

WESTERN PLAINS REGION
DAIRY FARM BUSINESS SUMMARY
1974

This publication presents a summary of the 1974 farm business records of 32 Livingston, Wyoming, Niagara, Genesee, Monroe, and Orleans County dairy farms. These records were submitted by dairymen participating in Cooperative Extension's Farm Business Management Program. There are approximately 40 counties in New York State in which such projects are conducted in cooperation with the College of Agriculture and Life Sciences at Cornell.

The primary objectives of the business management program are to (1) assist farmers in developing and maintaining more complete farm business data for use in management decisions and (2) to help farmers improve their management skills through appropriate use of farm record data and application of modern decision making techniques. The rapidly increasing size of New York dairy farms and the dynamic nature of the environment within which they operate make farm incomes increasingly dependent upon the accuracy of management decisions. An indication of the type and magnitude of changes taking place in the Western Plains region are shown below.

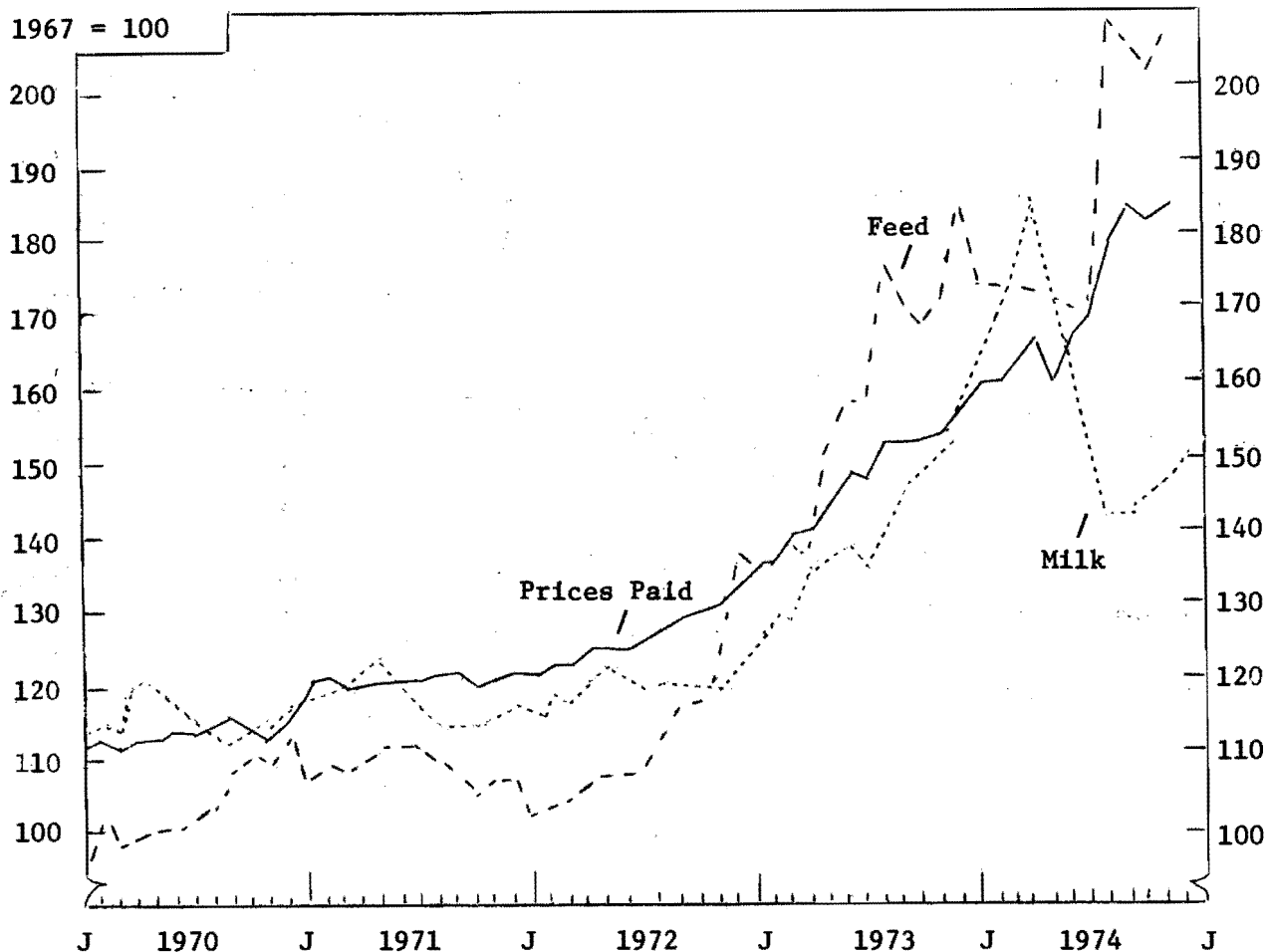
| | <u>1968</u> | <u>1971</u> | <u>1974</u> |
|-----------------------------|-------------|-------------|-------------|
| Number of farms | 70 | 30 | 32 |
| Cows per farm | 67 | 85 | 109 |
| Machinery per farm | \$29,854 | \$40,046 | \$ 59,547 |
| Investment per man | \$56,716 | \$80,023 | \$104,675 |
| Investment per cow | \$ 2,116 | \$ 2,448 | \$ 3,044 |
| Milk sold per cow (lbs.) | 12,300 | 12,900 | 13,500 |
| Milk sold per man (lbs.) | 328,600 | 421,300 | 465,300 |
| Milk price per Cwt. | \$ 5.43 | \$ 6.13 | \$ 8.56 |
| Feed bought per cow | 117 | 157 | 299 |
| Crop expense per cow | 53 | 76 | 115 |
| Gas and oil per cow | 26 | 26 | 41 |
| Fertilizer expense per acre | 12 | 14 | 21 |

This report is organized into three sections. The first two sections present the data for the 32 Western Plains farms. The first section presents a summary of the 1974 business record. Analysis of this record in terms of some of the major measures of management performance is presented in the second section. The last section presents average 1973 data for New York State as well as family living and dairy business summary data from other states.

This publication has been prepared in workbook form to assist individual farmers in analyzing their businesses. Any dairy farm business can be analyzed by systematically following the procedures outlined.

This summary was prepared by Eddy L. LaDue, Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, in cooperation with David L. Thorp, Livingston County Cooperative Extension, William D. Goewey, Wyoming County Cooperative Extension and George Allhusen, Western Plains Region Cooperative Extension Dairy and Field Crops Team.

PRICES RECEIVED AND PAID BY NEW YORK DAIRY FARMERS
(Seasonally Adjusted to Show Trends)



SOURCE: U.S.D.A. Agricultural Prices.

The spectacular changes in prices received and paid have had a disruptive effect on 1974 dairy farm incomes. The 1974 feed price index averaged 17 percent higher than in 1972, 69 percent higher than in 1970 through 1972. The 1974 index of prices paid rose 18 percent over 1973. The blend price received for 3.5 percent milk averaged \$8.26 per cwt. in 1974, up 13 percent from 1973, but last quarter prices were down 2.5 percent from year-earlier levels.

AVERAGE YEARLY PRICES RECEIVED AND PAID BY N.Y. FARMERS, 1964 to 1974

| Year | Milk (cwt.) | Slaughter Cows (cwt.) | Dairy Cows (head) | Dairy Ration (ton) | Wages per Month With House | Prices Paid by New York Dairymen 1967 = 100 |
|-------|----------------|-----------------------------|-------------------------|--------------------------|----------------------------------|--|
| 1964 | \$4.21 | \$13.17 | \$237 | \$75 | \$228 | 92 |
| 1969 | 5.66 | 19.30 | 336 | 74 | 321 | 107 |
| 1970 | 5.89 | 20.70 | 353 | 78 | 356 | 113 |
| 1971 | 6.02 | 21.20 | 372 | 83 | 375 | 120 |
| 1972 | 6.25 | 24.50 | 410 | 85 | 393 | 126 |
| 1973 | 7.30 | 32.80 | 494 | 119 | 418 | 146 |
| 1974* | 8.26 | 28.02 | 509 | 141 | 435 | 172 |
| 1975 | — | — | — | — | — | — |

* Preliminary.

