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1972

**Farm Business
Summary**

**By Type of Farming
for Southern Minnesota**

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1972 MINNESOTA FARM BUSINESS SUMMARIES
BY TYPES OF FARMING FOR SOUTHERN MINNESOTA

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Introduction

This report summarizes the 1972 farm business records by types of farming for 1293 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 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 smaller 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, 1972

| Type | Number |
|--|--------|
| Cash crops | 198 |
| Dairy - 25-34 cows | 72 |
| - 35-44 cows | 54 |
| - 45-54 cows | 32 |
| - 55 cows and over | 50 |
| Hogs (complete program) | 49 |
| Dairy and hogs (complete program) | 93 |
| Dairy and cash crops | 230 |
| Hogs (finish) and cash crops | 54 |
| Hogs (complete program) and feeder cattle | 44 |
| Hogs (complete program) and cash crops | 232 |
| Feeder cattle and cash crops | 99 |
| Dairy, hogs (complete program), and cash crops | 36 |
| Hogs (complete program), feeder cattle, and cash crops | 50 |
| Total | 1293 |

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.

Table 2. Farm Capital Managed by Type of Farming, 1972

| 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 | 108 | 72 | 54 | 32 | 50 | 48 |
| 2. Acres in farm | 548 | 229 | 273 | 286 | 360 | 230 |
| Average farm capital managed as of January 1, 1972 | | | | | | |
| 3. Dairy cows | \$ 33 | \$ 9670 | \$ 12385 | \$ 17494 | \$ 25983 | \$ 126 |
| 4. Other dairy cattle | 49 | 5630 | 7568 | 9841 | 11568 | 291 |
| 5. Beef cattle | 2011 | 92 | 316 | 753 | 496 | 1115 |
| 6. Hogs | 641 | 164 | 71 | 148 | 161 | 17872 |
| 7. Other livestock | <u>127</u> | <u>24</u> | <u>26</u> | <u>39</u> | <u>157</u> | <u>136</u> |
| 8. Total livestock | \$ 2861 | \$ 15580 | \$ 20366 | \$ 28275 | \$ 38365 | \$ 19540 |
| 9. Crops, seed, feed | \$ 19967 | \$ 5914 | \$ 8110 | \$ 10020 | \$ 14281 | \$ 12941 |
| 10. Auto & truck (fm.sh.) | \$ 2767 | \$ 1550 | \$ 1339 | \$ 1743 | \$ 1970 | \$ 1612 |
| 11. Tractors & crop mach. | 19040 | 8214 | 11249 | 13063 | 16058 | 9187 |
| 12. Livestock equipment | <u>354</u> | <u>2805</u> | <u>3652</u> | <u>5332</u> | <u>8753</u> | <u>3134</u> |
| 13. Total equipment | \$ 22161 | \$ 12569 | \$ 16240 | \$ 20138 | \$ 26781 | \$ 13933 |
| 14. Land | \$150840 | \$ 23855 | \$ 30601 | \$ 41829 | \$ 48848 | \$ 47510 |
| 15. Buildings, fencing* | <u>15909</u> | <u>13872</u> | <u>20402</u> | <u>25613</u> | <u>44118</u> | <u>20214</u> |
| 16. Total capital | \$211738 | \$ 71790 | \$ 95719 | \$125875 | \$172393 | \$114138 |
| Per acre values: | | | | | | |
| 17. Land | \$275 | \$104 | \$112 | \$146 | \$136 | \$207 |
| 18. Buildings* | <u>29</u> | <u>61</u> | <u>75</u> | <u>90</u> | <u>123</u> | <u>88</u> |
| 19. Total land & buildings | \$304 | \$165 | \$187 | \$236 | \$259 | \$295 |
| Average farm capital managed as of December 31, 1972 | | | | | | |
| 20. Total capital | \$220567 | \$ 77640 | \$104056 | \$137940 | \$186965 | \$136080 |

* Not including farm dwelling.

earnings between types of farming. Labor earnings varied from \$7940 for dairy farms with 25-34 cows for their only enterprise to a high of \$29212 for farms with hogs and feeder cattle. 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 1971 farms specializing in a complete hog program produced the lowest return to labor and

