net decreases include depreciation as well as repairs, gas, oil, etc. Thus, while earnings statements on an enterprise basis do not show purchases and sales, such a statement more truly reflects value produced for the productive enterprises and the net expenses for each of the service enterprises.¹

Crops are a major source of income on all farms when credit is given to crops for feed raised on the farm and consumed by livestock (table 6). In seven of the eleven types of farms shown in table 5, crops contribute more to income than the return over feed from livestock. The proportion of farm income from livestock,

Table 6. Proportion of Farm Income from Livestock, Crops, and Miscellaneous Sources, by Type of Farming, 1971

Source of income	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over	Hogs (complete program)	Dairy and hogs
Livestock	2.0	57.3	59.2	57.9	61.8	60.7	58.1
Crops	93.1	39.2	38.1	40.1	35.8	37.1	39.7
Miscellaneous	4.9	3.5	2.7	2.0	2.4	2.2	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source of income	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy, hogs, cash crops	Hogs, feeder cattle, cash crops
Livestock	39.5	21.1	49.8	28.5	26.6	44.0	35.2
Crops	56.8	73.7	47.3	68.1	69.8	53.4	62.0
Miscellaneous	3.7	5.2	2.9	3.4	3.6	2.6	2.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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 Pamphlet 138, Revised 1971.

crops and miscellaneous sources is based on receipts and net increases, as shown in table 6. Return over feed is the amount of income added by livestock after feed costs are deducted. The return to crops represents the value of crops produced during the year after costs of seed, fertilizer and similar costs have been deducted. Miscellaneous income is from work off the farm, conservation payments, and other similar items of income. Relative prices of crops and livestock have an important effect on the proportion of income contributed by the cropping and livestock program. In 1970, for example, nine of the eleven types of farms illustrated added more to income from crops than from livestock.

Land Use and Crop Yields

Farms on which dairy cattle are the only major livestock enterprise have a relatively large proportion of their land in pasture and hay and less in grain crops (including corn) than other types of farming (table 7). Specialized dairy farms have about 70 percent tillable land; all other types of farms have over 80 percent tillable land. Farms with characteristics of small size and a lower percent of tillable land illustrate the tendency of farms to be organized to enable the operator to maximize the return to the most scarce resource. These farms have dairy cattle, which require larger amounts of labor but return more per acre than many other kinds of livestock.

On farms without dairy cattle, most of the tillable land was in feed grains, corn, soybeans, or the feed grain program. On dairy farms, approximately 35-40 percent of the tillable land was used for growing alfalfa hay or tillable pasture. Except for differences in the amount of land devoted to hay and pasture, there were no major differences in the cropping programs of the different types of farms with livestock enterprises. Special crops, such as canning corn and canning peas, were of minor importance.

