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1973

**Farm Business
Summary**

**By Type of Farming
for Southern Minnesota**

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1973 MINNESOTA FARM BUSINESS SUMMARIES
BY TYPES OF FARMING FOR SOUTHERN MINNESOTA

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INTRODUCTION

This report summarizes the 1973 farm business records by types of farming for 1349 southern Minnesota farmers. Farm records were supplied by the area vocational-technical institutes 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 10 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 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 smaller of the two.

Specialized dairy farms were further divided into four categories on the average number of dairy cows maintained. Fattening hog operations are reported in combination with cash crops and with a dairy enterprise. 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, 1973

Type	Number
Cash crops	264
Dairy - 25-34 cows	64
- 35-44 cows	67
- 45-54 cows	32
- 55 cows and over	54
Hogs (complete program)	59
Dairy and hogs (complete program)	93
Dairy and cash crops	238
Hogs (finish) and cash crops	57
Hogs (complete program) and feeder cattle	42
Hogs (complete program) and cash crops	273
Feeder cattle and cash crops	88
Dairy and hogs (finish)	<u>18</u>
Total	1349

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 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.

The data in table 2 show per acre investment in farm buildings and land based on account book values. Average per acre real estate values ranged from \$198 on the 25-34 dairy cow farms to \$375 per acre on hog finishing-cash crop farms. This compares with estimated sales prices for 1973, as reported by Mandale and Raup,¹ of \$247 per acre for west central Minnesota, \$459 per acre for the southwestern area, and \$433 for the southeastern area of the state. Prices reported as paid for farm land late in 1973 and early in 1974 were much higher and would have a bearing on the net worth of farm families.

Capital managed per farm varied widely among 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

1. Mandale, Maurice and Philip M. Raup, "The Minnesota Real Estate Market in 1973." Economic Report ER 74-1, Department of Agricultural and Applied Economics, University of Minnesota, January 1974.

Table 2. Farm Capital Managed by Type of Farming, 1973

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over
1. Number of cases	264	64	67	32	54
2. Acres in farm	477	213	269	297	381
Average farm capital managed January 1, 1973					
3. Dairy cows	\$ 32	\$ 10593	\$ 15279	\$ 18736	\$ 30252
4. Other dairy cattle	22	6795	9224	10459	14571
5. Beef cattle	1950	148	304	322	849
6. Hogs	782	75	224	112	112
7. Other livestock	<u>69</u>	<u>10</u>	<u>81</u>	<u>22</u>	<u>157</u>
8. Total livestock	\$ 2855	\$ 17621	\$ 25112	\$ 29651	\$ 45941
9. Crops, seed, feed	\$ 21794	\$ 6316	\$ 8626	\$ 10364	\$ 16934
10. Auto & truck (farm share)	\$ 2268	\$ 1325	\$ 1700	\$ 1866	\$ 2176
11. Tractors & crop machinery	15793	7656	12204	14299	19598
12. Livestock equipment	<u>289</u>	<u>2424</u>	<u>4332</u>	<u>4376</u>	<u>8872</u>
13. Total equipment	\$ 18530	\$ 11405	\$ 18236	\$ 20541	\$ 30646
14. Land	\$140790	\$ 30682	\$ 33191	\$ 39675	\$ 58305
15. Buildings, fencing*	<u>14945</u>	<u>12383</u>	<u>20248</u>	<u>26949</u>	<u>49805</u>
16. Total capital	\$198734	\$ 78407	\$105413	\$127180	\$201631
Per acre values:					
17. Land	\$295	\$144	\$123	\$134	\$153
18. Buildings*	<u>31</u>	<u>58</u>	<u>75</u>	<u>91</u>	<u>131</u>
19. Total land and buildings	\$326	\$202	\$198	\$225	\$284
Average farm capital managed December 31, 1973					
20. Total capital	\$244822	\$ 92500	\$124813	\$148686	\$234362

* Not including farm dwelling.

example, where 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

Table 2. Farm Capital Managed by Type of Farming, 1973 (continued)

	Hogs (complete program)	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy and hogs (finish)
1.	59	93	238	57	42	273	88	18
2.	251	257	360	403	408	390	497	279
Average farm capital managed January 1, 1973								
3.	\$ 68	\$ 11138	\$ 11472	\$ 94	\$ 223	\$ 174	\$ 55	\$ 12145
4.	374	7563	7230	94	238	284	31	6689
5.	1127	823	649	3668	69706	3433	45339	72
6.	26089	7380	646	11497	13148	11053	1562	7144
7.	<u>201</u>	<u>44</u>	<u>83</u>	<u>78</u>	<u>181</u>	<u>167</u>	<u>47</u>	<u>11</u>
8.	\$ 27859	\$ 26948	\$ 20080	\$ 15431	\$ 83496	\$ 15111	\$ 47034	\$ 26061
9.	\$ 19000	\$ 12600	\$ 15513	\$ 21514	\$ 26256	\$ 21116	\$ 30160	\$ 12903
10.	\$ 2072	\$ 1758	\$ 1862	\$ 2190	\$ 2606	\$ 2232	\$ 2367	\$ 2600
11.	10949	10317	15886	16420	17915	13979	20164	13298
12.	<u>4219</u>	<u>3478</u>	<u>3600</u>	<u>1441</u>	<u>4043</u>	<u>1909</u>	<u>1975</u>	<u>3967</u>
13.	\$ 17240	\$ 15553	\$ 21348	\$ 20051	\$ 24564	\$ 18120	\$ 24506	\$ 19865
14.	\$ 63687	\$ 38423	\$ 85581	\$131425	\$104913	\$113349	\$139523	\$ 64638
15.	<u>24659</u>	<u>22209</u>	<u>22595</u>	<u>19576</u>	<u>28424</u>	<u>19072</u>	<u>27779</u>	<u>19291</u>
16.	\$152445	\$115733	\$165117	\$207997	\$267653	\$186768	\$269002	\$142758
Per acre values:								
17.	\$254	\$150	\$238	\$326	\$257	\$291	\$281	\$232
18.	<u>98</u>	<u>86</u>	<u>63</u>	<u>49</u>	<u>70</u>	<u>49</u>	<u>56</u>	<u>69</u>
19.	<u>\$352</u>	<u>\$236</u>	<u>\$301</u>	<u>\$375</u>	<u>\$327</u>	<u>\$340</u>	<u>\$337</u>	<u>\$301</u>
Average farm capital managed December 31, 1973								
20.	\$205339	\$145760	\$197508	\$253740	\$346859	\$234463	\$328044	\$173716