Table 3. Summary of Earnings - Cash Statement, by Type of Farming, 1972 (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. | \$ 5264 | \$ 6082 | - | \$ 467 | \$ 120 | - | \$ 6126 | - |
| 2. | 19349 | 19364 | 7 | 83 | 107 | 4 | 19412 | 3 |
| 3. | 478 | 984 | 4288 | 64887 | 2525 | 68704 | 618 | 62393 |
| 4. | 15010 | 1610 | 38306 | 26355 | 26394 | 4884 | 17641 | 27431 |
| 5. | 102 | 132 | 387 | 50 | 427 | 607 | 41 | 138 |
| 6. | 1006 | 6672 | 11394 | 1863 | 9255 | 9143 | 8439 | 9186 |
| 7. | 2827 | 10694 | 19489 | 7322 | 15709 | 19010 | 10486 | 19705 |
| 8. | 300 | 2567 | 1449 | 284 | 2237 | 5583 | 562 | 554 |
| 9. | 255 | 812 | 1408 | 400 | 622 | 1083 | 854 | 1372 |
| 10. | 837 | 920 | 1115 | 773 | 892 | 1507 | 1208 | 1196 |
| 11. | \$45428 | \$49837 | \$77843 | \$102484 | \$58288 | \$110525 | \$65387 | \$121978 |
| 12. | 13262 | 12264 | 20434 | 27987 | 16032 | 28472 | 14740 | 38615 |
| 13. | 630 | 499 | 221 | 496 | 162 | 451 | 687 | 486 |
| 14. | \$59320 | \$62600 | \$98498 | \$130967 | \$74482 | \$139448 | \$80814 | \$161079 |
| EXPENSES | | | | | | | | |
| 15. | \$ 868 | \$ 1596 | - | \$ 90 | \$ 83 | - | \$ 939 | - |
| 16. | 371 | 101 | 1177 | 40406 | 1627 | 45566 | 33 | 46179 |
| 17. | 750 | 370 | 17522 | 792 | 1478 | 2234 | 1380 | 1276 |
| 18. | 7 | 13 | 40 | 3 | 152 | 164 | 5 | 107 |
| 19. | 1740 | 1563 | 465 | 1552 | 847 | 796 | 2049 | 1572 |
| 20. | 7432 | 3425 | 9601 | 15320 | 8633 | 8198 | 7242 | 16363 |
| 21. | 1626 | 2539 | 4173 | 3310 | 3354 | 4759 | 3495 | 5194 |
| 22. | 1870 | 2963 | 4757 | 3569 | 4030 | 4471 | 4094 | 5817 |
| 23. | 1721 | 1724 | 924 | 1659 | 1002 | 1747 | 2258 | 1988 |
| 24. | 1195 | 1509 | 1672 | 1494 | 1510 | 1809 | 1603 | 2022 |
| 25. | 1709 | 2084 | 2303 | 2055 | 2142 | 2741 | 2596 | 3154 |
| 26. | 706 | 523 | 413 | 598 | 489 | 725 | 923 | 821 |
| 27. | 412 | 328 | 307 | 600 | 366 | 301 | 497 | 551 |
| 28. | 929 | 1312 | 1100 | 1413 | 975 | 1365 | 1774 | 2385 |
| 29. | 571 | 526 | 388 | 508 | 434 | 401 | 710 | 520 |
| 30. | 1203 | 2015 | 2374 | 1985 | 2158 | 2795 | 2453 | 3209 |
| 31. | 657 | 758 | 688 | 819 | 777 | 806 | 831 | 939 |
| 32. | \$23767 | \$23349 | \$47904 | \$76173 | \$30057 | \$78878 | \$32882 | \$92097 |
| 33. | 4555 | 5942 | 7178 | 6171 | 5037 | 6996 | 7695 | 9385 |
| 34. | 1425 | 1256 | 1227 | 833 | 845 | 740 | 1395 | 1414 |
| 35. | 5564 | 7651 | 6126 | 5086 | 5895 | 13878 | 4166 | 5486 |
| 36. | \$35311 | \$38198 | \$62435 | \$88263 | \$41834 | \$100492 | \$46138 | \$108382 |
| 37. | - | - | - | - | - | - | - | - |
| 38. | 6491 | 9282 | 11346 | 12529 | 10661 | 15404 | 11181 | 15968 |
| 39. | 1100 | 1346 | 811 | 893 | 549 | 588 | 1652 | 2029 |
| 40. | 81 | 97 | 24 | 70 | 46 | 42 | 84 | 174 |
| 41. | \$42983 | \$48923 | \$74616 | \$101755 | \$53090 | \$116526 | \$59055 | \$126553 |
| 42. | \$16337 | \$13677 | \$23882 | \$29212 | \$21392 | \$22922 | \$21759 | \$24526 |