Table 7. Distribution of Acres in Farm, by Type of Farming, 1971

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over	Hogs (complete program)
1. Canning peas	4.6	-	-	1.2	4.4	-
2. Wheat	6.2	2.0	3.1	.2	.4	.3
3. Oats for silage	-	.3	1.1	2.3	7.5	-
4. Oats for grain	10.2	26.8	24.0	26.1	18.8	18.5
5. Other small grains	<u>7.8</u>	<u>.9</u>	<u>3.8</u>	<u>.3</u>	<u>2.4</u>	<u>.7</u>
6. Total small grains	28.8	30.0	32.0	30.1	33.5	19.5
7. Corn grain	247.7	47.8	60.8	79.5	80.9	123.2
8. Soybeans	138.4	6.1	6.1	9.9	7.9	23.6
9. Sweet corn	7.8	-	-	-	2.2	-
10. Corn silage	1.0	16.9	27.6	25.2	31.0	.3
11. Other cultivated crops	<u>3.5</u>	<u>.2</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
12. Total cultivated crops	398.4	71.0	94.5	114.6	122.0	147.1
13. Alfalfa hay	4.5	44.3	53.8	66.5	88.2	7.2
14. Other hay & seed crops	<u>.1</u>	<u>2.9</u>	<u>2.3</u>	<u>2.3</u>	<u>3.2</u>	<u>.2</u>
15. Total till. hay land	4.6	47.2	56.1	68.8	91.4	7.4
16. Total tillable pasture	.8	7.4	6.6	12.3	10.2	3.5
17. Feed grain program	49.3	9.3	12.8	14.5	18.4	15.2
18. Till. land not cropped	2.1	.9	1.4	.3	.3	4.3
19. Total tillable land	484.0	165.8	203.4	240.6	275.8	197.0
20. Wild hay	.9	2.2	3.1	.1	1.6	.1
21. Non-tillable pasture	9.2	29.	30.9	39.1	29.3	10.9
22. Timber not pastured	3.2	23.8	19.0	37.1	40.6	8.9
23. Waste and roads	17.9	14.4	14.1	15.5	17.2	8.6
24. Farmstead	<u>12.6</u>	<u>6.6</u>	<u>7.3</u>	<u>8.2</u>	<u>8.2</u>	<u>8.2</u>
25. Total acres in farm	527.8	242.2	277.8	340.6	372.7	233.7
26. Percent land tillable	92	68	73	71	74	84

Crop yields, as reported in table 8, do not appear to be related to the type of farms, although yields of corn and soybeans on the smallest dairy farm type were relatively low. There was considerable variation, however, in the reported yields

Table 7. Distribution of Acres in Farm, by Type of Farming, 1971 (continued)

	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy, hogs, cash crops	Hogs, feeder cattle, cash crops
1.	-	2.1	2.7	-	2.0	1.5	.5	.7
2.	1.4	3.1	3.0	1.3	1.7	4.6	1.2	.5
3.	1.7	.7	-	1.5	-	1.9	1.8	.7
4.	20.1	21.8	9.9	21.0	10.6	11.5	26.3	17.4
5.	<u>1.4</u>	<u>2.9</u>	<u>5.3</u>	<u>4.7</u>	<u>1.4</u>	<u>3.0</u>	<u>.2</u>	<u>1.1</u>
6.	24.6	30.6	20.9	28.5	15.7	22.5	30.0	20.4
7.	90.2	130.6	205.9	166.7	162.1	231.8	149.7	208.2
8.	16.3	55.7	108.6	27.7	90.0	103.9	63.4	105.8
9.	-	3.6	4.0	-	2.6	2.9	1.7	2.2
10.	13.6	16.2	1.0	22.9	1.4	18.5	12.7	16.6
11.	-	<u>.2</u>	<u>.9</u>	-	<u>1.0</u>	<u>.3</u>	-	<u>4.5</u>
12.	<u>120.1</u>	<u>206.3</u>	<u>320.4</u>	<u>217.3</u>	<u>257.1</u>	<u>357.4</u>	<u>227.5</u>	<u>337.3</u>
13.	39.6	41.3	3.8	26.8	5.0	19.3	37.1	17.5
14.	<u>.8</u>	<u>.7</u>	<u>.4</u>	<u>2.1</u>	<u>.3</u>	<u>1.0</u>	<u>.8</u>	<u>.3</u>
15.	40.4	42.0	4.2	28.9	5.3	20.3	37.9	17.8
16.	5.5	6.0	.4	2.9	1.3	.8	5.9	1.2
17.	14.1	30.1	39.9	28.1	33.0	47.9	28.6	39.7
18.	<u>2.2</u>	<u>.5</u>	<u>.3</u>	<u>.8</u>	<u>.5</u>	<u>.5</u>	<u>.8</u>	<u>.3</u>
19.	206.9	315.5	386.1	306.5	312.9	449.4	330.7	416.7
20.	2.6	2.2	.9	3.0	2.1	1.0	1.1	2.9
21.	9.2	18.3	10.6	27.7	6.6	13.0	17.7	6.6
22.	17.6	5.0	2.3	.9	2.7	3.1	4.2	1.7
23.	10.8	16.3	19.5	14.5	13.3	17.8	14.9	16.6
24.	<u>8.7</u>	<u>10.2</u>	<u>8.3</u>	<u>10.3</u>	<u>9.3</u>	<u>12.8</u>	<u>10.8</u>	<u>11.7</u>
25.	255.8	367.5	427.7	362.9	346.9	497.1	379.4	456.2
26.	81	86	90	84	90	90	87	91