SUMMARY OF THE FARM BUSINESS

Physical resources used, cash flows, and financial structure are all important facets of a business. Each of these facets is summarized in detail on the following pages.

Physical Resources and Business Characteristics

Nineteen of the 32 Western Plains businesses were individual proprietorships, 12 were partnerships and one was a corporation.

Nearly half of the farmers kept records in the Cornell Farm account book (or other similar books). Six farmers used the Cornell Electronic Record System (CAMIS); five used Agrifax. The remainder used Farm Bureau, Agway or other record keeping systems. All but two of the farms used some type of Dairy Records Service; 16 were on DHIC and 9 were on owner sample.

LABOR AND LAND USED
32 Western Plains Farms, 1974

| <u>Labor Force</u> | <u>My Farm</u> | <u>Average</u> |
|-------------------------|------------------------|----------------|
| Operator, months | _____ | 16 |
| Family Paid, months | _____ | 2 |
| Family Unpaid, months | _____ | 1 |
| Hired, months | _____ | 20 |
| Total Months | _____ | 39 |
| Man Equivalent (years) | _____ | 3.2 |
| Average Age of Operator | _____ | 41 |
| <u>Land</u> | <u>Farms Reporting</u> | |
| Total Acres Owned | 30 | 324 |
| Total Crop Acres | 32 | 355 |
| Crop Acres Rented | 30 | 161 |

Although stanchion barns remain the most predominate method of housing for all of New York State, two-thirds of the farms in this group had free stall barns.

CAPITAL INVESTMENT, JANUARY 1, 1975
32 Western Plains Farms

| <u>Item</u> | <u>My Farm</u> | <u>Average</u> | <u>Average Per Cow</u> |
|-----------------------|----------------|----------------|------------------------|
| Livestock | _____ | \$ 82,065 | \$ 753 |
| Feed and Supplies | _____ | 36,142 | 332 |
| Machinery & Equipment | _____ | 59,547 | 546 |
| Land and Buildings | _____ | 154,066 | 1,413 |
| TOTAL INVENTORY | _____ | \$331,820 | \$3,044 |

Machinery and Real Estate Calculations

Expenditures for both machinery and buildings involve purchase of items which have a large capital cost and are used over a number of years. Because each item is used over a number of years, its capital cost is an expense which must be spread over the life of the investment. Depreciation is the amount of the capital cost which is allocated to this year's use of the investment. Machinery and building depreciation are both included in farm expenses.

MACHINERY & EQUIPMENT DEPRECIATION 32 Western Plains Farms, 1974

| Item | My Farm | Average 32 Farms |
|--------------------------|----------|------------------|
| Beginning Inventory | \$ _____ | \$50,010 |
| Machinery Purchases | _____ | <u>16,667</u> |
| Total (1) | \$ _____ | \$66,677 |
| End of Year Inventory | \$ _____ | \$59,547 |
| Machinery Sold | _____ | <u>566</u> |
| Total (2) | \$ _____ | 60,113 |
| DEPRECIATION (1 minus 2) | \$ _____ | \$ 6,564 |
| Percent Depreciation | _____ % | 10% |

LAND & BUILDING INVENTORY BALANCE 32 Western Plains Farms, 1974

| Item | My Farm | Average 32 Farms |
|--|----------|------------------|
| Beginning Market Value | \$ _____ | \$139,798 |
| Cost of New Real Estate | \$ _____ | \$14,212 |
| Less Lost Capital | - _____ | <u>- 3,127</u> |
| Value of New Added | + _____ | + 11,085 |
| Less Building Depreciation | - _____ | - 3,708 |
| Less Real Estate Sold | - _____ | - <u>140</u> |
| Total Without Depreciation | \$ _____ | <u>\$147,035</u> |
| Appreciation of Beginning Real Estate | + _____ | + <u>7,031</u> |
| End of Year Market Value | \$ _____ | <u>\$154,066</u> |

Lost capital is the difference between the cost of new buildings and the amount these improvements added to the value of the farm. It is not included in farm expenses, since building depreciation is based on the full cost of new buildings and will account for lost capital over the life of the building. Building depreciation was taken from the farm depreciation schedule and is included as a farm expense. Real estate appreciation was estimated by each farm operator. It is the increase in value of the beginning package of real estate, had no land or buildings been added during the year. It averaged 5.0% on these farms in 1974.

Receipts

A successful farm business must have a total income large enough to cover operating and overhead costs and leave a return for the operator's labor and management. The table below lists the sources and amounts of income for this group of dairy farms.

FARM RECEIPTS
32 Western Plains Farms, 1974

| Item | My Farm | Average 32 Farms | |
|--------------------------------|----------|------------------|---------|
| | | Amount | Percent |
| Milk sales | \$ _____ | \$126,187 | 78 |
| Crop sales | _____ | 4,682 | 3 |
| Dairy cattle sold | _____ | 8,739 | 5 |
| Calves & other livestock sales | _____ | 2,661 | 2 |
| Gas tax refunds | _____ | 226 | } 3 |
| Government payments | _____ | 481 | |
| Work off farm | _____ | 726 | |
| Custom machine work | _____ | 1,089 | |
| Other | _____ | 2,405 | |
| Total Cash Receipts | \$ _____ | 147,196 | 91 |
| Increase in livestock | _____ | 4,405 | 3 |
| Increase in feed & supplies | _____ | 9,783 | 6 |
| TOTAL FARM RECEIPTS | \$ _____ | \$161,384 | 100 |

In a normal year most going farm businesses are expanding and therefore have an increase in inventory due to more livestock and crops raised. These increases are included in the farm receipts since the costs of producing or acquiring these assets are in the expenses.

The increase in livestock inventories on these Western Plains farms resulted from an increase in herd size of eight cows. Although market price for both cull cows and replacement animals declined sharply during the year, inventory values for livestock on these farms were reduced very little. A better crop year, higher end of year crop prices and larger Fall feed corn purchases contributed to the increase in feed and supplies.

INCOME ANALYSIS

| Item | My Farm | Western Plains Average | |
|------------------------------|----------|------------------------|---------------|
| | | 32 Farms 1974 | 23 Farms 1973 |
| Average price/cwt. milk sold | \$ _____ | \$8.56 | \$7.32 |
| Milk sales per cow | \$ _____ | \$1,158 | \$977 |
| Total cash receipts/man | \$ _____ | \$46,434 | \$42,423 |

Expenses

With the large amount of cash flowing through a farm business today it is important that the manager study expenses closely. Classifying expenses into the categories on this page will help you identify those that need tighter control.

FARM EXPENSES
32 Western Plains Farms, 1974

| Item | My Farm | Average 32 Farms Amount | Percent |
|---------------------------------|----------|----------------------------|---------|
| <u>Hired Labor</u> | \$ _____ | \$ 15,079 | 11 |
| <u>Feed</u> | | | |
| Dairy Concentrate | \$ _____ | 32,610 | 23 |
| Other Feed | _____ | 1,212 | 1 |
| <u>Machinery</u> | | | |
| Machine Hire | \$ _____ | 1,529 | 1 |
| Machinery Repairs | _____ | 6,386 | 5 |
| Auto Expense (farm share) | _____ | 304 | * |
| Gas & Oil | _____ | 4,415 | 3 |
| <u>Livestock</u> | | | |
| Purchased Livestock | \$ _____ | 6,327 | 5 |
| Breeding Fees | _____ | 1,299 | 1 |
| Veterinary & Medicine | _____ | 2,516 | 2 |
| Milk Marketing | _____ | 2,906 | 2 |
| Other Livestock Expense | _____ | 3,508 | 3 |
| <u>Crops</u> | | | |
| Fertilizer & Lime | \$ _____ | 7,396 | 5 |
| Seeds & Plants | _____ | 2,705 | 2 |
| Spray, Other Crop Expense | _____ | 2,478 | 2 |
| <u>Real Estate</u> | | | |
| Land, Building, Fence Repair | \$ _____ | 1,684 | 1 |
| Taxes | _____ | 3,118 | 2 |
| Insurance | _____ | 1,685 | 1 |
| Rent | _____ | 3,210 | 2 |
| <u>Other</u> | | | |
| Telephone (farm share) | \$ _____ | 294 | * |
| Electricity (farm share) | _____ | 1,591 | 1 |
| Interest Paid | _____ | 8,433 | 6 |
| Miscellaneous | _____ | 3,149 | 2 |
| Total Cash Expenses | \$ _____ | \$113,834 | 81 |
| <u>Non-Cash Items</u> | | | |
| Machinery Depreciation | \$ _____ | 6,564 | 5 |
| Building Depreciation | _____ | 3,708 | 3 |
| Unpaid Family Labor | _____ | 339 | * |
| Interest on Equity Capital @ 7% | _____ | 16,182 | 11 |
| TOTAL FARM EXPENSES | \$ _____ | \$140,627 | 100 |

* Less than .5 percent.