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, 1972 and December 31, 1972, 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, 1972*

| 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 | \$.08 | \$ 3.65 | \$ 4.09 | \$ 3.18 | \$ 2.86 | \$.09 |
| 2. Beef cattle bought | 2.49 | - | - | .69 | .01 | .57 |
| 3. Hogs bought | 1.13 | .20 | .15 | .71 | .16 | 3.88 |
| 4. Other livestock bought | .03 | .03 | .02 | .02 | - | .04 |
| 5. Misc. lvstk. expense | .19 | 3.98 | 4.52 | 4.54 | 5.08 | 2.89 |
| 6. Feed bought | 2.21 | 11.17 | 10.10 | 10.56 | 11.81 | 28.92 |
| 7. Fertilizer bought | 7.78 | 3.97 | 3.41 | 4.02 | 3.41 | 3.45 |
| 8. Other crop expenses | 9.45 | 3.64 | 3.76 | 3.91 | 3.60 | 4.09 |
| 9. Custom work hired | 1.66 | 4.83 | 4.86 | 4.72 | 4.54 | 1.46 |
| 10. Gas, oil, grease bought | 3.10 | 3.50 | 2.88 | 2.86 | 2.52 | 1.73 |
| 11. Rep. pow. & crop mach. | 4.79 | 4.64 | 4.54 | 4.22 | 4.01 | 2.85 |
| 12. Repair of real estate | .67 | 1.26 | 1.15 | 1.51 | 1.58 | 1.14 |
| 13. Repair lvstk. equip. | .08 | .77 | 1.01 | 1.02 | 1.27 | .94 |
| 14. Wages of hired labor | 2.03 | 1.92 | 3.06 | 3.25 | 3.93 | 1.46 |
| 15. Electricity expense | .49 | 1.55 | 1.48 | 1.42 | 1.49 | .96 |
| 16. Real estate taxes | 5.10 | 2.74 | 2.85 | 2.55 | 2.65 | 2.10 |
| 17. General farm expense | <u>1.41</u> | <u>1.82</u> | <u>2.07</u> | <u>1.77</u> | <u>1.53</u> | <u>1.21</u> |
| 18. Total cash operating expense | \$42.69 | \$49.67 | \$49.95 | \$50.95 | \$50.45 | \$57.78 |
| 19. New power & machinery | 12.49 | 11.85 | 10.18 | 11.81 | 11.65 | 8.08 |
| 20. New lvstk. equipment | .10 | 3.83 | 4.05 | 4.10 | 3.20 | 2.24 |
| 21. New real est. improv. | <u>12.28</u> | <u>8.08</u> | <u>9.06</u> | <u>13.54</u> | <u>10.58</u> | <u>11.42</u> |
| 22. Total purchases | \$67.56 | \$73.43 | \$73.24 | \$80.40 | \$75.88 | \$79.52 |

* Total purchases and sales are shown in table 3.