of a number of crops. Corn varied from 106 bushels per acre on the large dairy farms to a low of 83 bushels on the small dairy farms. Feed grain payments per acre were similar among farm types.

Table 8. Crop Yields per Acre, by Type of Farming, 1971

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over	Hogs (complete program)
1. Canning peas, \$	80	-	-	*	92	-
2. Wheat, bu.	29.9	40.0	34.0	*	*	*
3. Oats for silage, tons	-	-	-	*	4.9	-
4. Oats for grain, bu.	64.5	66.8	68.0	54.7	58.2	55.8
5. Corn grain, bu.	97.9	83.0	90.5	96.9	106.1	94.8
6. Soybeans, bu.	30.3	19.9	23.0	23.8	36.3	32.2
7. Corn silage, tons	8.9	11.9	13.6	15.7	18.6	*
8. Alfalfa hay, tons	3.4	3.5	3.6	3.7	4.0	3.2
9. Feed grain program, \$	71	60	60	64	73	66

* Less than 5 cases.

Livestock Enterprises

Feed costs, returns, and some related factors are shown for dairy cattle, hogs, and feeder cattle in tables 9 through 13. Home grown feeds have been charged to livestock at current market prices during the year. Purchased feeds were charged at cost. The number of head of livestock represents the average number on hand at the beginning of each month.

Variations in total value produced per cow are greater than variations in feed cost per cow. Milk production per cow ranged from 12,549 pounds on dairy specialty farms with 35-44 cows to 11,131 pounds on dairy, hog and cash crop farms.

Specialized hog farms raised two to three times more litters than the farms that kept hogs along with one or more other enterprises. There is little evidence that

Table 8. Crop Yields per Acre, by Type of Farming, 1971 (continued)

	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy, hogs, cash crops	Hogs, feeder cattle cash crops
1.	-	61	*	-	73	82	*	*
2.	*	30.7	31.7	*	33.8	34.0	*	*
3.	5.5	5.7	-	5.6	-	6.7	*	*
4.	64.3	64.0	61.7	68.6	69.4	66.6	63.4	68.4
5.	89.6	92.5	93.8	87.1	96.3	98.9	90.7	95.1
6.	25.7	26.8	28.5	29.1	30.4	29.7	26.2	28.6
7.	14.5	15.5	*	14.9	13.8	17.2	14.6	16.3
8.	3.6	3.9	3.7	4.0	3.8	4.0	3.6	3.7
9.	63	68	70	64	72	71	72	69

the enterprises on highly specialized farms are more efficient than "several enterprise" farms. Except for the finishing hog-cash crop farms, all swine were from complete (farrowing to market) programs.

Cattle feeders received higher prices for fed cattle in 1971 as compared to 1970. Return over feed cost and returns for \$100 of feed was higher than during several previous years.

As an average, dairy cattle give a higher return for each \$100 of feed consumed than is true for beef cattle or hogs. Since labor, buildings and equipment costs are generally less for beef cattle and hogs than for dairy, a lower return for each \$100 of feed consumed is needed in order to cover all costs of production.

