

**1973**  
**Farm Business**  
**Summary**  
**By Type of Farming**  
**for East Central Minnesota**

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INTRODUCTION

This report summarizes 1973 farm business records by type of farming for 345 East Central Minnesota farmers. The summaries of records by type of farm were compiled from farm records summarized by the area vocational-technical institute at St. Cloud. The counties included in this study are Anoka, Benton, Isanti, Kanabec, Meeker, Mille Lacs, Morrison, Sherburne, Stearns, Todd, and Wright.

The purpose of this report is to present specific information concerning costs and returns from actual farming operations by type of farming. This information should be of use to farmers and individuals working with farmers in determining the most profitable types of farming and in providing information for farm planning.

Records were obtained from three types of farming for this report (table 1). Farms were classified according to the proportion of cash income received from the various livestock enterprises and from the sale of crops. The following classifications were used in this report:

1. Specialized farms - 80 percent or more of the cash income was from one enterprise or source.
2. Two enterprise farms - 80 percent of the income was from two enterprises with a minimum of 20 percent from the smaller of the two.

Specialized dairy farms are further divided into five categories based on the average number of dairy cows maintained.

Table 1. Number of Farms by Type, 1973

| Type                    | Number    |
|-------------------------|-----------|
| Dairy, under 25 cows    | 48        |
| Dairy, 25-34 cows       | 95        |
| Dairy, 35-44 cows       | 87        |
| Dairy, 45-54 cows       | 35        |
| Dairy, 55 cows and over | 32        |
| Dairy and cash crops    | 34        |
| Dairy and hogs          | <u>14</u> |
| Total                   | 345       |

Records included are for only one year. Farm earnings in 1973 were significantly higher than in 1972.<sup>1</sup> Differences in climatic conditions as well as variations in general price levels are two important factors that cause farm income to vary widely from year to year and among types of farms. The increases in farm earnings in 1973 was due primarily to higher farm product prices and an increase in production.

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1. For a comparison with 1972, see O'Connell, E. J., "1972 Farm Business Management Report," Agri-Industry Education Department, St. Cloud Area Vocational-Technical Institute, St. Cloud, Minnesota.

## CAPITAL MANAGED AND EARNINGS

The average value of capital used per farm for the various types of farming is shown in table 2. These data represent values as reported by farmers in their farm business records and deviate somewhat from current market values for assets with a long useful life, such as real estate. Real estate improvements are valued

Table 2. Summary of Inventories by Type of Farming, 1973

| Item                                      | Dairy,<br>under<br>25 cows | Dairy,<br>25-34<br>cows | Dairy,<br>35-44<br>cows | Dairy,<br>45-54<br>cows | Dairy,<br>55 cows<br>& over | Dairy,<br>cash<br>crops | Dairy<br>and<br>hogs |
|---|----------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|-------------------------|----------------------|
| 1. No. of farms                           | 48                         | 95                      | 87                      | 35                      | 32                          | 34                      | 14                   |
| 2. Acres in farm                          | 209                        | 236                     | 254                     | 306                     | 405                         | 417                     | 304                  |
| Average capital managed January 1, 1973   |                            |                         |                         |                         |                             |                         |                      |
| 3. Dairy cows                             | \$ 7532                    | \$12013                 | \$15401                 | \$19756                 | \$26057                     | \$10727                 | \$10964              |
| 4. Other dairy<br>cattle                  | 3968                       | 6357                    | 8269                    | 9863                    | 15174                       | 7632                    | 7725                 |
| 5. Beef cattle                            | 24                         | 130                     | 788                     | 416                     | 150                         | 510                     | 331                  |
| 6. Hogs                                   | 222                        | 297                     | 301                     | 231                     | 28                          | 595                     | 4717                 |
| 7. Sheep                                  | -                          | -                       | -                       | -                       | -                           | 179                     | -                    |
| 8. Other livestock                        | <u>2</u>                   | <u>2</u>                | <u>3</u>                | <u>-</u>                | <u>17</u>                   | <u>1</u>                | <u>4</u>             |
| 9. Total livestock                        | \$11748                    | \$18799                 | \$24762                 | \$30266                 | \$41426                     | \$19644                 | \$23741              |
| 10. Crops, seed,<br>feed                  | \$ 2869                    | \$ 6471                 | \$ 7453                 | \$ 9740                 | \$14281                     | \$ 9114                 | \$ 8335              |
| 11. Auto & truck<br>(farm share)          | \$ 845                     | \$ 981                  | \$ 1183                 | \$ 1384                 | \$ 2951                     | \$ 1428                 | \$ 2023              |
| 12. Tractors &<br>crop mach.              | 4207                       | 8410                    | 11842                   | 13730                   | 18589                       | 15146                   | 13414                |
| 13. Livestock equip.                      | <u>1189</u>                | <u>2803</u>             | <u>4388</u>             | <u>6818</u>             | <u>11779</u>                | <u>3155</u>             | <u>2800</u>          |
| 14. Total equip.                          | \$ 6241                    | \$12194                 | \$17413                 | \$21932                 | \$33319                     | \$19729                 | \$18237              |
| 15. Land                                  | \$14520                    | \$19566                 | \$20878                 | \$25055                 | \$25762                     | \$36306                 | \$35986              |
| 16. Buildings,<br>fencing*                | <u>9109</u>                | <u>13301</u>            | <u>17374</u>            | <u>25433</u>            | <u>33560</u>                | <u>17945</u>            | <u>13965</u>         |
| 17. Total capital                         | \$44487                    | \$70331                 | \$87880                 | \$112426                | \$148348                    | \$102738                | \$100264             |
| Average capital managed December 31, 1973 |                            |                         |                         |                         |                             |                         |                      |
| 18. Total capital                         | \$53566                    | \$83232                 | \$103225                | \$138213                | \$178224                    | \$130257                | \$126773             |