landlords are included. "Labor and management 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, including partners, 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 earnings between types of farming. Labor and management earnings varied from \$16693 for dairy

Table 3. Summary of Earnings - Cash Statement, by Type of Farming, 1973

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over
RECEIPTS					
1. Dairy cattle	\$ 21	\$ 6234	\$ 8480	\$ 9459	\$12128
2. Dairy products	27	21158	30484	35183	62254
3. Beef cattle	1581	75	245	254	1488
4. Hogs	2380	290	483	743	225
5. Other livestock	160	105	175	59	188
6. Crops - corn	30239	582	993	1169	1509
7. - soybeans	17822	408	455	1012	889
8. - other	8478	1073	1539	1729	2219
9. Other farm sales	4733	1152	639	266	2859
10. Work off the farm	2063	358	532	589	389
11. Miscellaneous farm income	1419	969	982	1104	1997
12. Total sales	\$68923	\$32404	\$45007	\$51567	\$86145
13. Increase in capital	46088	14093	19400	21506	32731
14. Family living from the farm	84	532	657	719	832
15. Total received	\$115095	\$47029	\$65064	\$73792	\$119708
EXPENSES					
16. Dairy cattle bought	\$ 18	\$ 1776	\$ 2813	\$ 2673	\$ 2480
17. Beef cattle bought	1249	-	3	-	-
18. Hogs bought	446	12	122	186	19
19. Other livestock bought	14	47	43	12	20
20. Miscellaneous livestock expense	130	1295	1775	2226	3741
21. Feed bought	1587	3674	5118	4888	10375
22. Fertilizer bought	6184	980	1646	2088	3483
23. Other crop expense	6927	1208	1672	2089	3157
24. Custom work hired	1255	1324	1912	2020	3330
25. Gas, oil, grease bought (fm.sh.)	1986	1046	1286	1385	2091
26. Repair power & crop machinery	2842	1336	1843	2002	3213
27. Repair real estate	484	506	640	1058	1216
28. Repair livestock equipment	45	275	441	388	729
29. Wages of hired labor	1092	656	1143	1517	3539
30. Electricity expense	249	433	592	678	1040
31. Real estate taxes	2538	777	1093	1312	1888
32. General farm expense	969	644	839	935	1282
33. Total cash expense	\$28015	\$15989	\$22981	\$25457	\$41603
34. New power & machinery	11370	3639	5356	4262	10794
35. New livestock equipment	128	1455	1684	2348	3388
36. New real estate	9939	3187	4633	6264	12118
37. Total purchases	\$49452	\$24270	\$34654	\$38331	\$67903
38. Decrease in farm capital	-	-	-	-	-
39. Interest at 6 percent	13307	5127	6907	8276	13080
40. Unpaid family labor*	520	840	1431	818	4941
41. Board for hired labor	37	99	100	161	309
42. Total expense	\$63316	\$30336	\$43092	\$47586	\$86233
43. Labor and management earnings	\$51779	\$16693	\$21972	\$26206	\$33475

*Includes a charge for partners above one full time individual.

Table 3. Summary of Earnings - Cash Statement, by Type of Farming, 1973 (continued)