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

Table 5. Summary of Earnings - Enterprise Statement, by Type of Farming, 1972

| 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 | \$ 51 | \$18346 | \$25340 | \$29879 | \$48998 | \$ 158 |
| 2. Other dairy cattle | 96 | 6793 | 8725 | 11372 | 13276 | 288 |
| 3. Beef breeding herd | 336 | 24 | 102 | -64 | 70 | 83 |
| 4. Feeder cattle | 813 | 60 | 217 | 399 | 393 | 423 |
| 5. Hogs | 1838 | 434 | 229 | 479 | 682 | 61035 |
| 6. Other livestock | 107 | 66 | 32 | 81 | 218 | 187 |
| 7. Total livestock | \$ 3241 | \$25723 | \$34645 | \$42146 | \$63637 | \$62174 |
| 8. Feed fed | 1797 | 10991 | 16359 | 18750 | 27617 | 27796 |
| 9. Return over feed | \$ 1444 | \$14732 | \$18286 | \$23396 | \$36020 | \$34378 |
| 10. Crops, seed, feed | 40532 | 8713 | 14303 | 15086 | 21212 | 16111 |
| 11. Income labor off farm | 929 | 258 | 74 | 162 | 135 | 266 |
| 12. Misc. farm income | 1593 | 602 | 831 | 948 | 1017 | 853 |
| 13. Total receipts | \$44498 | \$24305 | \$33494 | \$39592 | \$58384 | \$51608 |
| EXPENSES AND NET DECREASES | | | | | | |
| 14. Truck and auto | \$ 1844 | \$ 1333 | \$ 1592 | \$ 1730 | \$ 2444 | \$ 1474 |
| 15. Electricity expense | 349 | 410 | 541 | 635 | 971 | 621 |
| 16. Tractors & machinery | 7550 | 3628 | 4562 | 5655 | 7859 | 4730 |
| 17. Livestock equipment | 123 | 796 | 1086 | 1390 | 2185 | 1470 |
| 18. Buildings, fencing | 1866 | 1643 | 1918 | 2665 | 4342 | 2733 |
| 19. Misc. lvstk. expense | 106 | 1051 | 1652 | 2023 | 3313 | 1868 |
| 20. Labor* | 1940 | 1816 | 2610 | 3025 | 5765 | 2186 |
| 21. Real estate taxes | 2911 | 724 | 1041 | 1139 | 1726 | 1358 |
| 22. General farm expense | 806 | 481 | 758 | 791 | 999 | 782 |
| 23. Interest at 6% | 12969 | 4483 | 5993 | 7914 | 10780 | 7506 |
| 24. Total expenses | \$30464 | \$16365 | \$21753 | \$26967 | \$40384 | \$24728 |
| 25. Labor earnings | \$14034 | \$ 7940 | \$11741 | \$12625 | \$18000 | \$26880 |

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

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.

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, 1972 (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. | \$19513 | \$19658 | \$ 7 | \$ 132 | \$ 122 | - | \$19739 | \$ 14 |
| 2. | 7115 | 7440 | - | 98 | 90 | 1 | 7572 | - |
| 3. | -95 | 30 | 255 | 1019 | 380 | 832 | 483 | 126 |
| 4. | 299 | 468 | 1702 | 34892 | 1240 | 33204 | 123 | 31878 |
| 5. | 16410 | 1456 | 26706 | 29960 | 29083 | 3804 | 19355 | 29969 |
| 6. | 78 | 110 | 322 | 65 | 269 | 356 | 38 | 102 |
| 7. | \$43320 | \$29162 | \$28992 | \$66166 | \$31184 | \$38197 | \$47310 | \$62089 |
| 8. | 18673 | 13191 | 16766 | 34587 | 14875 | 22095 | 21223 | 33028 |
| 9. | \$24647 | \$15971 | \$12226 | \$31579 | \$16309 | \$16102 | \$26087 | \$29061 |
| 10. | 14091 | 24832 | 38534 | 29852 | 30955 | 41284 | 29553 | 47041 |
| 11. | 122 | 477 | 718 | 166 | 374 | 528 | 373 | 832 |
| 12. | 837 | 920 | 1115 | 773 | 892 | 1507 | 1208 | 1196 |
| 13. | \$39697 | \$42200 | \$52593 | \$62370 | \$48530 | \$59421 | \$57221 | \$78130 |
| EXPENSES AND NET DECREASES | | | | | | | | |
| 14. | \$ 1590 | \$ 1802 | \$ 1674 | \$ 1660 | \$ 1630 | \$ 2122 | \$ 2135 | \$ 2184 |
| 15. | 571 | 526 | 388 | 508 | 434 | 401 | 710 | 520 |
| 16. | 4833 | 6047 | 6475 | 6692 | 5824 | 7997 | 7446 | 9271 |
| 17. | 1218 | 933 | 842 | 1344 | 807 | 825 | 1328 | 1379 |
| 18. | 2363 | 2272 | 2230 | 3146 | 2116 | 2773 | 3037 | 3340 |
| 19. | 1740 | 1563 | 465 | 1552 | 847 | 796 | 2049 | 1572 |
| 20. | 2694 | 3325 | 2229 | 2923 | 1884 | 2580 | 4292 | 5222 |
| 21. | 1203 | 2015 | 2374 | 1985 | 2158 | 2795 | 2453 | 3209 |
| 22. | 657 | 758 | 688 | 819 | 777 | 806 | 831 | 939 |
| 23. | 6491 | 9282 | 11346 | 12529 | 10661 | 15404 | 11181 | 15968 |
| 24. | \$23360 | \$28523 | \$28711 | \$33158 | \$27138 | \$36499 | \$35462 | \$43604 |
| 25. | \$16337 | \$13677 | \$23882 | \$29212 | \$21392 | \$22922 | \$21759 | \$34526 |