\* Not including farm dwelling.

at cost and depreciated on the basis of estimated life. These book values tend to be below present market values because of changes in the price level. Also, land is valued at cost and has not been corrected for price inflation or for the increase in real value which has occurred since many of the farms were purchased. Thus, the value of land depends to a certain extent on date of purchase. Capital managed also includes the values of any assets furnished by landlords.

The data in table 3 show total and per acre investment in real estate based on "book values." Average per acre real estate values varied from \$147 per acre on the small dairy and the dairy and cash crop farms to \$188 per acre on the 45-54 cow dairy farms.

Table 3. Average Investment in Real Estate, by Type of Farming, 1973

| Item                                | Dairy,<br>under<br>25 cows | Dairy,<br>25-34<br>cows | Dairy,<br>35-44<br>cows | Dairy,<br>45-54<br>cows | Dairy,<br>55 cows<br>& over | Dairy,<br>cash<br>crops | Dairy<br>and<br>hogs |
|-------------------------------------|----------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|-------------------------|----------------------|
| Land (beginning<br>of year)         | \$14520                    | \$19566                 | \$20878                 | \$25055                 | \$25762                     | \$36306                 | \$35986              |
| Farm buildings                      | 9109                       | 13301                   | 17374                   | 25433                   | 33560                       | 17945                   | 13965                |
| Estimated investment<br>in dwelling | 7000                       | 7000                    | 7000                    | 7000                    | 7000                        | 7000                    | 7000                 |
| Total investment in<br>real estate  | 30629                      | 39867                   | 45252                   | 57488                   | 66322                       | 61251                   | 56951                |
| Number of acres                     | 209                        | 236                     | 254                     | 306                     | 405                         | 417                     | 304                  |
| Average investment<br>per acre      | \$147                      | \$169                   | \$178                   | \$188                   | \$164                       | \$147                   | \$187                |

Capital managed per farm varied widely among types of farming included in this study. Factors contributing to the wide variation in capital managed are number of acres per farm, 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, where cash crops are a major enterprise, large amounts of capital are used. More intensive farms, such as those with dairy cattle, tend to have smaller capital investments, except for

those farms with large numbers of dairy cows.

Earnings are presented on a cash basis in table 4. In order to make all farms comparable, receipts and expenses of landlords are included. "Labor and management earnings" (line 45) is the amount that would be left as a salary to the farm operator if he paid hired man's wages for the labor of other members of the family and six percent interest on all capital managed.

Increases in farm capital are reported as a receipt and decreases in farm capital are reported as an expense in table 4. Increases or decreases 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 produced but not sold during the year, so they are on the end of year inventory.
2. Products that were produced during the previous year or years (on hand at the beginning of the year) and sold this year.
3. Products bought but not fully used up during the year, such as fertilizer, depreciable assets, etc.
4. Products sold that were previously purchased, such as feeder pigs and feeder cattle.
5. Depreciation on capital items.
6. Casualty losses.

Labor and management earnings varied from \$9500 for small dairy farms with less than 25 cows to a high of \$36,481 for large dairy farms with 55 or more dairy cows. It is important to keep in mind that the relative profitableness of various types of farms can and often do vary considerably from year to year. 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 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.



Approximately 50 percent of each dollar of sales is required to pay cash operating expenses (table 5). Purchased feeds were an important item. Capital expenditures showed more variation. The amount of net cash income above all purchases was 13 to 26 percent. This is the amount available for living expenses, interest on money borrowed, debt retirement, and other savings.