Financial Summary of Year's Business

The net returns for any business can be measured in several different ways. Each measure calculates the net return to a selected resource or group of resources such as labor or capital. Some of the common farm business measures are given below.

Net cash farm income reflects the cash available from the year's operation of the farm business for family living, payments on debt principal, and new purchases or investments. A family may have had additional cash available for these items if one or more family members has non-farm income.

NET CASH FARM INCOME
Western Plains Farms, 1974 & 1973

| Item | My Farm | 32 Farms 1974 | 23 Farms 1973 |
|----------------------|----------|------------------|------------------|
| Cash Farm Receipts | \$ _____ | \$147,196 | \$106,057 |
| Cash Farm Expenses | _____ | <u>113,834</u> | <u>81,242</u> |
| NET CASH FARM INCOME | \$ _____ | \$ 33,362 | \$ 24,815 |

Labor and Management Income is the return to the farm operator(s) for labor and management. It is the measure most commonly used when comparing the profitability of farm businesses. Labor and management income is the amount left after paying all cash farm expenses and deducting charges for depreciation, unpaid family labor and interest on equity capital. Increases in feed and supply inventories are included as farm receipts and are partly offset by the increased costs associated with growing and harvesting crops.

LABOR AND MANAGEMENT INCOME
Western Plains Farms, 1974 & 1973

| Item | My Farm | 32 Farms 1974 | 23 Farms 1973 |
|----------------------------------|----------|------------------|------------------|
| Total farm receipts | \$ _____ | \$161,384 | \$126,301 |
| Total farm expenses | _____ | <u>140,627</u> | <u>102,503</u> |
| LABOR AND MANAGEMENT INCOME/FARM | \$ _____ | \$ 20,757 | \$ 23,798 |
| Number of Operators | _____ | 1.5 | 1.3 |
| LABOR AND MANAGEMENT INCOME/OPER | \$ _____ | \$ 14,132 | \$ 18,250 |

Labor incomes on this group of farms were reduced by the deteriorating cost-price situation experienced by dairy farmers during 1974. In spite of this, however, the level of incomes on these farms remained above those found in many other parts of New York State. Part of this may be attributable to use of more home grown grain and less dependence on purchased concentrates.

In addition to labor and management income, the owner-operator of a farm business should receive income for his capital investment in the business. He receives this income in the form of interest on his equity in the business and real estate appreciation. These two "ownership income" items are added to labor and management income to determine labor, management, and ownership income. This indicates the total return the owner-operator receives for owning and operating the business.

LABOR, MANAGEMENT AND OWNERSHIP INCOME
32 Western Plains Farms, 1974

| Item | My Farm | Average 32 Farms |
|--|----------|------------------|
| Labor and Management income per farm | \$ _____ | \$20,757 |
| Add: Real estate appreciation | _____ | 7,031 |
| Add: Interest on equity capital @ 7% | _____ | 16,182 |
| LABOR, MANAGEMENT & OWNERSHIP INCOME PER FARM | \$ _____ | \$43,970 |
| Number of operators | _____ | 1.5 |
| LABOR, MANAGEMENT & OWNERSHIP INCOME PER OPERATOR | \$ _____ | \$29,937 |

Return on equity capital can be computed with or without real estate appreciation. To calculate return on equity capital (including real estate appreciation) the value of operator's labor and management is deducted from labor, management and ownership income. This return to equity capital is divided by the owners' equity investment in the business to compute the rate of return on equity capital. To compute return on equity capital excluding real estate appreciation, real estate appreciation must be deducted from ownership income.

RETURN ON EQUITY CAPITAL
32 Western Plains Farms, 1974

| Item | My Farm | Average 32 Farms |
|--|---|------------------|
| | <u>Including Real Estate Appreciation</u> | |
| Labor, mgt. and ownership income | \$ _____ | \$43,970 |
| Less: Value of operator's labor & management* | _____ | <u>10,628</u> |
| Return on equity capital | \$ _____ | \$33,342 |
| Rate of return on equity capital (equity capital = \$231,169) | _____ % | 14% |
| | <u>Excluding Real Estate Appreciation</u> | |
| Return on equity capital (from above) | \$ _____ | \$33,342 |
| Less: Real estate appreciation | _____ | <u>7,031</u> |
| Return on equity capital | \$ _____ | \$26,311 |
| Rate of return on equity capital | _____ % | 11% |

*As estimated by the operators. The commonly used charge of \$6,000 per operator for labor plus 5% of cash receipts would provide a value of \$16,172. Using this value, the return on equity capital would be 12% and 9% when real estate appreciation is included and excluded, respectively.

Farm Family Financial Situation

Appropriate use of credit is an important factor in the successful operation of any business. Too little credit may be costly in terms of foregone investment opportunities. Too much credit can cause cash flow problems and limit flexibility in considering future capital investment decisions.

FARM FAMILY FINANCIAL SITUATION
32 Western Plains Farms, January 1, 1975

| Item | My Farm | Average 32 Farms |
|---------------------------------|----------|------------------|
| <u>Assets</u> | | |
| Livestock | \$ _____ | \$ 82,066 |
| Feed and supplies | _____ | 36,143 |
| Machinery and equipment | _____ | 59,548 |
| Land and buildings | _____ | 154,067 |
| Co-op investment | _____ | 10,239 |
| Accounts receivable | _____ | 15,803 |
| Cash and checking account | _____ | <u>3,273</u> |
| Total Farm Assets | \$ _____ | \$361,139 |
| Savings accounts | _____ | 1,087 |
| Cash value life insurance | _____ | 2,488 |
| Stocks and bonds | _____ | 870 |
| Non-farm real estate | _____ | 4,073 |
| Auto (personal share) | _____ | 1,132 |
| All other | _____ | <u>1,279</u> |
| Total Non-farm Assets | \$ _____ | \$ 10,929 |
| TOTAL ASSETS | \$ _____ | \$372,068 |
| <u>Liabilities</u> | | |
| Real estate mortgage | \$ _____ | \$ 54,446 |
| Liens on cattle & equipment | _____ | 54,622 |
| Installment contracts | _____ | 1,129 |
| Notes & other farm debt | _____ | <u>19,773</u> |
| Total Farm Liabilities | \$ _____ | \$129,970 |
| Non-farm Liabilities | _____ | <u>1,235</u> |
| TOTAL LIABILITIES | \$ _____ | \$131,205 |
| Farm Net Worth (equity capital) | \$ _____ | \$231,169 |
| Family Net Worth | \$ _____ | \$240,863 |

Farm Net Worth or equity capital is total farm assets less total farm liabilities. It is the amount of farm capital owned by the owner-operator. Family net worth is the difference between total assets and total liabilities. Both measures are shown at the bottom of page 9.

Repayment ability is the most important consideration in determining if and how proposed investments should be financed. The farm business must produce enough cash income to meet operating expenses, to cover family or personal living expenses and to make debt payments. Cash purchases of capital items that normally take place during the year must also be included.

Repayment ability is calculated in the following table. Interest paid is added to net cash farm income because planned or budgeted debt payments will include interest as well as principle. Estimate cash family living expenses for your farm to calculate cash available for debt payments and cash capital purchases.

Debt payments planned for 1975 are the scheduled debt payments as of January, 1975. Based on the 1974 herd size, level of milk production, and milk price, this scheduled level of payments will average \$236 per cow and 21 percent of milk receipts. Some farms in the group have scheduled debt payments exceeding 30 percent of the milk receipts. Committing this much cash inflow to debt payments puts a "big squeeze" on cash available for family living and operating the business.