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. Percentage of Farm Income from Livestock, Crops, and Miscellaneous Sources, by Type of Farming, 1972

| 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 | 3.2 | 60.6 | 54.6 | 59.1 | 61.7 | 66.6 | 62.1 |
| Crops | 91.1 | 35.8 | 42.7 | 38.1 | 36.3 | 31.2 | 35.5 |
| Miscellaneous | 5.7 | 3.6 | 2.7 | 2.8 | 2.0 | 2.2 | 2.4 |
| 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 | 37.9 | 23.2 | 50.6 | 33.6 | 27.1 | 45.6 | 37.2 |
| Crops | 58.8 | 73.3 | 47.9 | 63.8 | 69.5 | 51.6 | 60.2 |
| Miscellaneous | 3.3 | 3.5 | 1.5 | 2.6 | 3.4 | 2.8 | 2.6 |
| 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.

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 \$8000 was used on all sizes of farms and for all levels of profitability.

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 did receive a relatively high return on the "book" value of their capital managed. Only small dairy farms failed to yield a rate earned on capital managed which is smaller than the rate of interest paid by farmers on money borrowed.

Table 7. Rate Earned on Capital Managed, by Type of Farming, 1972 (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. | \$16337 | \$13677 | \$23882 | \$29212 | \$21392 | \$22922 | \$21759 | \$24526 |
| 2. | 6491 | 9282 | 11346 | 12529 | 10661 | 15404 | 11181 | 15968 |
| 3. | \$22828 | \$22959 | \$35228 | \$41741 | \$32053 | \$38326 | \$32940 | \$40494 |
| 4. | 8000 | 8000 | 8000 | 8000 | 8000 | 8000 | 8000 | 8000 |
| 5. | \$14828 | \$14959 | \$27228 | \$33741 | \$24053 | \$30326 | \$24940 | \$32494 |
| 6. | \$108183 | \$154717 | \$189108 | \$208810 | \$177683 | \$256743 | \$186358 | \$266138 |
| 7. | 13.7% | 9.7% | 14.4% | 16.1% | 13.5% | 11.8% | 13.4% | 12.2% |