	Hogs (complete program)	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy and hogs (finish)
RECEIPTS								
1.	\$ 270	\$ 6299	\$ 6560	\$ 76	\$ 389	\$ 349	\$ 66	\$ 6910
2.	31	23193	24186	20	359	287	65	23018
3.	1311	1184	674	5009	119457	4020	77189	99
4.	83569	24459	1736	54874	46368	33713	4043	36076
5.	357	133	165	303	335	378	119	-
6.	2866	1478	12164	20470	3991	15667	16663	1722
7.	4991	1728	8512	16362	5394	14792	18497	2814
8.	1539	1256	4142	3429	2678	4242	6759	1508
9.	1483	1078	1084	786	1228	2901	2982	2624
10.	901	345	863	1175	958	868	1355	677
11.	1037	1073	1324	1202	1066	1151	1743	902
12.	<u>\$98355</u>	<u>\$62226</u>	<u>\$61410</u>	<u>\$103706</u>	<u>\$182223</u>	<u>\$78368</u>	<u>\$129481</u>	<u>\$76350</u>
13.	52894	30027	32391	45743	79206	47695	59042	30958
14.	290	766	618	312	880	314	591	788
15.	<u>\$151539</u>	<u>\$93019</u>	<u>\$94419</u>	<u>\$149761</u>	<u>\$262309</u>	<u>\$126377</u>	<u>\$189114</u>	<u>\$108096</u>
EXPENSES								
16.	\$ 54	\$ 1130	\$ 2213	\$ 4	\$ 711	\$ 119	\$ 2	\$ 2858
17.	1121	57	249	4759	87533	2388	49988	-
18.	3782	768	411	20666	1912	1834	885	13311
19.	33	22	40	22	113	134	18	-
20.	2225	1994	1733	726	2052	912	793	2030
21.	29391	11344	4429	16725	33219	11297	8105	12518
22.	3742	2394	3639	5419	5510	4777	6763	3260
23.	3710	2546	4171	6010	5715	5480	6655	3359
24.	1392	1849	2032	1267	2270	1149	2028	2298
25.	1638	1480	1815	1936	2271	1904	2225	1469
26.	2134	2009	2546	2599	3117	2594	3261	2622
27.	1034	844	681	503	1180	744	1048	1309
28.	1058	524	450	423	807	371	283	420
29.	1982	1250	1635	1190	2103	1170	1788	1053
30.	717	610	569	387	513	426	397	602
31.	1569	1272	2015	2346	2263	2257	2795	1658
32.	1011	849	874	817	1068	867	1063	1018
33.	<u>\$56593</u>	<u>\$30942</u>	<u>\$29502</u>	<u>\$65799</u>	<u>\$152357</u>	<u>\$38423</u>	<u>\$88097</u>	<u>\$49785</u>
34.	7368	7668	8275	9273	10921	9577	11665	6961
35.	3672	2012	1542	1530	2465	1239	1105	1500
36.	10099	6727	6153	4247	16568	8504	11150	8362
37.	<u>\$77732</u>	<u>\$47349</u>	<u>\$45472</u>	<u>\$80849</u>	<u>\$182311</u>	<u>\$57743</u>	<u>\$112017</u>	<u>\$66608</u>
38.	-	-	-	-	-	-	-	-
39.	10733	7845	10879	13852	18435	12637	17911	9494
40.	2338	1572	2416	1319	2072	1877	1804	1854
41.	107	104	107	54	78	57	86	101
42.	<u>\$90910</u>	<u>\$56870</u>	<u>\$58874</u>	<u>\$96074</u>	<u>\$202896</u>	<u>\$72314</u>	<u>\$131818</u>	<u>\$78057</u>
43.	\$60629	\$36149	\$35545	\$53687	\$ 59413	\$54063	\$ 57296	\$30039

Table 4. Purchases per \$100 of Total Sales by Type of Farming, 1973*

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over
1. Dairy cattle bought	\$.03	\$ 5.48	\$ 6.25	\$ 5.18	\$ 2.88
2. Beef cattle bought	1.81	-	.01	-	-
3. Hogs bought	.65	.04	.27	.36	.02
4. Other livestock bought	.02	.14	.10	.02	.02
5. Miscellaneous livestock expense	.19	4.00	3.94	4.32	4.34
6. Feed bought	2.30	11.34	11.37	9.48	12.04
7. Fertilizer bought	8.97	3.02	3.66	4.05	4.04
8. Other crop expenses	10.05	3.73	3.71	4.05	3.66
9. Custom work hired	1.82	4.09	4.25	3.92	3.87
10. Gas, oil, grease bought	2.88	3.23	2.86	2.69	2.43
11. Repair power & crop machinery	4.12	4.12	4.09	3.88	3.73
12. Repair real estate	.70	1.56	1.42	2.05	1.41
13. Repair livestock equipment	.07	.85	.98	.75	.85
14. Wages of hired labor	1.58	2.02	2.54	2.94	4.11
15. Electricity expense	.36	1.34	1.32	1.32	1.21
16. Real estate taxes	3.68	2.40	2.43	2.54	2.19
17. General farm expense	<u>1.41</u>	<u>1.99</u>	<u>1.86</u>	<u>1.82</u>	<u>1.49</u>
18. Total cash operating expense	\$40.64	\$49.35	\$51.06	\$49.37	\$48.29
19. New power and machinery	16.50	11.23	11.90	8.26	12.53
20. New livestock equipment	.19	4.49	3.74	4.55	3.93
21. New real estate improvements	<u>14.42</u>	<u>9.83</u>	<u>10.30</u>	<u>12.15</u>	<u>14.07</u>
22. Total purchases	\$71.75	\$78.90	\$77.00	\$74.33	\$78.82

farms with 25-34 cows for their only enterprise to a high of \$60629 for farms with a complete hog program. It is important to bear in mind that the relative profitability of various enterprises can and often do vary from year to year. For example, in 1971, farms specializing in a complete hog program produced the lowest return to labor and management and, in 1973, such farms are the highest in 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 1973 will be the most profitable in succeeding years, nor that having a particular type of farm is any guarantee that it will be a profitable business. These data should be studied in the light of current prices, yields, and similar information.

Since capital purchases, such as machinery, equipment, and buildings, are used

Table 4. Purchases per \$100 of Total Sales by Type of Farming, 1973 (continued)