FINANCIAL MEASURES & DEBT COMMITMENT
32 Western Plains Farms, January 1, 1975

| Item | My Farm | Average of 32 Farms |
|--|----------|---------------------|
| <u>Payment Ability</u> | | |
| Net cash farm income | \$ _____ | \$33,362 |
| Add: Interest paid | _____ | 8,433 |
| CASH AVAILABLE FOR DEBT SERVICE & LIVING | \$ _____ | \$41,795 |
| Less: Cash family living expenses | _____ | - 11,750* |
| CASH AVAIL. FOR DEBT PYMT. & CAP. PURCH. | \$ _____ | \$30,045 |
| Debt Pymt. planned for 1975 | \$ _____ | \$26,011 |
| <u>Measures of Debt Commitment & Equity Position</u> | | |
| Scheduled debt pymts. per cow | \$ _____ | \$ 236 |
| Scheduled debt pymts. as % of milk sales | _____ % | 21% |
| Farm debt per cow | \$ _____ | \$ 1,182 |
| Percent equity (total) | _____ % | 65% |

*Estimated at \$8,000 per family and one family per operator.

ANALYSIS OF THE FARM BUSINESS

Research and experience have shown that certain factors affect farm incomes. Many of these factors are within the control of management. In analyzing a farm business, we examine it in terms of these basic factors. This will be done on the pages that follow. Average data for the 609 New York farms that participated in the 1973 Farm Business Management Program are presented for comparison.

Size of Business

Studies have shown that in general larger farms pay better. Two basic reasons for this are that larger businesses make possible more efficient use of overhead inputs such as labor and machinery and there are more units of production (milk) on which to make a profit. However, if a large farm is poorly operated, the losses also will be larger.

MEASURES OF SIZE OF BUSINESS
32 Western Plains Farms, 1974

| Measure | My Farm | Average 32 Farms, 1974 | Average 609 N.Y. Farms, 1973 |
|----------------------|---------|---------------------------|---------------------------------|
| Number of cows | _____ | 109 | 69 |
| Number of heifers | _____ | 81 | 46 |
| Pounds of milk sold | _____ | 1,474,900 | 851,900 |
| Man equivalent | _____ | 3.2 | 2.2 |
| Total work units | _____ | 1,252 | 750 |
| Total acres of crops | _____ | 355 | 198 |

Volume of output is one measure of size. In the table below, the 609 New York farms for 1973 are sorted by number of cows and the labor income is shown for each size group. In general, the large farms paid better.

COWS PER FARM AND LABOR AND MANAGEMENT INCOME
609 New York Dairy Farms, 1973

| Number of cows | Number of farms | Percent of farms | Labor & Management Income per Operator |
|-------------------|--------------------|---------------------|---|
| Less than 40 | 92 | 15 | \$ 4,310 |
| 40 - 54 | 179 | 29 | 7,670 |
| 55 - 69 | 123 | 20 | 9,920 |
| 70 - 84 | 71 | 12 | 9,310 |
| 85 - 99 | 40 | 7 | 12,220 |
| 100 - 114 | 36 | 6 | 11,330 |
| 115 - 129 | 23 | 4 | 14,950 |
| 130 - 149 | 19 | 3 | 14,730 |
| 150 & Over | 26 | 4 | 27,720 |

Rates of Production

Crop yields and rates of animal production have an important influence on farm incomes. Although maximum possible yields and production levels are not necessarily the most profitable rates at which to produce, low yields and/or production levels definitely do limit income.

CROP YIELDS & MILK SOLD PER COW
32 Western Plains Farms, 1974

| Crop | My Farm | | Average of Farms Reporting | | |
|-------------------|---------|-------|----------------------------|-------------|------------------|
| | Acres | Yield | Farms Reporting | Acres | Yield |
| Dry hay | _____ | _____ | 32 | 51 | (combined below) |
| Hay crop silage | _____ | _____ | 29 | 122 | |
| Other hay crops | _____ | _____ | 7 | 10 | |
| Corn silage | _____ | _____ | 32 | 98 | 13.1 tn. |
| Grain corn | _____ | _____ | 27 | 77 | 73.6 bu. |
| Oats | _____ | _____ | 18 | 24 | 75.5 bu. |
| Wheat | _____ | _____ | 22 | 40 | 51.0 bu. |
| ----- | | | | | |
| Hay equivalent: | | | | | |
| All hay crops | _____ | _____ | 32 | 147 | 3.4 tn. |
| All hay & silage | _____ | _____ | 32 | 245 | 3.8 tn. |
| Milk sold per cow | _____ | | | 13,531 lbs. | |

Tons of hay equivalent of all hay and silage is a measure of the overall rate of roughage production for all the acres used for roughage crops. One ton of hay equivalent is equal to one ton of dry hay containing 88 to 90 percent dry matter.

1974 crop yields for all crops except corn silage were higher on this group of farms than yields reported by the 23 farms summarized last year. Corn silage yields were approximately the same for both years.

The importance of high milk output per cow is shown in the table below. Average milk production per cow on the 609 farms was 12,300 pounds.

MILK SOLD PER COW & LABOR INCOME
609 New York Dairy Farms, 1973

| Pounds of Milk Sold Per Cow | Number of Farms | Number of Cows | Feed Bought Per Cow | Labor Income Per Operator |
|-----------------------------|-----------------|----------------|---------------------|---------------------------|
| Under 10,000 | 89 | 59 | \$199 | \$ 3,625 |
| 10,000 - 10,999 | 77 | 60 | 244 | 6,667 |
| 11,000 - 11,999 | 111 | 68 | 264 | 7,845 |
| 12,000 - 12,999 | 119 | 75 | 279 | 10,920 |
| 13,000 - 13,999 | 105 | 76 | 307 | 13,369 |
| 14,000 - 14,999 | 64 | 72 | 325 | 14,945 |
| 15,000 - 15,999 | 35 | 73 | 329 | 13,633 |
| 16,000 & over | 9 | 77 | 289 | 18,863 |

Labor Efficiency

Increased wage rates and reduced net return per pound of milk produced makes labor efficiency an important factor in farm production. Several measures of accomplishment per man or labor efficiency are shown below.

MEASURES OF LABOR EFFICIENCY 32 Western Plains Farms, 1974

| Item | My Farm | Average 32 Farms, 1974 | Average 609 N.Y. Farms, 1973 |
|------------------------|---------|------------------------|------------------------------|
| Man equivalent | _____ | 3.2 | 2.2 |
| Cows per man | _____ | 34 | 32 |
| Lbs. milk sold per man | _____ | 465,268 | 392,600 |
| Work units per man | _____ | 395 | 346 |

Number of cows per man is calculated by dividing the average number of cows by the man equivalent which includes the total farm labor force. This group of farms had a slightly larger number of cows per man than the group summarized for 1973.

Pounds of milk sold per man is the best measure of labor efficiency on a dairy farm. It is a physical measure of the total productivity of the labor force which accounts for both the quantity (number of cows) and the quality (milk per cow) of work accomplished.

It is important to look at other measures of labor efficiency, such as work units per man because all dairy farms do not have the same relationship between cows, heifers, and crops grown. For example, this group of Western Plains farms grows more crops than the average New York farm.

Labor efficiency depends on a number of things. Among these are the amount of mechanization, the field and building layout, the work methods, and the abilities of the workers. All of these are management items under the control of the operator.

MILK SOLD PER MAN AND LABOR AND MANAGEMENT INCOME 609 New York Dairy Farms, 1973

| Pounds of Milk Sold per Man | Number of Farms | Number of Cows | Lbs. Milk per Cow | Labor & Management Income per Operator |
|-----------------------------|-----------------|----------------|-------------------|--|
| Under 250,000 | 81 | 45 | 10,000 | \$ 1,730 |
| 250,000 - 299,999 | 119 | 54 | 11,400 | 5,790 |
| 300,000 - 349,999 | 99 | 67 | 11,900 | 7,040 |
| 350,000 - 399,999 | 95 | 66 | 12,400 | 10,290 |
| 400,000 - 449,999 | 92 | 78 | 13,000 | 12,880 |
| 450,000 - 499,999 | 50 | 87 | 13,300 | 14,620 |
| 500,000 - 599,999 | 55 | 104 | 13,600 | 19,330 |
| 600,000 and Over | 18 | 115 | 13,500 | 29,510 |

Capital Efficiency

Efficient use of capital is an important factor in the success of any business. The high capital requirements of modern dairy farms make capital efficiency extremely important to dairy farm managers. Although it is possible for farms to be under capitalized per productive unit, a more frequent problem is excessive investment per productive unit. Selected measures of capital efficiency are shown in the table below.