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

Table 8. Distribution of Acres in Farm, by Type of Farming, 1972

| 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 | 4.8 | - | - | .8 | 2.0 | .6 |
| 2. Wheat | 11.0 | .5 | 3.1 | 1.2 | 2.4 | .4 |
| 3. Oats for silage | - | .1 | .9 | 3.5 | 7.9 | - |
| 4. Oats for grain | 8.9 | 25.9 | 22.1 | 22.6 | 16.3 | 13.9 |
| 5. Other small grains | <u>6.3</u> | <u>1.2</u> | <u>.7</u> | <u>.4</u> | <u>1.2</u> | <u>1.0</u> |
| 6. Total small grains | 31.0 | 27.7 | 26.8 | 28.5 | 29.8 | 15.9 |
| 7. Corn grain | 183.6 | 38.2 | 46.0 | 53.4 | 73.2 | 102.9 |
| 8. Soybeans | 160.4 | 3.3 | 8.4 | 6.6 | 7.6 | 33.1 |
| 9. Sweet corn | 10.3 | - | - | - | 1.7 | 2.3 |
| 10. Corn silage | .7 | 19.3 | 26.4 | 23.5 | 35.0 | .5 |
| 11. Other cultivated crops | <u>18.0</u> | <u>.1</u> | <u>-</u> | <u>-</u> | <u>.2</u> | <u>-</u> |
| 12. Total cultivated crops | 373.0 | 60.9 | 80.8 | 83.5 | 117.7 | 138.8 |
| 13. Total till. hay land | 6.1 | 48.8 | 57.5 | 58.5 | 83.2 | 7.7 |
| 14. Total tillable pasture | .5 | 3.6 | 4.6 | 8.0 | 6.6 | 3.0 |
| 15. Feed grain program | 87.7 | 14.2 | 18.7 | 19.0 | 23.5 | 28.3 |
| 16. Till land not cropped | 1.9 | .5 | 1.2 | .3 | 1.8 | 1.3 |
| 17. Total tillable land | 500.2 | 155.7 | 189.6 | 197.8 | 262.6 | 195.0 |
| 18. Wild hay | 1.0 | 2.8 | 4.6 | 1.5 | 1.0 | .8 |
| 19. Non-tillable pasture | 9.4 | 32.2 | 33.4 | 38.4 | 40.9 | 14.1 |
| 20. Timber not pastured | 6.4 | 16.9 | 24.0 | 30.2 | 31.2 | 3.1 |
| 21. Waste and roads | 18.4 | 15.6 | 13.2 | 11.6 | 15.8 | 8.2 |
| 22. Farmstead | <u>12.2</u> | <u>6.0</u> | <u>7.8</u> | <u>6.7</u> | <u>8.1</u> | <u>9.0</u> |
| 23. Total acres in farm | 547.6 | 229.2 | 272.6 | 286.2 | 359.6 | 230.2 |
| 24. Percent land tillable | 91% | 68% | 70% | 69% | 73% | 85% |

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.