Table 5. Purchases per \$100 of Total Sales, by Type of Farming, 1973\*

| Item  | Dairy,<br>under<br>25 cows | Dairy,<br>25-34<br>cows | Dairy,<br>35-44<br>cows | Dairy,<br>45-54<br>cows | Dairy,<br>55 cows<br>& over | Dairy,<br>cash<br>crops | Dairy<br>and<br>hogs |
|---|----------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|-------------------------|----------------------|
| 1. Dairy cattle                                     | \$ 6.57                    | \$ 4.33                 | \$ 4.10                 | \$ 2.98                 | \$ 4.16                     | \$ 5.69                 | \$ 3.80              |
| 2. Beef cattle                                      | -                          | .94                     | -                       | .53                     | -                           | .75                     | 1.71                 |
| 3. Other lvstk.                                     | .39                        | .66                     | .31                     | .03                     | -                           | .16                     | 1.37                 |
| 4. Misc. lvstk. exp.                                | 3.46                       | 3.59                    | 3.89                    | 3.96                    | 3.79                        | 2.65                    | 2.24                 |
| 5. Feed   | 16.60                      | 13.50                   | 13.96                   | 16.72                   | 14.98                       | 8.19                    | 15.14                |
| 6. Fertilizer                                       | 2.08                       | 3.66                    | 3.68                    | 4.47                    | 3.86                        | 6.15                    | 5.33                 |
| 7. Other crop exp.                                  | 2.88                       | 3.34                    | 3.29                    | 3.45                    | 4.07                        | 5.32                    | 3.53                 |
| 8. Custom work hired                                | 3.45                       | 3.58                    | 3.55                    | 3.52                    | 3.02                        | 2.68                    | 2.56                 |
| 9. Gas, oil, grease                                 | 4.04                       | 3.49                    | 3.21                    | 2.57                    | 3.11                        | 3.74                    | 2.72                 |
| 10. Rep. auto, truck,<br>tractor, crop<br>machinery | 5.07                       | 4.41                    | 4.25                    | 4.59                    | 4.72                        | 5.72                    | 4.72                 |
| 11. Rep. real estate                                | 1.58                       | 2.02                    | 1.75                    | 1.61                    | 1.22                        | 1.12                    | .79                  |
| 12. Rep. lvstk. equip.                              | .69                        | .93                     | .99                     | .83                     | .91                         | .78                     | 1.18                 |
| 13. Wages of hired<br>labor                         | 1.40                       | 1.03                    | 1.77                    | 2.43                    | 3.11                        | 1.88                    | 1.21                 |
| 14. Electricity exp.                                | 1.70                       | 1.38                    | 1.30                    | 1.21                    | 1.31                        | 1.08                    | .86                  |
| 15. Real est. taxes                                 | 1.99                       | 1.82                    | 1.76                    | 1.47                    | 1.49                        | 2.20                    | 1.40                 |
| 16. Gen. farm exp.                                  | <u>2.00</u>                | <u>1.76</u>             | <u>1.89</u>             | <u>1.67</u>             | <u>1.75</u>                 | <u>1.66</u>             | <u>1.13</u>          |
| 17. Total operating<br>expense                      | \$53.90                    | \$50.44                 | \$49.70                 | \$52.04                 | \$51.50                     | \$49.75                 | \$49.69              |
| 18. New power and<br>machinery                      | 15.35                      | 11.76                   | 10.24                   | 10.65                   | 10.72                       | 18.80                   | 18.17                |
| 19. New livestock<br>equipment                      | 3.28                       | 4.54                    | 5.34                    | 3.99                    | 4.71                        | 2.27                    | 1.62                 |
| 20. New buildings                                   | <u>7.99</u>                | <u>9.76</u>             | <u>8.34</u>             | <u>17.58</u>            | <u>9.73</u>                 | <u>15.79</u>            | <u>8.59</u>          |
| 21. Total purchases                                 | \$80.52                    | \$76.50                 | \$73.62                 | \$84.26                 | \$76.66                     | \$86.61                 | \$78.07              |

\* Total purchases and sales are shown in table 4.