Table 9. Factors of Costs and Returns from Dairy Cows, by Type of Farming, 1971

Item	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over	Dairy and hogs	Dairy and cash crops	Dairy, hogs, cash crops
Number of cows	31	40	50	75	31	34	29
Pounds of milk per cow	11856	12549	11267	12120	12166	11930	11131
Pounds of BF per cow	430	448	423	457	442	427	410
Percent of BF in milk	3.6	3.5	3.8	3.8	3.6	3.7	3.7
Value of produce per cow							
Dairy product sales	\$592.47	\$630.55	\$596.91	\$648.79	\$609.50	\$571.28	\$555.66
Dairy produce used							
in home	4.22	4.27	3.71	2.90	4.30	4.44	5.60
Milk fed to livestock	5.70	5.99	5.20	5.34	4.36	5.53	7.23
Net increase in value of cows	<u>-8.18</u>	<u>-10.01</u>	<u>-17.82</u>	<u>-4.62</u>	<u>-7.77</u>	<u>-14.63</u>	<u>-3.73</u>
Total value produced	\$594.21	\$630.80	\$588.00	\$652.41	\$610.39	\$566.62	\$564.76
Feeds per cow, lbs.							
Corn	3707	4048	4363	4699	4591	4300	4096
Small grain	1819	884	582	301	601	684	696
Commercial feeds	679	655	594	545	668	628	518
Total concentrates	6205	5587	5539	5545	5860	5612	5310
Total hay	6753	7202	6701	2143	6739	6955	6138
Total silage	8841	11901	10890	11547	8751	10138	8823
Feed cost per cow							
Concentrates	\$144.42	\$146.19	\$139.73	\$142.76	\$150.89	\$140.01	\$139.31
Roughages	98.33	111.68	103.41	108.08	96.19	103.45	93.92
Pasture	6.72	3.73	3.46	2.19	7.97	4.97	7.06
Total feed cost	<u>\$249.47</u>	<u>\$261.60</u>	<u>\$246.60</u>	<u>\$253.03</u>	<u>\$255.05</u>	<u>\$249.43</u>	<u>\$240.29</u>
Return above feed cost per cow	\$344.74	\$369.20	\$341.40	\$399.38	\$355.34	\$317.19	\$324.47
Return for \$100 of feed	\$238	\$241	\$238	\$258	\$239	\$227	\$235
Feed cost per cwt. milk produced	\$2.11	\$2.09	\$2.20	\$2.09	\$2.11	\$2.18	\$2.24
Feed cost per pound of butterfat	.58	.59	.59	.55	.58	.58	.60
Price received per cwt. of milk	\$5.09	\$5.12	\$5.38	\$5.43	\$5.10	\$5.04	\$5.12
Price received per pound of butterfat	1.40	1.44	1.44	1.44	1.40	1.36	1.38

Table 10. Feed Costs and Returns from Other Dairy Cattle, by Type of Farming, 1971

Item	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over	Dairy and hogs	Dairy and cash crops	Dairy, hogs, cash crops
Net increase in value per head	\$144.73	\$140.18	\$136.35	\$127.45	\$147.21	\$147.42	\$153.93
Total feed cost per head	79.24	88.55	81.11	78.38	75.43	83.72	84.73
Return above feed cost per head	65.49	51.63	55.24	49.07	71.78	63.70	69.20
Return for \$100 of feed	\$183	\$158	\$168	\$163	\$195	\$176	\$182
Feed per head, lbs.							
Concentrates	1353	1182	1258	1065	1167	1517	1424
Hay	2722	2183	2322	2897	2411	2569	2956
Silage	3277	4678	4409	3107	3591	3787	2504
Whole milk	93	106	85	98	80	104	126
Number of head	41	51	62	79	38	42	37