Table 8. Distribution of Acres in Farm, by Type of Farming, 1972 (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. | - | 2.6 | 4.7 | - | 1.6 | 1.4 | 1.7 | 1.6 |
| 2. | - | 1.9 | 1.4 | - | 1.4 | 3.9 | 2.2 | .2 |
| 3. | 1.0 | .6 | - | 1.6 | - | 1.3 | .9 | .7 |
| 4. | 22.2 | 19.1 | 7.4 | 19.2 | 11.9 | 11.8 | 26.0 | 12.9 |
| 5. | .6 | 1.8 | .2 | .4 | 1.2 | 2.6 | .3 | .7 |
| 6. | 23.8 | 26.0 | 13.7 | 21.2 | 16.1 | 21.0 | 31.1 | 16.1 |
| 7. | 72.3 | 99.2 | 180.8 | 155.9 | 147.4 | 176.0 | 152.5 | 231.4 |
| 8. | 13.6 | 68.2 | 124.6 | 42.8 | 110.5 | 126.5 | 65.2 | 127.3 |
| 9. | - | 4.3 | 4.1 | - | 3.5 | 3.4 | 1.4 | .2 |
| 10. | 12.8 | 15.8 | .4 | 19.8 | 1.1 | 20.3 | 12.8 | 20.0 |
| 11. | - | .4 | 3.0 | .6 | 2.0 | 1.5 | 2.0 | 4.1 |
| 12. | 98.7 | 187.9 | 312.9 | 219.1 | 264.5 | 327.7 | 233.9 | 383.0 |
| 13. | 38.0 | 40.6 | 5.8 | 31.2 | 6.5 | 18.7 | 46.7 | 19.7 |
| 14. | 5.4 | 5.3 | .5 | 3.2 | 1.7 | 1.2 | 7.0 | 1.1 |
| 15. | 23.4 | 49.0 | 69.0 | 45.4 | 59.4 | 80.0 | 46.0 | 76.8 |
| 16. | 1.0 | 1.1 | .2 | - | 1.1 | 2.2 | .1 | .1 |
| 17. | 190.3 | 309.9 | 402.1 | 320.1 | 349.3 | 450.8 | 364.8 | 496.8 |
| 18. | 1.8 | 2.3 | .7 | 1.3 | 1.4 | 1.8 | 1.2 | 3.6 |
| 19. | 20.2 | 17.6 | 9.3 | 15.2 | 7.7 | 11.6 | 14.1 | 13.0 |
| 20. | 9.4 | 5.3 | 3.3 | 2.3 | 2.3 | 3.2 | 8.5 | 1.3 |
| 21. | 13.4 | 18.1 | 19.2 | 12.6 | 14.2 | 19.0 | 19.3 | 19.9 |
| 22. | 8.2 | 10.2 | 11.7 | 10.0 | 10.4 | 13.2 | 10.8 | 13.4 |
| 23. | 243.3 | 363.4 | 446.3 | 361.5 | 385.3 | 499.6 | 418.7 | 548.0 |
| 24. | 78% | 85% | 90% | 89% | 91% | 90% | 87% | 91% |

Table 9. Crop Yields per Acre, by Type of Farming, 1972 (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. | - | \$86 | \$105 | - | \$74 | * | * | * |
| 2. | - | 26.3 | * | - | 28.8 | * | 35.1 | * |
| 3. | 9.2 | 6.4 | - | 6.4 | - | 6.4 | * | * |
| 4. | 58.6 | 64.2 | 75.6 | 72.8 | 66.8 | 62.6 | 70.5 | 73.7 |
| 5. | 99.1 | 101.0 | 111.0 | 107.5 | 107.2 | 108.7 | 103.7 | 106.5 |
| 6. | 30.3 | 31.6 | 36.3 | 37.1 | 34.2 | 34.5 | 32.6 | 35.9 |
| 7. | 15.8 | 15.7 | * | 17.9 | 17.7 | 17.0 | 16.6 | 16.9 |
| 8. | 3.7 | 3.9 | 3.6 | 4.5 | 3.5 | 4.5 | 4.0 | 4.4 |
| 9. | \$65 | \$66 | \$71 | \$66 | \$68 | \$67 | \$68 | \$69 |

evidence that 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 1972 as compared to 1971. 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 13. Feed Costs and Returns from Hogs, by Type of Farming, 1972

| 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 | 208649 | 56040 | 127484 | 101821 | 100859 | 68984 | 102787 |
| Per cwt. produced: | | | | | | | |
| Net increase in value | \$28.94 | \$29.87 | \$20.37 | \$29.34 | \$28.92 | \$28.65 | \$29.58 |
| Feed cost | <u>13.02</u> | <u>13.47</u> | <u>11.76</u> | <u>13.19</u> | <u>13.55</u> | <u>13.04</u> | <u>13.77</u> |
| Return above feed cost | \$15.92 | \$16.40 | \$ 8.61 | \$16.15 | \$15.37 | \$15.61 | \$15.81 |
| Return for \$100 of feed | \$222 | \$222 | \$173 | \$222 | \$213 | \$220 | \$215 |
| Price received per cwt. | \$26.59 | \$26.49 | \$26.16 | \$26.48 | \$26.26 | \$25.63 | \$26.46 |
| Weight per hog sold | 220 | 218 | 229 | 233 | 230 | 240 | 230 |
| Miscellaneous costs per cwt. produced* | \$.87 | \$.62 | \$.29 | \$.69 | \$.82 | \$.51 | \$.68 |
| Feed per cwt. hogs produced, lbs. | | | | | | | |
| Corn | 335 | 331 | 310 | 294 | 324 | 338 | 313 |
| Small grain | 19 | 36 | 14 | 34 | 20 | 29 | 25 |
| Commercial feeds** | <u>78</u> | <u>80</u> | <u>67</u> | <u>110</u> | <u>101</u> | <u>73</u> | <u>103</u> |
| Total concentrates | 432 | 447 | 391 | 438 | 445 | 440 | 441 |
| Total number of litters raised | 119 | 36 | | 59 | 58 | 41 | 61 |
| Number of pigs born per litter | 9.3 | 9.3 | | 9.3 | 9.1 | 8.8 | 9.1 |
| Number of pigs weaned per litter | 7.7 | 7.2 | | 7.6 | 7.4 | 6.6 | 7.4 |
| Number of feeder pigs bought | | | 705 | | | 11 | 17 |
| Total weight of pigs bought, lbs. | | | 27508 | | | 464 | 778 |
| Price paid per feeder pig | | | \$24.81 | | | \$25.17 | \$22.80 |