Table 6. Summary of Earnings - Enterprise Statement, by Type of Farming, 1973

| Item                             | Dairy,<br>under<br>25 cows | Dairy,<br>25-34<br>cows | Dairy,<br>35-44<br>cows | Dairy,<br>45-54<br>cows | Dairy,<br>55 cows<br>& over | Dairy,<br>cash<br>crops | Dairy<br>and<br>hogs |
|----------------------------------|----------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|-------------------------|----------------------|
| RECEIPTS AND NET INCREASES       |                            |                         |                         |                         |                             |                         |                      |
| 1. Milk cows                     | \$13550                    | \$22035                 | \$28891                 | \$38462                 | \$54637                     | \$20959                 | \$20532              |
| 2. Other dairy<br>cattle         | 4794                       | 7714                    | 9073                    | 12797                   | 17527                       | 7683                    | 10501                |
| 3. Beef breeding<br>herd         | 17                         | 68                      | 143                     | -                       | -                           | 107                     | 177                  |
| 4. Feeder cattle                 | -                          | 130                     | 444                     | 612                     | 493                         | 567                     | 446                  |
| 5. Hogs                          | 550                        | 759                     | 899                     | 462                     | 41                          | 1120                    | 18976                |
| 6. Sheep                         | -                          | 2                       | -                       | -                       | -                           | 110                     | -                    |
| 7. Other livestock               | 30                         | 45                      | 28                      | 2                       | 38                          | 28                      | 37                   |
| 8. Total produc.<br>livestock    | \$18941                    | \$30753                 | \$39478                 | \$52335                 | \$72736                     | \$30574                 | \$50669              |
| 9. Feed fed                      | 9057                       | 15185                   | 19653                   | 26643                   | 36762                       | 17276                   | 22521                |
| 10. Value added by<br>livestock  | \$ 9884                    | \$15568                 | \$19825                 | \$25692                 | \$35974                     | \$13298                 | \$28148              |
| 11. Crops, seed,<br>feed         | 8908                       | 15360                   | 19691                   | 25800                   | 35752                       | 35674                   | 23227                |
| 12. Miscellaneous<br>farm income | 807                        | 628                     | 1102                    | 1225                    | 1111                        | 715                     | 697                  |
| 13. Total value<br>added         | \$19599                    | \$31556                 | \$40618                 | \$52717                 | \$72837                     | \$49687                 | \$52072              |
| EXPENSES AND NET DECREASES       |                            |                         |                         |                         |                             |                         |                      |
| 14. Truck & auto<br>(farm share) | \$ 923                     | \$ 1262                 | \$ 1383                 | \$ 1688                 | \$ 2431                     | \$ 1684                 | \$ 2034              |
| 15. Electricity<br>expense       | 308                        | 431                     | 510                     | 615                     | 939                         | 493                     | 415                  |
| 16. Tractors & crop<br>machinery | 2281                       | 3923                    | 4774                    | 5792                    | 8457                        | 6594                    | 6221                 |
| 17. Livestock<br>equipment       | 404                        | 928                     | 1404                    | 1598                    | 2844                        | 972                     | 1213                 |
| 18. Buildings,<br>fencing        | 887                        | 1565                    | 2151                    | 2835                    | 2916                        | 1728                    | 2075                 |
| 19. Misc. livestock<br>expense   | 627                        | 1118                    | 1527                    | 2015                    | 2726                        | 1210                    | 1076                 |
| 20. Labor*                       | 1006                       | 918                     | 1780                    | 3078                    | 3914                        | 1753                    | 242                  |
| 21. Real estate taxes            | 360                        | 567                     | 695                     | 746                     | 1073                        | 1006                    | 675                  |
| 22. General farm<br>expense      | 362                        | 548                     | 743                     | 851                     | 1259                        | 757                     | 544                  |
| 23. Interest at 6%               | 2941                       | 4606                    | 5733                    | 7519                    | 9797                        | 6989                    | 6811                 |
| 24. Total expenses               | \$10099                    | \$15866                 | \$20700                 | \$26737                 | \$36356                     | \$23186                 | \$21306              |
| 25. Labor & mgmt.<br>earnings    | \$ 9500                    | \$15690                 | \$19918                 | \$25980                 | \$36481                     | \$26501                 | \$30766              |

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



Rate earned on capital managed is increasingly becoming a factor to consider, particularly when the contribution of capital managed to earnings is greater than the value of the operator's labor. Small dairy farms received a modest return to labor and 10.3 percent on capital. Large dairy farms, on the other hand, yielded a return to capital managed of 23.4 percent and \$8000 return to the farm operator for his labor. (See table 8.) However, if current market prices are applied to real estate in lieu of book values, rate earned on capital would be considerably smaller. Also, crop prices in 1973 were unusually high relative to the previous year.

Table 8. Rate Earned on Capital Managed, by Type of Farming, 1973

| Item                              | Dairy,<br>under<br>25 cows | Dairy,<br>25-34<br>cows | Dairy,<br>35-44<br>cows | Dairy,<br>45-54<br>cows | Dairy,<br>55 cows<br>& over | Dairy,<br>cash<br>crops | Dairy<br>and<br>hogs |
|-----------------------------------|----------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|-------------------------|----------------------|
| 1. Labor earnings                 | \$10099                    | \$15866                 | \$20700                 | \$26737                 | \$36356                     | \$23186                 | \$21306              |
| 2. Interest on cap.<br>managed    | <u>2941</u>                | <u>4606</u>             | <u>5733</u>             | <u>7519</u>             | <u>9797</u>                 | <u>6989</u>             | <u>6811</u>          |
| 3. Total (2 + 3)                  | \$13040                    | \$20472                 | \$26433                 | \$34256                 | \$46153                     | \$30175                 | \$28117              |
| 4. Est. wage for<br>operator      | <u>8000</u>                | <u>8000</u>             | <u>8000</u>             | <u>8000</u>             | <u>8000</u>                 | <u>8000</u>             | <u>8000</u>          |
| 5. Return to<br>capital (3-4)     | \$ 5040                    | \$12472                 | \$18433                 | \$26256                 | \$38153                     | \$22175                 | \$20117              |
| 6. Ave. capital<br>managed        | \$49026                    | \$76781                 | \$95553                 | \$125319                | \$163286                    | \$116498                | \$113519             |
| 7. Rate earned on<br>capital mgd. | 10.3%                      | 16.2%                   | 19.3%                   | 21.0%                   | 23.4%                       | 19.0%                   | 17.7%                |

#### LAND USE AND CROP YIELDS

Tables 9 and 10 show the distribution of acres per farm and the average yields for the more important crops. Forty-five percent or more of the income is derived from crop production, as was shown in table 7. This stresses the need for a good livestock manager to be able to manage crop production as well.