MEASURES OF CAPITAL EFFICIENCY
32 Western Plains Farms, 1974

| Item | My Farm | Average 32 Farms, 1974 | Average 609 N.Y. Farms, 1973 |
|----------------------------------|----------|------------------------|------------------------------|
| Farm Capital per man | \$ _____ | \$104,675 | \$95,667 |
| Farm capital per cow | _____ | 3,044 | 3,009 |
| Land & buildings per cow | _____ | 1,413 | 1,547 |
| Land & buildings/crop acre owned | _____ | 794 | 785 |
| Machinery investment per cow | _____ | 546 | 527 |
| Capital turnover (years) | _____ | 2.1 | 2.5 |
| Return on investment* | _____ | 11% | 7% |

*Excluding real estate appreciation based on average capital investment of \$312,824.

Land and building investment per crop acre owned shows the relationship between investments in land and buildings. The farmer who owns little cropland but builds lots of farm buildings will have a relatively large land and building investment per crop acre owned. This could be an indication that his use of capital is "out of balance".

Capital turnover is calculated by dividing the total farm capital (total year end farm inventory) by the total farm receipts for the year. The factor is called capital turnover because it measures the number of years of receipts needed to equal or "turnover" farm capital. A fast rate of turnover is more desirable than a slow rate because it means capital purchased can be paid off at a faster rate.

SIZE OF HERD AND CAPITAL EFFICIENCY
609 New York Dairy Farms, 1973

| Number of Cows | Number of Farms | Capital Investment Per Cow | | |
|----------------|-----------------|----------------------------|-------------|-----------|
| | | Total | Real Estate | Machinery |
| Under 40 | 92 | \$3,589 | \$2,041 | \$630 |
| 40 - 54 | 179 | 3,055 | 1,552 | 600 |
| 55 - 69 | 123 | 3,035 | 1,563 | 550 |
| 70 - 84 | 71 | 3,109 | 1,633 | 552 |
| 85 - 99 | 40 | 2,891 | 1,421 | 521 |
| 100 - 114 | 36 | 3,115 | 1,592 | 527 |
| 115 - 129 | 23 | 3,166 | 1,673 | 476 |
| 130 - 149 | 19 | 2,579 | 1,281 | 423 |
| 150 & Over | 26 | 2,535 | 1,251 | 369 |

Cost Control

The control of costs is an important factor in the success of modern commercial dairy operations. Feed, machinery, and labor costs are major items and are examined in detail. However, it is important to check all cost items both large and small.

Feed costs are the largest single expense item on dairy farms. For the 32 Western Plains farms, purchased feed accounted for 30 percent of the cash expenses. In general, all feed costs account for about half the cost of producing milk. This includes the expenses of growing crops.

The crop program has an important influence on purchased feed costs. Increasing the amount of roughage and/or grain grown on the farm will reduce the quantity of feed to be purchased. However, this will reduce the total cost of feeding the animals only if the cost of growing feed on the farm is less than the cost of purchased feed. Also, the number of heifers being raised on the farm will affect the total feed cost per cow or hundredweight of milk sold. The overall feed situation must be examined and evaluated as a "system".

FEED COSTS AND RELATED MEASURES 32 Western Plains Farms, 1974

| Item | My Farm | Average 32 Farms, 1974 | Average 609 N.Y. Farms, 1973 |
|-----------------------------------|----------|---------------------------|---------------------------------|
| Feed bought per cow | \$ _____ | \$ 299 | \$ 278 |
| Crop expense per cow | \$ _____ | \$ 115 | \$ 70 |
| Feed bought per cwt. milk | \$ _____ | \$2.21 | \$2.25 |
| Feed & Crop expense per cwt. milk | \$ _____ | \$3.06 | \$2.81 |
| Percent feed is of milk receipts | _____ % | 26% | 31% |
| Hay equivalent per cow (tons) | _____ | 8.5 | 7.8 |
| Crop acres per cow | _____ | 3.3 | 2.9 |
| Lime and fertilizer per crop acre | \$ _____ | \$ 21 | \$ 16 |
| Heifers as % of cow numbers | _____ % | 74% | 67% |

Several factors are known to have an important influence on feed and crop expense per hundredweight of milk. Early cutting of hay and hay crop silage increases the amount of protein and energy that can be supplied by forage. Feeding according to production so that cows in early lactation are not underfed and cows in late lactation are not overfed increases the efficiency of concentrate use. Feeding a balanced, least-cost ration reduces the cost of the concentrate required to meet the cow's needs.

Machinery, Labor, and Miscellaneous Costs

Labor and machinery operate as a "team" on a modern farm. The challenge is to get an efficient combination that will give a reasonable cost per unit of output.

LABOR & MACHINERY COSTS
32 Western Plains Farms, 1974

| Item | My Farm | Average 32 Farms, 1974 | Average 609 N.Y. Farms, 1973 |
|-----------------------------------|----------|---------------------------|---------------------------------|
| Total machinery <u>1/</u> | \$ _____ | \$23,032 | \$12,661 |
| Machinery cost per cow | _____ | 211 | 183 |
| Machinery costs/cwt. milk | _____ | 1.56 | 1.49 |
| Total Labor costs <u>2/</u> | _____ | 23,418 | 13,235 |
| Labor costs per cow | _____ | 215 | 192 |
| Labor costs/cwt. milk | _____ | 1.59 | 1.55 |
| Labor & machinery costs/cwt. milk | _____ | 3.15 | 3.04 |

1/ Includes machinery depreciation, 7 percent interest on the average machinery inventory, machine hire, machinery repairs, farm share of auto expense and gas and oil.

2/ Hired labor, unpaid family labor, and operator's labor valued at \$500 per month.

Milk hauling is not included under machinery costs in this report. It is included as a milk marketing expense.

MISCELLANEOUS COST CONTROL MEASURES
32 Western Plains Farms, 1974

| Item | My Farm | Average 32 Farms, 1974 | Average 609 N.Y. Farms, 1973 |
|---------------------------------|----------|---------------------------|---------------------------------|
| Veterinary & Medicine per cow | \$ _____ | \$23.08 | \$15.37 |
| Other Livestock expense per cow | \$ _____ | \$32.18 | \$31.57 |
| Real Estate expense per cow | \$ _____ | \$88.96 | \$73.30 |
| Total Farm expenses per cow | \$ _____ | \$1,290 | \$1,052 |

Other livestock expenses per cow include dairy supplies, bedding, and DHIC fees but exclude breeding fees and milk marketing. Breeding fees averaged \$12 per cow. Real estate expenses include repairs, taxes, insurance, and rent. For this group of Western Plains farms, total farm expenses, which include interest on all capital invested, were up \$125 per cow or 11 percent from the level experienced by the 23 Western Plains farms that summarized last year.

Family Living Expenditures

For business financial planning, the family living expenses must be considered along with the farm expenses. Below is a summary of the living expenditures for families in Minnesota who recorded their living expenses as part of their farm business management project.

FAMILY LIVING EXPENDITURES 93 Minnesota Farm Families, 1973

| Item | My Family | Average of 93 Families | |
|--------------------------------------|--------------|------------------------|---------|
| | | Amount | Percent |
| Number in family | _____ | 4.5 | |
| <u>Living Expenses</u> | | | |
| Food and meals bought* | \$ _____ | \$1,953 | 24 |
| Medical and hospital insurance | _____ | 1,014 | 12 |
| Clothing and clothing materials | _____ | 846 | 10 |
| Furnishings and equipment | _____ | 775 | 9 |
| Operating and supplies | _____ | 602 | 7 |
| Upkeep on dwelling | _____ | 119 | 1 |
| Personal share of auto expense | _____ | 465 | 6 |
| Church and welfare | _____ | 680 | 8 |
| Gifts and special events | _____ | 451 | 6 |
| Education | _____ | 353 | 4 |
| Recreation | _____ | 469 | 6 |
| Personal care and spending | _____ | 332 | 4 |
| Electricity & telephone (home share) | _____ | 206 | 3 |
| TOTAL LIVING EXPENSES | \$ _____ | \$8,265 | 100 |
| Taxes | _____ | 1,801 | |
| Life insurance | _____ | 1,027 | |
| Dwelling improvements | _____ | 389 | |
| Home share of new autos | _____ | 430 | |
| Other savings and investments | _____ | 1,365 | |
| TOTAL FAMILY EXPENDITURES | \$ _____ | \$13,277 | |
| ----- | | | |
| <u>Sources of Family Income</u> | | | |
| Return from farm business | \$ _____ | \$55,685 | |
| Income from outside investments | _____ | 686 | |
| Other personal income | _____ | 1,111 | |

SOURCE: Minnesota Econ. Reports R74-3 and R74-4.