* 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.

Factors Affecting Choice of Type of Farming

The records included in this report are for only one calendar year. Examination of the 1971 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 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.

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. Five farm types used 1.3 - 1.4 years of man labor; eight used 1.5 - 1.8 years, and one (large dairy farms) had 2.3 workers. The total work

1. Nodland, Truman R., Edgar A. Persons, and Janet B. Otis, "1971 Farm Business Summary by Type of Farming for Southern Minnesota," Department of Agricultural and Applied Economics Report No. R72-8, September 1972.

Table 15. Earnings, Resources Utilized, Size of Business, and Expenses, by Type of Farming, 1972 (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 |
|-------------------------|----------------------|-------------------------------|------------------------------------|---------------------------------|------------------------------|------------------------------------|----------------------------------|--|
| Earnings | | | | | | | | |
| 1. | \$10117 | \$11639 | \$15408 | \$14221 | \$16454 | \$10033 | \$19249 | \$13596 |
| 2. | 16337 | 13677 | 23882 | 29212 | 21392 | 22922 | 21759 | 24526 |
| 3. | 13.7% | 9.7% | 14.4% | 16.1% | 13.5% | 11.8% | 13.4% | 12.2% |
| Land | | | | | | | | |
| 4. | 243 | 363 | 446 | 361 | 385 | 500 | 419 | 548 |
| 5. | 190 | 310 | 402 | 320 | 349 | 451 | 365 | 497 |
| 6. | 38.0% | 32.0% | 45.0% | 48.7% | 42.2% | 39.0% | 41.8% | 46.6% |
| 7. | 7.2% | 22.0% | 31.0% | 13.4% | 31.6% | 28.1% | 17.9% | 25.6% |
| Labor | | | | | | | | |
| 8. | 1.5 | 1.7 | 1.4 | 1.6 | 1.3 | 1.4 | 1.8 | 1.8 |
| 9. | 284 | 264 | 226 | 264 | 237 | 264 | 302 | 283 |
| Capital | | | | | | | | |
| 10. | \$108183 | \$154717 | \$189108 | \$208810 | \$177683 | \$256743 | \$186358 | \$266138 |
| 11. | 72122 | 91010 | 135077 | 130507 | 136679 | 183388 | 103532 | 147854 |
| 12. | \$50.75 | \$46.26 | \$39.88 | \$50.11 | \$42.38 | \$44.87 | \$49.31 | \$40.31 |
| Size of business | | | | | | | | |
| 13. | 426 | 449 | 316 | 423 | 308 | 370 | 543 | 509 |
| 14. | \$45428 | \$49837 | \$77843 | \$102484 | \$58288 | \$110525 | \$65387 | \$121978 |
| Expenses | | | | | | | | |
| 15. | \$24.82 | \$25.79 | \$36.74 | \$31.56 | \$35.10 | \$38.16 | \$26.99 | \$32.80 |
| 16. | \$29.78 | \$23.56 | \$19.44 | \$24.53 | \$20.19 | \$21.66 | \$23.80 | \$21.95 |