Oats, corn for grain and for silage, and alfalfa hay are the predominant crops. The cropping system reflects the need for feed for livestock. Small dairy farms

only had 52 percent tillable land, while the larger dairy farms had 73 percent tillable.

Crop yields do not appear to be related to size of farm, except for the small dairy farms where average yields were quite low. Average yields of corn for grain exceeded 80 bushels per acre and average yields of oats exceeded 57 bushels per acre for most of the types of farms.

Table 9. Distribution of Acres in Farm, by Type of Farming, 1973

| Item                               | Dairy,<br>under<br>25 cows | Dairy,<br>25-34<br>cows | Dairy,<br>35-44<br>cows | Dairy,<br>45-54<br>cows | Dairy,<br>55 cows<br>& over | Dairy,<br>cash<br>crops | Dairy<br>and<br>hogs |
|------------------------------------|----------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|-------------------------|----------------------|
| 1. Oats                            | 20.5                       | 27.7                    | 29.9                    | 29.5                    | 37.4                        | 54.0                    | 29.7                 |
| 2. Other sm. grains                | <u>.3</u>                  | <u>2.0</u>              | <u>.5</u>               | <u>2.0</u>              | <u>2.8</u>                  | <u>14.6</u>             | <u>16.4</u>          |
| 3. Total sm. grains                | 20.8                       | 29.7                    | 30.4                    | 31.5                    | 40.2                        | 68.6                    | 46.1                 |
| 4. Corn grain                      | 24.7                       | 40.4                    | 50.4                    | 65.1                    | 86.7                        | 97.7                    | 82.7                 |
| 5. Corn silage                     | 19.2                       | 24.8                    | 28.4                    | 40.0                    | 56.2                        | 19.6                    | 15.4                 |
| 6. Soybeans                        | -                          | .5                      | 3.0                     | 6.3                     | 5.5                         | 38.9                    | 4.0                  |
| 7. Other cult. crops               | <u>-</u>                   | <u>.4</u>               | <u>-</u>                | <u>-</u>                | <u>1.8</u>                  | <u>1.6</u>              | <u>-</u>             |
| 8. Total cult. crops               | 43.9                       | 66.1                    | 81.8                    | 111.4                   | 150.2                       | 157.8                   | 102.1                |
| 9. Alfalfa hay                     | 25.0                       | 37.6                    | 39.3                    | 57.9                    | 76.4                        | 53.5                    | 45.9                 |
| 10. Other hay                      | <u>13.5</u>                | <u>9.6</u>              | <u>14.3</u>             | <u>10.1</u>             | <u>20.0</u>                 | <u>5.0</u>              | <u>-</u>             |
| 11. Total till. land<br>in hay     | 38.5                       | 47.2                    | 53.6                    | 68.0                    | 96.4                        | 58.5                    | 45.9                 |
| 12. Total till. land<br>in pasture | 1.8                        | 2.3                     | 2.0                     | .7                      | 2.3                         | 5.6                     | 2.3                  |
| 13. Land not cropped               | <u>2.8</u>                 | <u>3.4</u>              | <u>4.8</u>              | <u>4.2</u>              | <u>7.7</u>                  | <u>14.3</u>             | <u>14.3</u>          |
| 14. Total till. land               | 107.8                      | 148.7                   | 172.6                   | 215.8                   | 296.8                       | 304.8                   | 210.7                |
| 15. Non-till. pasture              | 58.1                       | 26.8                    | 34.7                    | 26.2                    | 29.9                        | 38.0                    | 15.7                 |
| 16. Other non-till.<br>land        | <u>42.7</u>                | <u>60.1</u>             | <u>46.4</u>             | <u>64.2</u>             | <u>78.2</u>                 | <u>73.9</u>             | <u>78.0</u>          |
| 17. Total acres in<br>farm         | 208.6                      | 235.6                   | 253.7                   | 306.2                   | 404.9                       | 416.7                   | 304.4                |
| 18. Percent land<br>tillable       | 51.6%                      | 63.1%                   | 68.0%                   | 70.5%                   | 73.3%                       | 73.2%                   | 69.2%                |



Feed costs and returns from other dairy cattle are shown in table 12. These are mostly replacements for the milking herd. Return over feed cost per head and return for \$100 of feed are highest for small herds. The information in table 13 shows feed costs and returns from the entire dairy herd on a per cow basis. The information presented in this table is especially valuable for planning a dairy operation or for expanding an existing herd, since it includes replacement stock. A typical dairy herd averages about 1.3 head of young stock per cow.