Table 11. Feed Costs and Returns from All Dairy Cattle, by Type of Farming, 1971

Item	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy 55 cows & over	Dairy and hogs	Dairy and cash crops	Dairy, hogs, cash crops
Value of produce per cow							
Dairy products	\$601.70	\$639.63	\$605.82	\$656.55	\$617.55	\$580.51	\$566.71
Net incr. in value	<u>182.71</u>	<u>169.81</u>	<u>152.12</u>	<u>129.86</u>	<u>171.54</u>	<u>168.56</u>	<u>191.87</u>
Total value produced	\$784.41	\$809.44	\$757.94	\$786.41	\$789.09	\$749.07	\$758.58
Total feed cost per cow	\$353.54	\$361.31	\$347.71	\$335.76	\$348.82	\$352.93	\$344.77
Return above feed cost per cow	\$430.87	\$448.13	\$410.23	\$450.65	\$440.27	\$396.14	\$413.81
Return for \$100 of feed	\$222	\$224	\$218	\$234	\$226	\$212	\$220
Feed per cow, lbs.							
Concentrates	8002	7132	7115	6683	7372	7540	7190
Hay	10342	9985	9566	10139	9681	10139	9741
Silage	13184	17810	16462	14895	13209	14807	12026
Misc. expenses per cow	\$38.65	\$41.08	\$40.74	\$44.09	\$41.19	\$42.51	\$38.00

Table 12. Feed Costs and Returns from Hogs, by Type of Farming, 1971

Item	Hogs, complete program	Dairy and hogs	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Dairy, hogs, cash crops	Hogs, feeder cattle, cash crops
Pounds produced	220815	61495	132499	103332	110085	58774	91261
Per cwt. produced:							
Net increase in value	\$20.61	\$19.75	\$16.00	\$19.62	\$20.39	\$20.08	\$19.56
Feed cost	<u>12.99</u>	<u>12.93</u>	<u>11.69</u>	<u>12.75</u>	<u>12.82</u>	<u>13.13</u>	<u>12.74</u>
Return above feed cost	\$ 7.62	\$ 6.82	\$ 4.31	\$ 6.87	\$ 7.57	\$ 6.95	\$ 6.82
Return for \$100 of feed	\$159	\$153	\$137	\$154	\$159	\$153	\$154
Price received per cwt.	\$18.57	\$18.44	\$18.49	\$18.16	\$18.41	\$18.22	\$17.86
Weight per hog sold	212	217	225	226	221	220	239
Miscellaneous costs per cwt. produced*	\$.69	\$.59	\$.18	\$.53	\$.71	\$.56	\$.62
Feed per cwt. hogs produced, lbs.							
Corn	326	318	261	277	325	340	307
Small grain	18	32	16	50	18	35	22
Commercial feeds**	<u>142</u>	<u>80</u>	<u>136</u>	<u>114</u>	<u>99</u>	<u>75</u>	<u>96</u>
Total concentrates	<u>486</u>	<u>430</u>	<u>413</u>	<u>441</u>	<u>442</u>	<u>450</u>	<u>425</u>
Total number of litters raised	118	38		53	63	38	55
Number of pigs born per litter	10.6	9.3		9.8	9.6	8.7	8.8
Number of pigs weaned per litter	8.8	7.3		8.2	7.7	6.8	7.1
Number of feeder pigs bought		2	778	16	2	12	12
Total weight of pigs bought, lbs.		80	31061	542	86	540	463
Price paid per feeder pig		\$14.19	\$15.24	\$11.36	\$15.19	\$14.59	\$15.01

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

** This includes protein feed and purchased complete hog feeds which have not been divided between corn, small grains and protein.