	Hogs (complete program)	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy and hogs (finish)
1.	\$.05	\$ 1.82	\$ 3.60	\$ -	\$.39	\$.15	\$ -	\$ 3.74
2.	1.14	.09	.41	4.59	48.04	3.05	38.61	-
3.	3.85	1.23	.67	19.93	1.05	2.34	.68	17.43
4.	.03	.04	.06	.02	.06	.17	.01	-
5.	2.26	3.20	2.82	.70	1.13	1.16	.61	2.66
6.	29.88	18.23	7.21	16.13	18.23	14.42	6.26	16.40
7.	3.80	3.85	5.93	5.22	3.02	6.10	5.22	4.27
8.	3.77	4.09	6.79	5.80	3.14	6.99	5.14	4.40
9.	1.42	2.97	3.31	1.22	1.25	1.47	1.57	3.01
10.	1.66	2.38	2.96	1.87	1.25	2.43	1.72	1.92
11.	2.17	3.23	4.15	2.51	1.71	3.31	2.52	3.43
12.	1.05	1.36	1.11	.48	.65	.95	.81	1.72
13.	1.08	.84	.73	.41	.44	.47	.22	.55
14.	2.02	2.01	2.66	1.15	1.15	1.49	1.38	1.38
15.	.73	.98	.93	.37	.28	.54	.31	.79
16.	1.60	2.04	3.28	2.26	1.24	2.88	2.16	2.18
17.	<u>1.03</u>	<u>1.37</u>	<u>1.42</u>	<u>.79</u>	<u>.58</u>	<u>1.11</u>	<u>.82</u>	<u>1.33</u>
18.	\$57.54	\$49.73	\$48.04	\$63.45	\$83.61	\$49.03	\$68.04	\$65.21
19.	7.49	12.32	13.48	8.94	5.99	12.22	9.01	9.12
20.	3.73	3.23	2.51	1.48	1.35	1.58	.85	1.96
21.	<u>10.27</u>	<u>10.81</u>	<u>10.02</u>	<u>4.09</u>	<u>9.09</u>	<u>10.85</u>	<u>8.61</u>	<u>10.95</u>
22.	\$79.03	\$76.09	\$74.05	\$77.96	\$100.04	\$73.68	\$86.51	\$87.24

for more than one year, only the annual depreciation enters into the calculation of labor and management 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, 1973 and December 31, 1973, 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.
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.

Table 5. Summary of Earnings - Enterprise Statement, by Type of Farming, 1973

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over
RECEIPTS AND NET INCREASES					
1. Milk cows	\$ 25	\$22303	\$30813	\$35990	\$63355
2. Other dairy cattle	37	8773	11408	12548	17635
3. Beef breeding herd	528	65	79	209	48
4. Feeder cattle	606	14	208	90	958
5. Hogs	2205	295	433	758	279
6. Other livestock	163	92	173	103	237
7. Total livestock	\$ 3564	\$31542	\$43114	\$49698	\$82512
8. Feed fed	2050	15611	20866	23750	40399
9. Value added by livestock	\$ 1514	\$15931	\$22248	\$25948	\$42113
10. Crops, seed, feed	79061	17629	23918	27833	41672
11. Miscellaneous farm income	1419	969	982	1104	1997
12. Total value added	\$81994	\$34529	\$47148	\$34885	\$85782
EXPENSES AND NET DECREASES					
13. Truck and auto	\$ 2154	\$ 1427	\$ 1697	\$ 1818	\$ 2517
14. Electricity expense	249	433	592	678	1040
15. Tractors and machinery	8134	3997	5591	5800	10475
16. Livestock equipment	138	857	1316	1482	2735
17. Buildings, fencing	1770	1506	2334	3300	5739
18. Miscellaneous livestock expense	130	1295	1775	2226	3741
19. Labor*	826	1773	3032	2852	9810
20. Real estate taxes	2538	777	1093	1312	1888
21. General farm expense	969	644	839	935	1283
22. Interest at 6 percent	13307	5127	6907	8276	13079
23. Total expenses	\$30215	\$17836	\$25176	\$28679	\$52307
24. Labor and management earnings	\$51779	\$16693	\$21972	\$26206	\$33475

* Includes wages paid and value of board to hired labor, unpaid family labor, a charge for partner's labor above one full time individual, and the labor part of the payment for custom work hired, less income received for work off the farm.

6. Casualty losses.

Approximately 41 to 84 percent of each dollar of sales is required to pay cash operating costs, including the purchase of feeder livestock (table 4). Another 15 to 31 percent of each dollar of sales is required for capital expenditures. The latter includes the purchase of power, machinery, livestock equipment, and real estate improvements. Thus, 72 to 100 percent of each dollar of receipts is required to pay for farm purchases, leaving the balance, if any, for family living expenses, interest on money

Table 5. Summary of Earnings - Enterprise Statement, by Type of Farming, 1973 (cont.)

	Hogs, (complete program)	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy and hogs (finish)
RECEIPTS AND NET INCREASES								
1.	\$ 21	\$24018	\$25050	\$ 55	\$ 410	\$ 295	\$ 86	\$24050
2.	309	9343	8916	29	165	246	19	8710
3.	74	162	64	449	676	699	1394	-
4.	706	694	509	2280	54328	1889	37953	35
5.	95984	27820	1588	40187	53708	38890	2922	25847
6.	309	132	143	272	257	203	89	-
7.	\$97403	\$62169	\$36270	\$43272	\$109544	\$42222	\$42463	\$58642
8.	45376	30017	18810	26167	66689	20856	29371	32466
9.	\$52027	\$32152	\$17460	\$17105	\$ 42855	\$21366	\$13092	\$26176
10.	42502	30709	50983	68707	62199	64188	85780	34739
11.	1037	1073	1324	1202	1066	1151	1743	902
12.	\$95566	\$63934	\$69767	\$87014	\$106120	\$86705	\$100615	\$61817
EXPENSES AND NET DECREASES								
13.	\$ 1907	\$ 1952	\$ 2127	\$ 2198	\$ 2292	\$ 1885	\$ 2465	\$ 2154
14.	717	610	569	387	513	426	397	602
15.	6181	6044	7877	7552	9770	7602	9960	7304
16.	2689	1459	1247	1120	1995	964	866	1336
17.	3624	2358	2533	2055	3834	2166	3378	2656
18.	2225	1994	1733	726	2052	912	793	2030
19.	4281	3042	4363	2274	4485	2926	3691	3526
20.	1569	1272	2015	2346	2263	2257	2795	1658
21.	1011	849	874	817	1068	867	1063	1018
22.	10733	7845	10879	13852	18435	12637	17911	9494
23.	\$34937	\$27785	\$34222	\$33327	\$46707	\$32642	\$43319	\$31778
24.	\$60629	\$36149	\$35545	\$53687	\$59413	\$54063	\$57296	\$30039

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. 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.