Feed costs and returns from hogs are shown in table 14. All farms included maintained a complete (farrowing to market) hog enterprise. Thus, the overhead cost of maintaining breeding stock is included in the reporting of feed and other costs.

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

| Item                                | Dairy,<br>under<br>25 cows | Dairy,<br>25-34<br>cows | Dairy,<br>35-44<br>cows | Dairy,<br>45-54<br>cows | Dairy,<br>55 cows<br>& over | Dairy,<br>cash<br>crops | Dairy<br>and<br>hogs |
|-------------------------------------|----------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|-------------------------|----------------------|
| Number of cows                      | 20                         | 30                      | 40                      | 50                      | 71                          | 30                      | 33                   |
| Pounds of milk<br>per cow           | 10447                      | 11406                   | 11246                   | 11753                   | 11827                       | 10764                   | 11085                |
| Price received per<br>cwt. of milk  | \$6.19                     | \$6.31                  | \$6.44                  | \$6.47                  | \$6.39                      | \$6.33                  | \$6.12               |
| Value produced per cow:             |                            |                         |                         |                         |                             |                         |                      |
| Dairy product<br>sales              | \$632.09                   | \$708.25                | \$714.63                | \$751.40                | \$748.62                    | \$665.87                | \$667.26             |
| Dairy produce<br>used in home       | 4.88                       | 5.51                    | 4.16                    | 4.38                    | 5.44                        | 5.63                    | 4.32                 |
| Milk to livestock.                  | 9.50                       | 6.30                    | 5.74                    | 4.52                    | 4.15                        | 9.57                    | 6.20                 |
| Net increase in<br>value of cows    | <u>14.33</u>               | <u>7.16</u>             | <u>3.20</u>             | <u>8.94</u>             | <u>10.24</u>                | <u>17.60</u>            | <u>43.16</u>         |
| Total value<br>produced             | \$660.80                   | \$727.22                | \$727.73                | \$769.24                | \$768.45                    | \$698.67                | \$720.94             |
| Feed per cow, pounds:               |                            |                         |                         |                         |                             |                         |                      |
| Corn                                | 2772                       | 3168                    | 3276                    | 3785                    | 3761                        | 3788                    | 3154                 |
| Small grain and<br>complete ration  | 1854                       | 1368                    | 1569                    | 1597                    | 981                         | 1662                    | 1036                 |
| Protein, salt, min.                 | 606                        | 668                     | 862                     | 727                     | 704                         | 542                     | 953                  |
| Total concentrates                  | 5232                       | 5204                    | 5707                    | 6109                    | 5446                        | 5992                    | 5143                 |
| Total hay                           | 612                        | 6042                    | 5593                    | 5816                    | 5312                        | 6864                    | 6115                 |
| Total silage                        | 8992                       | 13573                   | 12378                   | 15698                   | 16564                       | 11785                   | 11766                |
| Feed cost per cow:                  |                            |                         |                         |                         |                             |                         |                      |
| Concentrates                        | \$180.20                   | \$198.78                | \$207.23                | \$224.10                | \$216.72                    | \$215.70                | \$192.64             |
| Roughages                           | 123.38                     | 148.05                  | 136.62                  | 161.00                  | 159.49                      | 161.13                  | 135.23               |
| Pasture                             | <u>11.00</u>               | <u>5.35</u>             | <u>5.97</u>             | <u>2.54</u>             | <u>1.08</u>                 | <u>9.33</u>             | <u>3.98</u>          |
| Total feed cost                     | \$314.58                   | \$352.18                | \$349.82                | \$387.64                | \$377.29                    | \$386.16                | \$331.85             |
| Return above feed<br>cost per cow   | \$346.22                   | \$375.04                | \$377.91                | \$381.60                | \$391.16                    | \$312.51                | \$389.09             |
| Return for \$100<br>of feed         | \$210                      | \$206                   | \$208                   | \$198                   | \$204                       | \$181                   | \$217                |
| Feed cost per cwt.<br>milk produced | \$3.01                     | \$3.09                  | \$3.11                  | \$3.30                  | \$3.19                      | \$3.59                  | \$2.99               |

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

| Item                               | Dairy,<br>under<br>25 cows | Dairy,<br>25-34<br>cows | Dairy,<br>35-44<br>cows | Dairy,<br>45-54<br>cows | Dairy,<br>55 cows<br>& over | Dairy,<br>cash<br>crops | Dairy<br>and<br>hogs |
|------------------------------------|----------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|-------------------------|----------------------|
| Number of head                     | 25                         | 37                      | 46                      | 57                      | 83                          | 41                      | 46                   |
| Net increase in value<br>per head  | \$189.03                   | \$207.01                | \$195.54                | \$224.90                | \$209.11                    | \$188.31                | \$227.28             |
| Feed per head, pounds:             |                            |                         |                         |                         |                             |                         |                      |
| Concentrates                       | 1047                       | 1088                    | 1209                    | 1274                    | 1294                        | 1215                    | 1767                 |
| Hay                                | 2086                       | 2049                    | 2310                    | 2204                    | 2226                        | 2677                    | 2195                 |
| Silage                             | 2607                       | 4779                    | 5115                    | 5652                    | 5620                        | 3174                    | 2695                 |
| Whole milk                         | 122                        | 81                      | 77                      | 61                      | 55                          | 101                     | 77                   |
| Total feed cost<br>per head        | \$ 84.57                   | \$ 99.84                | \$106.14                | \$114.69                | \$113.98                    | \$113.95                | \$106.51             |
| Return above feed<br>cost per head | \$104.46                   | \$107.17                | \$ 89.40                | \$110.21                | \$ 95.13                    | \$ 74.36                | \$120.77             |
| Return for \$100 of<br>feed        | \$223                      | \$207                   | \$184                   | \$196                   | \$183                       | \$165                   | \$213                |