Table 13. Feed Costs and Returns from Feeder Cattle, by Type of Farming, 1971

Item	Hogs and feeder cattle	Feeder cattle, cash crops	Hogs, feeder cattle, cash crops
Pounds of beef produced	101469	85420	76101
Net increase in value of feeders	\$32.19	\$33.34	\$35.40
Feed cost per cwt. of beef produced			
Concentrates	\$14.09	\$15.96	\$17.60
Roughages	5.21	4.16	4.93
Pasture	.21	.03	.15
Total feed cost	<u>\$19.51</u>	<u>\$20.15</u>	<u>\$22.68</u>
Return above feed cost per cwt. beef produced	\$12.68	\$13.19	\$12.72
Return for \$100 of feed	\$165	\$165	\$156
Miscellaneous costs per cwt beef produced	\$.59	\$.74	\$.68
Feeds per cwt. beef produced, pounds			
Corn and small grain	590	640	690
Commercial feeds	45	53	59
Total concentrates	635	693	749
Total hay	2170	169	274
Total silage	672	779	728
Price paid per cwt. for beef bought	\$35.09	\$34.68	\$35.90
Price received for feeder cattle sold	31.27	31.21	31.46
Average number of head for the year	155	126	121

Factors Affecting Choice of Type of Farming

The records included in this report are for only one calendar year. Examination of the 1970 report¹ reveals considerable variation between the two reporting years. These variations, in the main, are caused by differences in climatic conditions and general price levels--factors which the farmer cannot control. Furthermore, price levels do not rise or fall in unison. Some prices may rise while others are falling, or some may change faster than others. For these reasons, the relative earnings levels of the various types of farms may change from year to year.

A summary of some of the resources available, size of business, and other factors by type of farming is presented in table 14. Farms which have cash crops or feeder cattle as major enterprises generally use large amounts of capital and involve large acreages. These are more extensive enterprises and are best suited where labor is scarce as compared to land and capital. Dairying tends to be located on relatively small farms, where there is non-tillable land and where it is desirable--because of erosion and other factors--to include a considerable amount of hay and pasture in the rotation. Dairying is an intensive enterprise and is adapted to situations where labor is plentiful in comparison to land. Hogs seem to be adapted to a variety of situations.

A measure of return on capital managed is also reported in table 14. Return on farm capital varies from 4.7 percent on specialized hog farms to 9.2 percent on the largest dairy farms. To calculate this figure, a charge of \$8000 for the operator's labor was assumed.

Farms with dairy alone or in combination with other enterprises had less capital invested per man than did farms with cash crops or feeder animals as

1. Nodland, Truman R., Edgar A. Persons, and Janet B. Otis, "1970 Farm Business Summary by Type of Farming for Southern Minnesota," Department of Agricultural and Applied Economics Report No. R71-8, November 1971.

major enterprises. However, the total capital managed per farm was relatively high on large dairy farms.

There was not a wide variation in the amount of labor utilized among the types of farms. Five farm types used 1.3 - 1.4 years of man labor; eight used 1.5 - 1.7 years, and one (large dairy farms) had 2.4 workers. The total work units of 780 on the large dairy farms was much larger than that reported by any other group.¹ The large dairy farms, with 2.4 workers, reported 325 work units per worker compared to 1.3 workers and 217 work units per worker for cash crop farms.

Cash crop farms had relatively few work units in total and per worker. The length of the growing season prevents the accumulation of a large number of work units per worker. This resulted in large expenses for power, machinery, equipment and buildings per work units or per unit of size of business.

The type of farming which a farmer selects is the result of factors such as the number of acres of tillable land and non-tillable land, topography, soils, climate, markets, availability of labor and capital, relative prices of agricultural products, and personal preference. Most farmers face some limitations in adopting a particular farming type since each farm needs to be organized so as to make the best possible use of the particular bundle of resources available on that farm. In general, in order to maximize income, farmers should attempt to maximize the returns from their most scarce resources. If the supply of labor is short, enterprises should be selected that best fit that amount of labor. Others may have limitations in respect to land or capital, which in turn affect the selection of enterprises. What to produce and how much to produce depends on many physical, economic, and personal factors. Some of these personal factors

1. 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, or the various annual farm business summaries.

take precedence over the maximizing of income.