Table 6. Percentage of Farm Income from Livestock, Crops, and Miscellaneous Sources, by Type of Farming, 1973

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	1.9	46.1	47.2	47.3	49.1	54.4	50.3
Crops	96.4	51.1	50.7	50.7	48.6	44.5	48.0
Miscellaneous	<u>1.7</u>	<u>2.8</u>	<u>2.1</u>	<u>2.0</u>	<u>2.3</u>	<u>1.1</u>	<u>1.7</u>
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 and hogs (finish)
Livestock	25.0	19.7	40.4	24.6	13.0	42.3
Crops	73.1	79.0	58.6	74.0	85.3	56.2
Miscellaneous	<u>1.9</u>	<u>1.3</u>	<u>1.0</u>	<u>1.4</u>	<u>1.7</u>	<u>1.5</u>
Total	100.0	100.0	100.0	100.0	100.0	100.0

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, 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 Under this method of calculating labor and management earnings, the largest item of expense is the 6 percent interest charge on total capital managed. In some cases, this amounts to 40 percent of the total expense. Tractor and crop

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.

machinery expenses rank second.

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 10 of the 13 types and sizes 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, 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 have been 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. Relative prices of crops and livestock have an important effect on the proportion of income contributed by the cropping and livestock programs.

The data in table 7 show calculation of earnings as the rate earned on capital managed. It is most useful in dealing with larger than average farms. Return to capital is the residual remaining after an estimated charge has been deducted for the operator's labor. An arbitrary charge of \$9600 was used on all sizes of farms and for all levels of profitability. A constant charge for the operator's labor is probably unrealistic in that the better operators could command higher wages in alternative opportunities and the lower earnings operators might command a wage equal to that paid for hired labor.

A well organized farm should yield a reasonable return to the operator for his labor and management as well as a return to capital. The information in table 7 shows that farmers received a relatively high return on the "book" value of their capital managed in 1973. If real estate values were adjusted upward to near current market values, rate earned on capital would be considerably lower.

Table 7. Rate Earned on Capital Managed, by Type of Farming, 1973

Item	✓				
	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over
1. Labor and management earnings	\$51779	\$16693	\$21972	\$26206	\$33475
2. Interest on capital managed	13307	5127	6907	8276	13080
3. Total (1 + 2)	65086	21820	28879	34482	46555
4. Estimated wage for operator	9600	9600	9600	9600	9600
5. Return to capital (3 - 4)	55486	12220	19279	24882	36955
6. Average capital managed	221778	85454	115113	137933	217996
7. Rate earned on capital managed	25.0%	14.3%	16.8%	18.0%	17.0%

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 8). Specialized dairy farms have about 70 percent tillable land; all other types of farms have 80 percent tillable land or over. 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, or soybeans. On dairy farms, approximately 30-40 percent of the tillable

Table 7. Rate Earned on Capital Managed, by Type of Farming, 1973 (continued)

	✓						✓	
	Hogs, (complete program)	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy and hogs (finish)
1.	\$60629	\$36149	\$35545	\$53687	\$59413	\$54063	\$57296	\$30039
2.	10733	7845	10879	13852	18435	12637	17911	9494
3.	71362	43994	46424	67539	77848	66700	75207	39533
4.	9600	9600	9600	9600	9600	9600	9600	9600
5.	61762	34394	36824	57939	68248	57100	65607	29933
6.	178892	130746	181312	230868	307256	210616	298523	158237
7.	34.5%	26.3%	20.3%	25.1%	22.2%	27.1%	22.0%	18.9%

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 on the different types of farms with livestock enterprises. Special crops, such as canning corn and canning peas, were of minor importance.

Crop yields, as reported in table 9, do not appear to be related to the type of farm, although yields of corn and soybeans on the smallest dairy farm type were relatively low. There was considerable variation, however, in the reported yields of a number of crops. Average corn yields were over 100 bushels per acre and average yields of soybeans were over 30 bushels per acre on most types of farms. As far as roughage producing crops are concerned, most types of farms reported over 15 tons of corn silage and 3.5 tons of alfalfa hay per acre.

Table 8. Distribution of Acres in Farm, by Type of Farming, 1973

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over
1. Canning peas	3.4	-	-	-	3.0
2. Wheat	24.7	2.8	5.9	2.1	4.8
3. Oats for grain	11.4	26.1	33.0	25.0	26.4
4. Other small grains	9.5	2.0	3.0	2.7	.2
5. Total small grains	49.0	30.9	41.9	29.8	34.4
6. Corn grain	168.9	37.8	50.4	62.0	74.4
7. Soybeans	175.4	9.0	6.7	8.8	12.7
8. Sweet corn	9.5	-	-	-	1.1
9. Corn silage	.5	15.8	25.4	26.0	42.0
10. Other cultivated crops	10.5	-	-	2.4	1.4
11. Total cultivated crops	364.8	62.6	82.5	99.2	131.6
12. Total tillable land in hay	7.0	47.5	62.5	61.0	98.6
13. Total tillable land in pasture	.6	4.7	5.2	14.8	5.8
14. Other tillable land	19.8	3.0	5.0	5.5	4.8
15. Total tillable land	441.2	148.7	197.1	210.3	275.2
16. Non-tillable pasture	1.6	7.7	14.0	7.3	23.4
17. Other non-tillable land	33.7	56.7	57.8	79.3	82.4
18. Total acres in farm	476.5	213.1	268.9	296.9	381.0
19. Percent land tillable	93%	70%	73%	71%	72%

Table 9. Crop Yields per Acre, by Type of Farming, 1973

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy, 45-54 cows	Dairy, 55 cows & over
1. Canning peas, \$	\$91	-	-	-	\$95
2. Wheat, bu.	41.3	40.6	42.4	*	*
3. Oats for grain, bu.	77.0	60.3	62.3	60.4	58.1
4. Corn grain, bu.	108.8	89.5	89.7	98.1	110.6
5. Soybeans, bu.	34.8	25.4	30.8	28.9	34.5
6. Corn silage, tons	13.5	14.5	15.0	15.6	15.8
7. Alfalfa hay, tons	3.9	3.3	3.5	3.6	3.9

* Less than 5 cases.