* In addition, the family used farm produce valued at \$546.

The average living expenses for 114 Minnesota families in 1972 was \$7,347. The average for 1973 was \$8,265, or an increase of 12 percent. All living expense items for 1973 were higher than for 1972.

Many factors affect the expenditures of an individual family. The number in the family, ages of children, health problems, and special interests are examples. When comparing a family with the averages, these factors should be taken into consideration.

Farm Business Chart

The farm business chart is a tool for use in analyzing a dairy farm business. It is a series of measuring sticks combined into one tool.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS 609 New York Dairy Farms, 1973*

| Size of Business | | | Rates of Production | | | Labor Efficiency | |
|------------------------|-------------------|------------------------|--------------------------------|----------------------|---------------------------------|--------------------|--------------------------------|
| Man Equiv- alent | No. of Cows | Pounds Milk Sold | Pounds Milk Sold per Cow | Tons Hay/ Acre | Tons Corn Silage per Acre | Cows per Man | Pounds Milk Sold per Man |
| 4.7 | 161 | 2,059,900 | 15,400 | 5.1 | 20 | 44 | 572,700 |
| 3.3 | 105 | 1,357,600 | 14,200 | 3.6 | 17 | 38 | 479,500 |
| 2.8 | 82 | 1,006,800 | 13,500 | 3.2 | 15 | 35 | 434,000 |
| 2.4 | 69 | 843,400 | 13,000 | 2.9 | 14 | 33 | 399,200 |
| 2.2 | 61 | 742,500 | 12,400 | 2.7 | 13 | 30 | 368,600 |
| ----- | | | | | | | |
| 2.0 | 55 | 663,900 | 12,000 | 2.5 | 12 | 28 | 335,900 |
| 1.8 | 49 | 594,900 | 11,400 | 2.3 | 11 | 26 | 307,000 |
| 1.5 | 44 | 508,500 | 10,800 | 2.1 | 10 | 24 | 281,400 |
| 1.4 | 39 | 425,000 | 10,000 | 1.9 | 8 | 22 | 253,300 |
| 1.2 | 30 | 307,500 | 8,300 | 1.4 | 5 | 18 | 189,000 |

* These farms are considerably above the average for all farms in New York State. For example, the median number of cows for the 609 farms was 58 compared with 39 for all farms in the State.

The Farm Business Chart is a tool which can be used in analyzing a business to determine the strong and weak points. The chart shows how far the individual farm is above or below the midpoint of the 609 farms for each factor.

The figure at the top of each column is the average of the top 10 percent of the farms for that factor. For example, the figure 4.7 at the top of the column headed "man equivalent" is the average man equivalent on the 10 percent of the farms with the most men. The other figures in each column are the average for the second 10 percent, third 10 percent, etc. The figure at the bottom of each column (1.2 for man equivalent) is the average for the 10 percent of the farms which ranked lowest in that factor.

Each column of the chart is independent of the others. The farms which are in the top 10 percent for one factor would not necessarily be the same farms which make up the top 10 percent for any other factor.

This chart is used in analyzing a particular dairy business by drawing a line through the figure in each column which shows where the farm being analyzed stands for that factor. This helps identify the strengths and weaknesses. Summarize these and list them at the bottom of the next page.

Farm Business Chart contd.

The cost control factors are ranked from low to high. For cost control, the lowest cost is not necessarily the most profitable. In some cases, the "best" might be somewhere near the average. Many things affect the level of costs, and these items must be taken into account when analyzing the factors.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
609 New York Dairy Farms, 1973

| Feed Bought per Cow | % Feed is of Milk Receipts | Machinery Cost per Cow | Labor and Machinery Cost per Cow | Feed and Crop Expense per cwt. Milk |
|---------------------|----------------------------|------------------------|----------------------------------|-------------------------------------|
| \$133 | 17 | \$102 | \$264 | \$1.79 |
| 189 | 23 | 132 | 311 | 2.20 |
| 215 | 26 | 149 | 336 | 2.39 |
| 238 | 28 | 162 | 354 | 2.55 |
| 261 | 30 | 176 | 373 | 2.69 |
| ----- | | | | |
| 279 | 32 | 188 | 393 | 2.80 |
| 299 | 34 | 203 | 417 | 2.94 |
| 325 | 36 | 223 | 444 | 3.13 |
| 358 | 40 | 246 | 479 | 3.37 |
| 432 | 47 | 315 | 572 | 3.97 |

Based on the analyzed results shown on the business chart, list below the strong and weak points of the business. Then identify the major problems.

STRONG POINTS:

WEAK POINTS:

MAJOR PROBLEMS:

After identifying problems, consider alternative ways of solving each problem. Each alternative should be studied in detail. A budgeting form can be used for projecting the likely results of each alternative.

FARM BUSINESS SUMMARY BY HERD SIZE
609 New York Dairy Farms, 1973

| Item | My Farm | Farms with: | | |
|---|-----------------|----------------------|------------------|------------------|
| | | Less than 40 Cows | 40 to 54 Cows | 55 to 69 Cows |
| <u>Capital Investment (end of year)</u> | | | | |
| Livestock | \$ _____ | \$ 24,408 | \$ 34,502 | \$ 45,227 |
| Feed and supplies | _____ | 5,446 | 7,381 | 10,980 |
| Machinery and equipment | _____ | 20,320 | 27,768 | 33,572 |
| Land and buildings | _____ | 65,761 | 71,876 | 94,994 |
| TOTAL INVESTMENT | \$ _____ | \$115,935 | \$141,527 | \$184,773 |
| <u>Receipts</u> | | | | |
| Milk sales | \$ _____ | \$ 27,287 | \$ 39,866 | \$ 52,838 |
| Livestock sales | _____ | 4,134 | 5,479 | 7,185 |
| Crop sales | _____ | 224 | 320 | 317 |
| Miscellaneous receipts | _____ | 1,705 | 2,887 | 2,745 |
| Total Cash Receipts | \$ _____ | \$ 33,350 | \$ 48,552 | \$ 63,085 |
| Increase in livestock | _____ | 3,527 | 5,081 | 6,829 |
| Increase in feed & supplies | _____ | 1,135 | 1,659 | 3,090 |
| TOTAL FARM RECEIPTS | \$ _____ | \$ 38,012 | \$ 55,292 | \$ 73,004 |
| <u>Expenses</u> | | | | |
| Hired labor | \$ _____ | \$ 937 | \$ 1,994 | \$ 3,633 |
| Dairy feed | _____ | 8,591 | 12,719 | 15,847 |
| Other feed | _____ | 207 | 372 | 514 |
| Machine hire | _____ | 211 | 415 | 394 |
| Machinery repair | _____ | 1,269 | 1,997 | 2,350 |
| Auto expense (farm share) | _____ | 241 | 281 | 304 |
| Gas and oil | _____ | 939 | 1,225 | 1,625 |
| Purchased animals | _____ | 2,238 | 2,470 | 2,826 |
| Breeding fees | _____ | 338 | 507 | 651 |
| Veterinary and medicine | _____ | 434 | 691 | 921 |
| Other livestock expense | _____ | 1,416 | 2,057 | 2,423 |
| Fertilizer and lime | _____ | 925 | 1,630 | 2,627 |
| Seeds and plants | _____ | 329 | 618 | 862 |
| Spray and other crop expense | _____ | 215 | 444 | 674 |
| Land, bldg., fence repair | _____ | 633 | 876 | 1,238 |
| Taxes and insurance | _____ | 1,451 | 1,945 | 2,524 |
| Electricity & phone (farm share) | _____ | 701 | 928 | 1,133 |
| Interest paid | _____ | 2,119 | 2,986 | 3,742 |
| Miscellaneous expenses | _____ | 571 | 951 | 1,170 |
| Total Cash Operating Exp. | \$ _____ | \$ 23,765 | \$ 35,106 | \$ 45,458 |
| Machinery depreciation | _____ | 2,560 | 3,491 | 4,453 |
| Real estate depreciation | _____ | 1,054 | 1,327 | 1,791 |
| Unpaid family labor | _____ | 700 | 700 | 1,050 |
| Interest on equity capital @ 7% | _____ | 5,536 | 6,402 | 8,563 |
| TOTAL FARM EXPENSES | \$ _____ | \$ 33,615 | \$ 47,026 | \$ 61,315 |
| <u>Financial Summary</u> | | | | |
| Total Farm Receipts | \$ _____ | \$ 38,012 | \$ 55,292 | \$ 73,004 |
| Total Farm Expenses | _____ | 33,615 | 47,026 | 61,315 |
| Labor & Management Income | \$ _____ | \$ 4,397 | \$ 8,266 | \$ 11,689 |
| Number of operators | _____ | 1.02 | 1.08 | 1.17 |
| LABOR & MANAGEMENT INCOME PER OPERATOR | \$ _____ | \$ 4,307 | \$ 7,668 | \$ 9,991 |