There are many possible combinations of crops and livestock from which a farmer can make a choice. The specific combination that he chooses should be

Table 14. Earnings, Resources Utilized, Size of Business, and Expenses, by Type of Farming, 1971

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over	Hogs (complete program)
Earnings						
1. Net cash income	\$ 8497	\$ 7900	\$ 3401	\$10827	\$12449	\$10992
2. Labor earnings	7855	7105	7840	9586	13273	6513
3. Interest on capital	12010	4490	6117	7865	9953	6712
4. Total (2+3)	19865	11595	13957	17451	23226	13225
5. Estimated value of operator's labor	8000	8000	8000	8000	8000	8000
6. Return to capital	11865	3595	5957	9451	15226	5225
7. Rate earned on investment	5.9	4.8	5.8	7.2	9.2	4.7
Land						
8. Acres per farm	528	242	278	341	373	234
9. Acres tillable	484	166	203	241	276	197
10. % till. land in corn	51.2	28.8	29.9	33.0	29.3	62.5
11. % till. land in soybeans	28.6	3.7	3.0	4.1	2.9	12.0
Labor						
12. Number of workers	1.3	1.4	1.7	1.7	2.4	1.4
13. Work units per worker	217	262	272	335	325	273
Capital						
14. Total capital mgd.	\$200182	\$74838	\$101946	\$131085	\$165894	\$111864
15. Cap. mgd. per worker	153986	53456	59968	77109	69122	79903
16. Tractor & crop mach. investment per tillable acre	\$37.07	\$47.30	\$58.52	\$60.15	\$62.19	\$62.12
Size of business						
17. Total work units	282	367	463	569	780	382
18. Total farm sales	\$50546	\$27250	\$31288	\$43580	\$64477	\$49006
Expenses						
19. Power, machinery, equipment, building expense per WU	\$39.37	\$20.52	\$22.02	\$20.66	\$22.95	\$26.63
20. Tractor & crop mach. expense per crop acre	\$14.32	\$20.84	\$23.78	\$23.73	\$30.73	\$22.95

dependent on the resources available and be consistent with the personal goals of the farm operator and his family.

Table 14. Earnings, Resources Utilized, Size of Business, and Expenses, by Type of Farming, 1971

	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy, hogs, cash crops	Hogs, feeder cattle, cash crops
Earnings								
1.	\$ 9747	\$ 4604	\$ 8180	\$10740	\$ 9463	\$ 5210	\$14631	\$ 8826
2.	7614	7718	5666	12489	7245	12249	9482	10203
3.	6330	8736	10378	10917	9037	14195	9423	12397
4.	13944	16454	16044	23406	16282	26444	18905	22600
5.	8000	8000	8000	8000	8000	8000	8000	8000
6.	5944	8454	8044	15406	8282	18444	10905	14600
7.	5.6	5.8	4.7	8.5	5.5	7.8	6.9	7.1
Land								
8.	256	368	428	363	347	497	379	456
9.	207	316	386	306	313	449	331	417
10.	43.6	41.4	53.3	54.4	51.8	51.6	64.9	50.0
11.	7.9	17.7	28.1	9.0	28.8	23.1	19.2	25.4
Labor								
12.	1.5	1.7	1.3	1.6	1.3	1.6	1.7	1.7
13.	300	276	255	271	236	233	293	252
Capital								
14.	\$105504	\$145592	\$172974	\$181960	\$150622	\$236586	\$157049	\$206625
15.	70336	85642	133057	113725	115863	147866	92382	121544
16.	\$47.32	\$43.93	\$41.45	\$46.26	\$41.91	\$40.52	\$39.69	\$42.46
Size of business								
17.	450	469	332	433	307	372	498	428
18.	\$39348	\$44806	\$64284	\$90787	\$46559	\$92821	\$49932	\$89050
Expenses								
19.	\$24.37	\$23.24	\$33.86	\$24.77	\$31.52	\$34.34	\$24.08	\$32.23
20.	\$22.42	\$18.63	\$15.73	\$18.34	\$16.09	\$16.44	\$18.64	\$18.14