Table 8. Distribution of Acres in Farm, by Type of Farming, 1973 (continued)

	Hogs, (complete program)	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy and hogs (finish)
1.	-	.3	2.7	.7	.9	2.0	1.5	1.0
2.	1.8	-	6.7	2.7	-	5.2	12.0	.9
3.	15.2	26.0	24.5	11.8	24.3	16.6	13.5	21.9
4.	<u>.1</u>	<u>.3</u>	<u>2.1</u>	<u>2.3</u>	<u>1.7</u>	<u>1.9</u>	<u>8.0</u>	<u>1.9</u>
5.	17.1	26.6	36.0	17.5	26.9	25.7	35.0	25.7
6.	129.4	81.7	107.0	171.5	192.6	151.1	187.2	93.3
7.	56.8	24.9	83.4	157.2	64.4	146.6	165.2	49.3
8.	.4	-	5.0	1.7	-	3.4	3.1	-
9.	.8	14.7	15.5	1.6	31.0	1.3	18.7	13.7
10.	<u>1.3</u>	<u>.2</u>	<u>3.2</u>	<u>-</u>	<u>-</u>	<u>4.2</u>	<u>2.2</u>	<u>-</u>
11.	188.7	121.5	214.1	332.0	288.0	306.6	376.4	156.3
12.	7.0	44.4	44.4	9.3	33.4	7.1	24.7	35.6
13.	3.2	6.2	4.8	1.0	1.4	.3	3.1	5.6
14.	<u>4.2</u>	<u>4.3</u>	<u>7.9</u>	<u>8.5</u>	<u>10.3</u>	<u>9.5</u>	<u>13.8</u>	<u>3.5</u>
15.	220.2	203.0	307.2	368.3	360.0	349.2	453.0	226.7
16.	4.0	9.7	7.6	1.4	2.4	2.2	4.8	9.9
17.	<u>27.2</u>	<u>44.3</u>	<u>45.1</u>	<u>33.0</u>	<u>45.3</u>	<u>38.2</u>	<u>39.4</u>	<u>42.6</u>
18.	251.4	257.0	359.9	402.7	407.7	389.6	497.2	279.2
19.	88%	79%	85%	91%	88%	90%	91%	81%

Table 9. Crop Yields per Acre, by Type of Farming, 1973 (continued)

	Hogs (complete program)	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy and hogs (finish)
1.	-	*	\$105	*	-	\$84	\$80	*
2.	38.7	-	39.1	*	-	44.5	53.9	*
3.	60.6	61.7	66.4	68.6	68.5	69.3	78.7	53.0
4.	105.0	99.0	104.7	108.1	97.4	103.1	107.1	104.8
5.	35.4	29.9	32.2	34.4	30.3	33.7	33.5	26.5
6.	17.6	14.7	16.6	15.6	15.3	14.8	16.0	15.1
7.	2.9	3.4	3.9	2.3	3.7	4.3	4.2	4.2

LIVESTOCK ENTERPRISES

Feed costs, returns, and some related factors are shown for hogs, dairy cattle, and feeder cattle in tables 10 through 14. 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.

Specialized hog farmers raised two to three times more litters than the farmers that kept hogs along with one or more other enterprises. There is little evidence that the enterprises on highly specialized farms are more efficient than "several enterprise" farms. Except for the hog finishing-cash crop and dairy-hog finishing farms, all swine were from complete (farrowing to market) programs.

Variations in total value produced per dairy cow are greater than variations in feed cost per cow. Milk production per cow ranged from 12,235 pounds on dairy specialty farms with 55 cows and over to 11,033 pounds on dairy specialty farms with 45-54 cows.

Cattle feeders received higher prices for fed cattle in 1973 than in 1972 but also paid a high price for purchased feeders. Returns of \$134 and \$140 per \$100 of feed consumed are too low to allow more than a minimum return for labor and facilities.

On an average, dairy cattle give a higher return for each \$100 of feed consumed than is true for beef cattle or hogs, though this was not true in 1973 as far as hogs are concerned. 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 10. Feed Costs and Returns from Hogs, by Type of Farming, 1973

	Hogs, (complete program)	Dairy and hogs	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Dairy and hogs (finish)
Pounds produced	219145	61979	116089	123864	89707	76644
Per cwt. produced:						
Net increase in value	\$43.79	\$44.82	\$33.23	\$43.63	\$43.43	\$33.62
Feed cost	<u>20.62</u>	<u>21.45</u>	<u>19.77</u>	<u>19.49</u>	<u>20.75</u>	<u>19.96</u>
Return above feed cost	\$23.17	\$23.37	\$13.46	\$24.14	\$22.68	\$13.66
Return for \$100 of feed	\$212	\$210	\$168	\$224	\$209	\$168
Price received per cwt.	\$40.75	\$41.27	\$40.30	\$40.18	\$40.24	\$40.85
Weight per hog sold	228	214	226	236	231	225
Miscellaneous costs per cwt. produced*	\$1.00	\$.75	\$.53	\$.64	\$.95	\$.33
Feed per cwt. hogs produced, lbs.						
Corn	349	354	298	295	340	402
Small grain	20	36	12	35	24	24
Commercial feeds**	<u>81</u>	<u>74</u>	<u>122</u>	<u>93</u>	<u>89</u>	<u>63</u>
Total concentrates	450	464	432	423	453	489
Total number of litters raised	129	40		66	56	
Number of pigs born per litter	9.4	9.3		9.5	9.3	
Number of pigs weaned per litter	7.5	7.4		8.0	7.5	
Number of feeder pigs bought			602			323
Total weight of pigs bought, lbs.			23240			13096
Price paid per feeder pig			\$33.85			\$33.41