FARM BUSINESS SUMMARY BY HERD SIZE
609 New York Dairy Farms, 1973

| Item | Farms with: | | | |
|---|------------------|------------------|--------------------|---------------------|
| | 70 to 84 Cows | 85 to 99 Cows | 100 to 149 Cows | 150 or More Cows |
| <u>Capital Investment (end of year)</u> | | | | |
| Livestock | \$ 55,789 | \$ 67,206 | \$ 87,086 | \$137,294 |
| Feed and supplies | 13,894 | 19,292 | 27,873 | 44,461 |
| Machinery and equipment | 41,649 | 47,298 | 57,159 | 72,379 |
| Land and buildings | <u>123,090</u> | <u>129,298</u> | <u>181,005</u> | <u>245,450</u> |
| TOTAL INVESTMENT | \$234,422 | \$263,094 | \$353,123 | \$499,584 |
| <u>Receipts</u> | | | | |
| Milk sales | \$ 66,659 | \$ 79,853 | \$115,554 | \$183,897 |
| Livestock sales | 8,602 | 8,746 | 15,196 | 25,568 |
| Crop sales | 479 | 702 | 936 | 1,677 |
| Miscellaneous receipts | 2,488 | 2,861 | 3,388 | 5,494 |
| Total Cash Receipts | <u>\$ 78,228</u> | <u>\$ 92,162</u> | <u>\$135,074</u> | <u>\$216,636</u> |
| Increase in livestock | 7,219 | 9,345 | 8,895 | 21,611 |
| Increase in feed & supplies | <u>4,025</u> | <u>5,656</u> | <u>9,130</u> | <u>16,246</u> |
| TOTAL FARM RECEIPTS | \$ 89,472 | \$107,163 | \$153,099 | \$254,493 |
| <u>Expenses</u> | | | | |
| Hired labor | \$ 5,808 | \$ 7,942 | \$ 14,091 | \$ 25,058 |
| Dairy feed | 20,797 | 23,909 | 35,458 | 56,087 |
| Other feed | 800 | 900 | 1,546 | 3,291 |
| Machine hire | 445 | 515 | 717 | 1,923 |
| Machinery repair | 3,188 | 3,554 | 5,613 | 8,546 |
| Auto expense (farm share) | 290 | 349 | 280 | 254 |
| Gas and oil | 1,951 | 2,178 | 3,274 | 5,293 |
| Purchased animals | 2,996 | 4,203 | 5,366 | 14,019 |
| Breeding fees | 837 | 1,162 | 1,484 | 1,691 |
| Veterinary and medicine | 1,187 | 1,128 | 1,972 | 3,307 |
| Other livestock expense | 3,393 | 3,855 | 6,033 | 8,948 |
| Fertilizer and lime | 3,248 | 4,652 | 6,012 | 11,713 |
| Seeds and plants | 989 | 1,349 | 1,957 | 2,714 |
| Spray and other crop expense | 668 | 770 | 1,438 | 2,497 |
| Land, bldg., fence repair | 1,098 | 1,479 | 2,297 | 3,770 |
| Taxes and insurance | 3,112 | 3,755 | 5,131 | 7,482 |
| Electricity & phone (farm share) | 1,290 | 1,550 | 2,026 | 2,924 |
| Interest paid | 5,810 | 5,616 | 7,678 | 11,855 |
| Miscellaneous expenses | 1,456 | 1,494 | 3,222 | 5,905 |
| Total Cash Operating Expenses | <u>\$ 59,363</u> | <u>\$ 70,360</u> | <u>\$105,595</u> | <u>\$177,277</u> |
| Machinery depreciation | 5,253 | 5,378 | 7,657 | 9,270 |
| Real estate depreciation | 2,297 | 2,730 | 3,950 | 6,409 |
| Unpaid family labor | 700 | 700 | 700 | 350 |
| Interest on equity capital @ 7% | <u>10,067</u> | <u>12,108</u> | <u>16,039</u> | <u>20,685</u> |
| TOTAL FARM EXPENSES | \$ 77,680 | \$ 91,276 | \$133,941 | \$213,991 |
| <u>Financial Summary</u> | | | | |
| Total Farm Receipts | \$ 89,472 | \$107,163 | \$153,099 | \$254,493 |
| Total Farm Expenses | <u>77,680</u> | <u>91,276</u> | <u>133,941</u> | <u>213,991</u> |
| Labor & Management Income | <u>\$ 11,792</u> | <u>\$ 15,887</u> | <u>\$ 19,158</u> | <u>\$ 40,502</u> |
| Number of operators | 1.27 | 1.30 | 1.45 | 1.46 |
| LABOR & MANAGEMENT INCOME PER OPERATOR | \$ 9,307 | \$ 12,221 | \$ 13,231 | \$ 27,722 |

SELECTED BUSINESS FACTORS BY HERD SIZE
609 New York Dairy Farms, 1973

| Item | My Farm | Farms with: | | |
|----------------------------------|---------|----------------------|------------------|------------------|
| | | Less than 40 Cows | 40 to 54 Cows | 55 to 69 Cows |
| Number of farms | | 92 | 179 | 123 |
| <u>Size of Business</u> | | | | |
| Number of cows | | 32 | 46 | 60 |
| Number of heifers | | 20 | 32 | 41 |
| Pounds of milk sold | | 377,500 | 556,000 | 740,500 |
| Man equivalent | | 1.3 | 1.5 | 2.0 |
| Total work units | | 356 | 507 | 661 |
| Crop acres | | 100 | 140 | 177 |
| <u>Rates of Production</u> | | | | |
| Milk sold per cow | | 11,800 | 12,100 | 12,300 |
| Tons hay crops per acre | | 2.3 | 2.5 | 2.6 |
| Tons corn silage per acre | | 12 | 12 | 13 |
| Bushels of oats per acre | | 51 | 54 | 56 |
| <u>Labor Efficiency</u> | | | | |
| Cows per man | | 26 | 31 | 30 |
| Pounds milk sold per man | | 302,000 | 370,700 | 370,200 |
| Work units per man | | 285 | 338 | 331 |
| <u>Feed Costs</u> | | | | |
| Feed purchased per cow | \$ | \$268 | \$277 | \$264 |
| Crop expense per cow | \$ | \$46 | \$59 | \$69 |
| Feed cost per cwt. milk | \$ | \$2.28 | \$2.29 | \$2.14 |
| Feed and crop exp./cwt. milk | \$ | \$2.66 | \$2.77 | \$2.70 |
| % Feed is of milk receipts | % | 31% | 32% | 30% |
| Hay equivalent per cow | | 7.3 | 7.9 | 7.9 |
| Crop acres per cow | | 3.1 | 3.0 | 3.0 |
| Fertilizer and lime/crop acre | \$ | \$9 | \$12 | \$15 |
| <u>Machinery and Labor Costs</u> | | | | |
| Total machinery costs | \$ | \$6,581 | \$9,270 | \$11,398 |
| Machinery cost per cow | \$ | \$206 | \$202 | \$190 |
| Machinery cost per cwt. milk | \$ | \$1.74 | \$1.67 | \$1.54 |
| Labor cost per cow | \$ | \$239 | \$189 | \$195 |
| Labor cost per cwt. milk | \$ | \$2.02 | \$1.56 | \$1.58 |
| <u>Capital Efficiency</u> | | | | |
| Investment per man | \$ | \$92,748 | \$94,351 | \$92,387 |
| Investment per cow | \$ | \$3,623 | \$3,077 | \$3,080 |
| Investment per cwt. milk sold | \$ | \$31 | \$25 | \$25 |
| Land and buildings per cow | \$ | \$2,055 | \$1,563 | \$1,583 |
| Machinery investment per cow | \$ | \$635 | \$604 | \$560 |
| Return on investment | % | 1.7% | 5.0% | 6.9% |
| <u>Other</u> | | | | |
| Price per cwt. milk sold | \$ | \$7.23 | \$7.17 | \$7.14 |
| Acres hay crops | | 73 | 92 | 110 |
| Acres corn silage | | 20 | 34 | 46 |