Table 13. Feed Costs and Returns from All Dairy Cattle, on a per Cow Basis, by Type of Farming, 1973

| Item                              | Dairy,<br>under<br>25 cows | Dairy,<br>25-34<br>cows | Dairy,<br>35-44<br>cows | Dairy,<br>45-54<br>cows | Dairy,<br>55 cows<br>& over | Dairy,<br>cash<br>crops | Dairy<br>and<br>hogs |
|-----------------------------------|----------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|-------------------------|----------------------|
| Value of produce per cow:         |                            |                         |                         |                         |                             |                         |                      |
| Dairy products                    | \$646.42                   | \$720.07                | \$724.51                | \$760.30                | \$758.20                    | \$681.03                | \$677.78             |
| Net increase in<br>value          | <u>246.62</u>              | <u>261.75</u>           | <u>231.74</u>           | <u>264.88</u>           | <u>256.75</u>               | <u>273.67</u>           | <u>360.24</u>        |
| Total value prod.                 | \$893.04                   | \$981.82                | \$956.25                | \$1025.18               | \$1014.95                   | \$954.70                | \$1038.02            |
| Feed per cow, pounds:             |                            |                         |                         |                         |                             |                         |                      |
| Concentrates                      | 6534                       | 6535                    | 7129                    | 7566                    | 6960                        | 7658                    | 7621                 |
| Hay                               | 8891                       | 8702                    | 8294                    | 8325                    | 7956                        | 10505                   | 9178                 |
| Silage                            | 12197                      | 19563                   | 18357                   | 22130                   | 23283                       | 16101                   | 15526                |
| Total feed cost<br>per cow        | \$418.55                   | \$475.54                | \$473.90                | \$518.16                | \$511.25                    | \$541.07                | \$480.42             |
| Return above feed<br>cost per cow | \$474.49                   | \$506.28                | \$482.35                | \$507.02                | \$503.70                    | \$413.63                | \$557.60             |
| Return for \$100<br>of feed       | \$213                      | \$206                   | \$202                   | \$198                   | \$199                       | \$176                   | \$216                |
| Misc. lvstk. expenses<br>per cow  | \$25.97                    | \$30.23                 | \$28.69                 | \$33.00                 | \$28.75                     | \$32.33                 | \$30.49              |
| Veterinary expenses<br>per cow    | 11.19                      | 13.27                   | 14.66                   | 12.86                   | 14.53                       | 16.53                   | 13.01                |



Table 14. Feed Costs and Returns from Hogs, 1973

| Item                                   | Average<br>of 14 herds |
|--|------------------------|
| Pounds produced                        | 43914                  |
| Per cwt. produced:                     |                        |
| Net increase in value                  | \$45.92                |
| Feed cost                              | <u>19.04</u>           |
| Return above feed cost                 | \$26.88                |
| Return for \$100 of feed               | \$241                  |
| Price received per cwt.                | \$40.08                |
| Weight per hog sold, pounds            | 222                    |
| Miscellaneous costs per cwt. produced* | \$ .45                 |
| Feed per cwt. hogs produced, pounds:   |                        |
| Corn                                   | 329                    |
| Small grain                            | 68                     |
| Commercial feeds**                     | <u>77</u>              |
| Total concentrates                     | 474                    |
| Total number of litters raised         | 32                     |
| Number of pigs born per litter         | 9.3                    |
| Number of pigs weaned per litter       | 7.6                    |

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

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

## CONCLUDING STATEMENT

A summary of earnings, resources used, size of business, and expenses is presented in table 15. Small dairy farms showed the lowest earnings. They had \$13,040 available to pay for the operator's labor and capital managed. Large dairy farms had a return large enough to provide \$8000 for labor performed by the operator and yield 23.4 percent return on the "book value" of capital managed.

Acres per farm varied from 209 for small dairy farms to 417 for dairy and cash crop farms. All types of farms included in this report had a relatively large amount of non-tillable land. Dairying tends to be located on small farms where there is non-tillable land and where the production of roughages has an advantage over grain crops.