* 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 11. Factors of Costs and Returns from Dairy Cows, by Type of Farming, 1973

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 and hogs (finish)
Number of cows	30	40	49	78	32	34	33
Lbs. milk per cow	11272	12119	11033	12235	11826	11649	11159
Lbs. BF per cow	460	439	410	450	429	426	406
Percent BF in milk	4.1	3.6	3.7	3.7	3.6	3.7	3.6
Value of produce per cow:							
Dairy prod. sales	\$704.76	\$764.09	\$718.96	\$799.73	\$742.90	\$728.05	\$700.50
Dairy produce used							
in home	5.60	4.53	5.46	3.46	5.80	5.54	4.99
Milk fed to lvstk.	7.99	7.29	7.08	6.00	4.54	7.54	6.64
Net increase in							
value per cow	<u>24.50</u>	<u>-3.36</u>	<u>4.08</u>	<u>4.03</u>	<u>16.44</u>	<u>11.95</u>	<u>12.80</u>
Total value prod.	\$742.85	\$772.55	\$735.58	\$813.22	\$769.68	\$753.08	\$724.93
Feeds per cow, lbs.:							
Corn	3920	4235	4009	4805	4644	4760	4538
Small grain	1073	1146	675	625	555	752	724
Commercial feeds	682	564	635	529	597	642	667
Total concentrates	5675	5945	5319	5959	5796	6154	5929
Total hay	6616	6396	6204	6562	6478	6502	7633
Total silage	10320	11793	12085	13586	8700	19381	9461
Feed cost per cow:							
Concentrates	\$203.47	\$208.62	\$184.07	\$216.21	\$207.65	\$216.32	\$215.43
Roughages	148.59	149.60	149.54	166.51	140.22	145.04	159.21
Pasture	<u>8.37</u>	<u>6.06</u>	<u>5.52</u>	<u>3.67</u>	<u>9.73</u>	<u>7.39</u>	<u>6.25</u>
	\$360.43	\$364.28	\$339.13	\$386.39	\$357.60	\$368.75	\$380.89
Return above feed cost per cow	\$382.42	\$408.27	\$396.45	\$426.83	\$412.08	\$384.33	\$344.04
Return for \$100 feed	\$206	\$212	\$217	\$217	\$215	\$204	\$190
Feed cost per cwt. milk produced	\$3.19	\$3.00	\$3.09	\$3.16	\$3.03	\$3.17	\$3.43
Feed cost per lb. of BF produced	.78	.83	.83	.86	.84	.87	.95
Price received per cwt. of milk	\$6.36	\$6.41	\$6.63	\$6.61	\$6.36	\$6.36	\$6.37
Price received per lb. of BF	1.56	1.77	1.79	1.80	1.76	1.76	1.76

Table 12. Feed Costs and Returns from Other Dairy Cattle, by Type of Farming, 1973

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 and hogs (finish)
Net increase in value per head	\$215.76	\$208.83	\$207.50	\$209.11	\$209.91	\$210.31	\$221.39
Total feed cost per head	111.49	102.75	108.33	109.11	109.21	120.98	122.26
Return above feed cost per head	104.27	106.08	99.17	100.00	100.70	89.33	99.13
Return for \$100 of feed	\$194	\$203	\$192	\$192	\$192	\$174	\$181
Feed per head, lbs.:							
Concentrates	1256	1103	1287	1220	1423	1569	1523
Hay	2635	2240	2373	2157	2080	2334	2489
Silage	3476	4617	3776	4665	3500	4112	3800
Whole milk	86	80	93	83	52	95	84
Number of head	41	55	61	85	44	42	39

Table 13. Feed Costs and Returns from All Dairy Cattle, by Type of Farming, 1973

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 and hogs (finish)
Value of produce per cow:							
Dairy products	\$716.68	\$774.78	\$730.98	\$808.26	\$752.91	\$740.14	\$709.67
Net increase in value	<u>316.71</u>	<u>283.22</u>	<u>260.57</u>	<u>229.35</u>	<u>310.10</u>	<u>278.60</u>	<u>279.02</u>
Total value produced	\$1033.39	\$1058.00	\$991.55	\$1037.61	\$1063.01	\$1018.74	\$988.69
Total feed cost per cow	\$509.57	\$504.40	\$472.55	\$503.20	\$511.07	\$521.10	\$525.75
Return above feed cost per cow	\$523.82	\$553.60	\$519.00	\$534.41	\$551.94	\$497.64	\$462.94
Return for \$100 of feed	\$203	\$210	\$210	\$206	\$208	\$196	\$188
Feed per cow, lbs.:							
Concentrates	7400	7503	6920	7291	7835	8178	7770
Hay	10143	9449	9145	8878	9340	9471	10648
Silage	15311	18024	16461	18622	13714	24528	13788
Misc. exp. per cow	\$46.06	\$48.45	\$52.15	\$51.55	\$50.15	\$52.51	\$47.38

Table 14. Feed Costs and Returns from Feeder Cattle, by Type of Farming, 1973

Item	Hogs and feeder cattle	Feeder cattle, cash crops
Pounds of beef produced	149842	96767
Net increase in value of feeders	\$37.37	\$39.54
Feed cost per cwt. of beef produced:		
Concentrates	\$21.57	\$22.46
Roughages	6.14	5.70
Pasture	.17	.08
Total feed cost	<u>\$27.88</u>	<u>\$28.24</u>
Return above feed cost per cwt. beef produced	\$ 9.49	\$11.30
Return for \$100 of feed	\$134	\$140
Miscellaneous costs per cwt. beef produced	\$.65	\$.74
Feeds per cwt. beef produced, lbs.:		
Corn and small grain	610	658
Commercial feeds	49	46
Total concentrates	659	704
Total hay	166	152
Total silage	703	690
Price paid per cwt. for beef bought	\$55.58	\$51.56
Price received for feeder cattle sold	43.35	42.89
Average number of head for the year	215	144

FACTORS AFFECTING CHOICE OF TYPE OF FARMING

The records included in this report are for only one calendar year. Examination of the 1972 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 15. 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 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.

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 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. Seven farm types used 1.4 - 1.6 years of man labor; four used 1.8 - 1.9 years, and one (large dairy farms) had 2.5 workers. The total work units of 806

1. Nodland, Truman R., Edgar A. Persons, and Janet B. Otis, "1972 Farm Business Summary by Type of Farming for Southern Minnesota," Department of Agricultural and Applied Economics Economic Report No. 73-5, October 1973.

Table 15. Earnings, Resources Utilized, Size of Business, and Expenses by Type of Farming, 1973

Item	Cash crops	Dairy, 25-34 cows	Dairy, 35-44 cows	Dairy 45-54 cows	Dairy, 55 cows & over
Earnings					
1. Net cash income	\$ 19471	\$ 8134	\$ 10353	\$ 13236	\$ 18242
2. Labor and management earnings	51779	16693	21972	26206	33475
3. Rate earned on investment	25.0%	14.3%	16.8	18.0%	17.0%
Land					
4. Acres per farm	476	213	269	297	381
5. Acres tillable	441	149	197	210	275
6. Percent tillable land in corn grain and silage	38.4%	36.0%	38.5%	41.8%	42.3%
7. Percent tillable land in soybeans	39.8%	6.0%	3.4%	4.2%	4.6%
Labor					
8. Number of workers	1.4	1.5	1.6	1.8	2.5
9. Work units per worker	199	185	289	298	322
Capital					
10. Total capital managed	\$221778	\$ 85454	\$115113	\$137933	\$217996
11. Capital managed per worker	158413	56969	71946	76629	87198
12. Tractor and crop machinery investment per tillable acre	\$35.81	\$51.38	\$61.95	\$68.09	\$71.27
Size of business					
13. Total work units	278	347	463	537	806
14. Total farm sales	\$68923	\$32404	\$45007	\$51567	\$86145
15. Total value added	81994	34529	47148	54885	85782
Expenses					
16. Power, machinery, equipment expense per work unit	\$44.77	\$23.69	\$24.90	\$24.35	\$27.92
17. Tractor and crop machinery expense per crop acre	19.32	28.35	29.91	30.53	39.59
18. Total operating expense per \$100 of sales	40.64	49.35	51.06	49.37	48.29

Table 15. Earnings, Resources Utilized, Size of Business, and Expenses, by Type of Farming, 1973 (continued)

	Hogs (complete program)	Dairy and hogs	Dairy and cash crops	Hogs (finish), cash crops	Hogs and feeder cattle	Hogs and cash crops	Feeder cattle, cash crops	Dairy and hogs (finish)
Earnings								
1.	\$ 20623	\$ 14877	\$ 15938	\$ 22857	\$ -88	\$ 20625	\$ 17464	\$ 9742
2.	60629	36149	35545	53687	59413	54063	59296	30039
3.	34.5	26.3	20.3	25.1	22.2	27.1	22.0	18.9
Land								
4.	251	257	360	403	408	390	497	279
5.	220	203	307	368	360	349	453	227
6.	59.1%	47.5%	39.9%	47.0%	62.1%	43.6%	45.4%	47.2%
7.	25.8%	12.3%	27.2%	42.7%	17.9%	42.0%	36.5%	21.2%
Labor								
8.	1.6	1.9	1.8	1.4	1.9	1.5	1.6	1.6
9.	256	243	258	223	293	214	245	295
Capital								
10.	\$178892	\$130746	\$181312	\$230868	\$307256	\$210616	\$298523	\$158237
11.	111808	68814	100729	164906	161714	140411	186577	98898
12.	\$49.72	\$50.82	\$51.71	\$44.58	\$49.76	\$40.03	\$44.51	\$58.58
Size of business								
13.	409	461	464	312	557	321	392	472
14.	\$98355	\$62226	\$61410	\$103706	\$182223	\$78368	\$129481	\$76350
15.	95566	63934	69767	87014	106120	86705	100615	61817
Expenses								
16.	\$36.96	\$26.95	\$30.92	\$42.67	\$33.04	\$40.63	\$43.54	\$29.77
17.	29.04	31.39	26.75	21.06	28.05	22.40	22.84	33.57
18.	57.54	49.73	48.04	63.45	83.61	49.03	64.04	65.21

on the large dairy farms was much larger than that reported by any other group.¹ The large dairy farms, with 2.5 workers, reported 322 work units per worker, compared to 1.4 workers and 199 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 unit 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 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 depend on many physical, economic, and personal factors. Some of these personal factors 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 dependent on the resources available and be consistent with the personal goals of the farm operator and his family.

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.