The number of workers per farm varied from 1.3 on the small dairy farms to 2.0 on the large dairy farms. Most of the farms are operated with family labor and a quite limited amount of hired labor. Total work units and work units per worker on the large dairy farms was much larger than that reported by the other groups. Large dairy farms reported 761 work units, 2.0 workers and 380 work units per worker, compared to 225 work units, 1.3 workers and 173 work units per worker on the small dairy farms. The operators of large dairy farms were able to handle a greater work load than the other groups, partly because of some increase in number of workers but also by employing considerably larger amounts of capital in total and per worker. All groups required about 50 percent of total sales to pay operating expenses.

Table 15. Some Characteristics of Various Types of Farms, East Central Minnesota, 1973

| Item   | Dairy,<br>under<br>25 cows | Dairy,<br>25-34<br>cows | Dairy,<br>35-44<br>cows | Dairy,<br>45-54<br>cows | Dairy,<br>55 cows<br>& over | Dairy,<br>cash<br>crops | Dairy<br>and<br>hogs |
|--|----------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|-------------------------|----------------------|
| <b>Earnings</b>  |                            |                         |                         |                         |                             |                         |                      |
| 1. Net cash income   | \$ 3531                    | \$ 7316                 | \$10362                 | \$ 8007                 | \$16787                     | \$ 6114                 | \$10552              |
| 2. Labor & mgmt.<br>earnings                                 | \$ 9500                    | \$15690                 | \$19918                 | \$25980                 | \$36481                     | \$26501                 | \$30766              |
| 3. Rate earned on<br>investment                              | 10.3                       | 16.2                    | 19.3                    | 21.0                    | 23.4                        | 19.0                    | 17.7                 |
| <b>Land</b>  |                            |                         |                         |                         |                             |                         |                      |
| 4. Acres in farm   | 209                        | 236                     | 254                     | 306                     | 405                         | 417                     | 304                  |
| 5. Tillable acres  | 108                        | 149                     | 173                     | 216                     | 297                         | 305                     | 211                  |
| 6. % till. land in   |                            |                         |                         |                         |                             |                         |                      |
| Small grain  | 19                         | 20                      | 18                      | 15                      | 14                          | 22                      | 22                   |
| Cult. crops  | 41                         | 44                      | 47                      | 51                      | 51                          | 52                      | 48                   |
| Hay & pasture  | 37                         | 33                      | 32                      | 32                      | 33                          | 21                      | 23                   |
| Not cropped  | 3                          | 3                       | 3                       | 2                       | 2                           | 5                       | 7                    |
| <b>Labor</b>   |                            |                         |                         |                         |                             |                         |                      |
| 7. No. of workers  | 1.3                        | 1.4                     | 1.5                     | 1.7                     | 2.0                         | 1.7                     | 1.4                  |
| 8. Work units per<br>worker                                  | 173                        | 249                     | 289                     | 320                     | 380                         | 254                     | 328                  |
| <b>Capital</b>   |                            |                         |                         |                         |                             |                         |                      |
| 9. Total capital<br>managed                                  | \$49026                    | \$76781                 | \$95553                 | \$125319                | \$163286                    | \$116498                | \$113519             |
| 10. Capital managed<br>per worker                            | \$37712                    | \$54844                 | \$63702                 | \$ 73717                | \$ 81643                    | \$ 68528                | \$ 81085             |
| <b>Size of business</b>                                      |                            |                         |                         |                         |                             |                         |                      |
| 11. Total work units   | 225                        | 348                     | 433                     | 544                     | 761                         | 431                     | 459                  |
| 12. Net value added  |                            |                         |                         |                         |                             |                         |                      |
| % by livestock   | 50                         | 49                      | 49                      | 49                      | 49                          | 27                      | 54                   |
| % by crops   | 46                         | 49                      | 48                      | 49                      | 49                          | 72                      | 45                   |
| % by miscellaneous   | 4                          | 2                       | 3                       | 2                       | 2                           | 1                       | 1                    |
| <b>Expenses</b>  |                            |                         |                         |                         |                             |                         |                      |
| 13. Total oper. expense                                      | \$ 9774                    | \$15704                 | \$19523                 | \$26487                 | \$37040                     | \$22722                 | \$23916              |
| 14. Purchase of capital<br>items                             | \$ 4827                    | \$ 8115                 | \$ 9393                 | \$16399                 | \$18094                     | \$16833                 | \$13661              |
| 15. Power, machinery,<br>equipment & bldg.<br>expense per WU | \$21.35                    | \$23.30                 | \$23.61                 | \$23.03                 | \$23.11                     | \$26.61                 | \$26.05              |
| 16. Tractor & machinery<br>expense per crop<br>acre          | \$22.10                    | \$27.43                 | \$28.79                 | \$27.46                 | \$29.49                     | \$23.14                 | \$32.05              |
| 17. Total operating<br>expense per \$100<br>of sales         | \$53.90                    | \$50.44                 | \$49.70                 | \$52.04                 | \$51.50                     | \$49.75                 | \$49.69              |