SELECTED BUSINESS FACTORS BY HERD SIZE
609 New York Dairy Farms, 1973

| Item | Farms with: | | | |
|----------------------------------|------------------|------------------|-----------------|---------------------|
| | 70 to 84 Cows | 85 to 99 Cows | 100 149 Cows | 150 or More Cows |
| Number of farms | 71 | 40 | 78 | 26 |
| <u>Size of Business</u> | | | | |
| Number of cows | 75 | 91 | 118 | 199 |
| Number of heifers | 54 | 59 | 86 | 109 |
| Pounds of milk sold | 910,500 | 1,100,600 | 1,555,600 | 2,441,100 |
| Man equivalent | 2.3 | 2.5 | 3.6 | 4.9 |
| Total work units | 826 | 973 | 1,291 | 2,076 |
| Crop acres | 219 | 255 | 327 | 514 |
| <u>Rates of Production</u> | | | | |
| Milk sold per cow | 12,140 | 12,100 | 13,200 | 12,300 |
| Tons hay crops per acre | 2.5 | 2.7 | 2.9 | 2.7 |
| Tons corn silage per acre | 13 | 14 | 14 | 13 |
| Bushels oats per acre | 49 | 61 | 57 | 64 |
| <u>Labor Efficiency</u> | | | | |
| Cows per man | 32 | 36 | 33 | 40 |
| Pounds milk sold per man | 390,800 | 440,200 | 434,500 | 496,200 |
| Work units per man | 355 | 389 | 361 | 422 |
| <u>Feed Costs</u> | | | | |
| Feed purchased per cow | \$277 | \$263 | \$300 | \$282 |
| Crop expense per cow | \$65 | \$74 | \$80 | \$85 |
| Feed cost per cwt. milk | \$2.28 | \$2.17 | \$2.28 | \$2.30 |
| Feed & crop exp./cwt. milk | \$2.82 | \$2.79 | \$2.88 | \$2.99 |
| % Feed is of milk receipts | 31% | 30% | 31% | 30% |
| Hay equivalent per cow | 7.9 | 7.6 | 8.1 | 7.4 |
| Crop acres per cow | 2.9 | 2.8 | 2.8 | 2.6 |
| Fertilizer & lime/crop acre | \$15 | \$18 | \$18 | \$23 |
| <u>Machinery and Labor Costs</u> | | | | |
| Total machinery costs | \$ 13,957 | \$ 15,068 | \$ 21,414 | \$ 30,003 |
| Machinery cost per cow | \$186 | \$166 | \$181 | \$151 |
| Machinery cost per cwt. milk | \$1.53 | \$1.37 | \$1.38 | \$1.23 |
| Labor cost per cow | \$187 | \$177 | \$197 | \$170 |
| Labor cost per cwt. milk | \$1.54 | \$1.47 | \$1.50 | \$1.39 |
| <u>Capital Efficiency</u> | | | | |
| Investment per man | \$100,610 | \$105,238 | \$ 98,638 | \$101,541 |
| Investment per cow | \$3,126 | \$2,891 | \$2,993 | \$2,510 |
| Investment per cwt. milk sold | \$26 | \$24 | \$23 | \$20 |
| Land and buildings per cow | \$1,641 | \$1,421 | \$1,534 | \$1,233 |
| Machinery investment per cow | \$555 | \$520 | \$484 | \$364 |
| Return on investment | 6.6% | 8.3% | 8.6% | 12.5% |
| <u>Other</u> | | | | |
| Price per cwt. milk sold | \$7.32 | \$7.26 | \$7.43 | \$7.53 |
| Acres hay crops | 128 | 136 | 169 | 244 |
| Acres corn silage | 65 | 75 | 101 | 177 |

SELECTED FARM BUSINESS SUMMARY FACTORS
New York Dairy Farms, Selected Years 1963-1973

| Item | Year | | | |
|--|----------|-----------|-----------|-----------|
| | 1963 | 1968 | 1972 | 1973 |
| Number of farms | 468 | 568 | 571 | 609 |
| <u>Financial Summary</u> | | | | |
| Average capital invested | \$55,304 | \$107,854 | \$173,780 | \$195,322 |
| Total farm receipts | \$23,891 | \$53,247 | \$68,376 | \$84,682 |
| Total farm expenses | \$17,278 | \$37,717 | \$49,636 | \$72,570* |
| Labor income per operator | \$3,492 | \$8,724 | \$5,835 | \$10,178 |
| <u>Size of Business</u> | | | | |
| Number of cows | 39 | 58 | 70 | 69 |
| Pounds of milk sold | 427,000 | 715,200 | 887,500 | 851,900 |
| Crop acres | 105 | 155 | 188 | 198 |
| Man equivalent | 1.7 | 2.1 | 2.3 | 2.2 |
| Total work units | 527 | 692 | 754 | 750 |
| <u>Rates of Production</u> | | | | |
| Milk sold per cow | 10,950 | 12,300 | 12,700 | 12,350 |
| Tons hay per acre | 2.3 | 2.8 | 2.4 | 2.6 |
| Tons corn silage per acre | 12 | 14 | 11 | 13 |
| <u>Labor Efficiency</u> | | | | |
| Cows per man | 23 | 28 | 30 | 32 |
| Pounds milk sold per man | 251,200 | 340,600 | 385,900 | 392,600 |
| Work units per man | 310 | 330 | 328 | 346 |
| <u>Cost Control Factors</u> | | | | |
| Machinery cost per cow | \$108 | \$151 | \$177 | \$183 |
| Machinery cost/cwt. milk | \$.99 | \$1.22 | \$1.40 | \$1.49 |
| Feed bought per cow | \$150 | \$163 | \$206 | \$278 |
| Feed bought/cwt. milk | \$1.37 | \$1.32 | \$1.62 | \$2.25 |
| Feed & crop expense/cwt. milk | \$1.64 | \$1.69 | \$2.06 | \$2.81 |
| % Feed is of milk receipts | 32% | 24% | 25% | 31% |
| <u>Capital Efficiency</u> | | | | |
| Total investment per man | \$33,258 | \$53,302 | \$75,560 | \$95,667 |
| Total investment per cow | \$1,450 | \$1,930 | \$2,480 | \$3,009 |
| Machinery investment/cow | \$304 | \$435 | \$489 | \$527 |
| Total investment/cwt. milk | \$13 | \$16 | \$20 | \$24 |
| <u>Other</u> | | | | |
| Price per cwt. milk sold | \$4.31 | \$5.52 | \$6.41 | \$7.30 |
| Acres hay crops | 73 | 90 | 156 | 116 |
| Acres corn silage | 14 | 41 | 57 | 57 |
| Total acres in crops/cow | 2.7 | 2.7 | 2.7 | 2.9 |
| Fertilizer & lime expense per crop acre | \$8 | \$11 | \$13 | \$16 |
| Farm income per cow | \$170 | \$268 | \$268 | \$262 |
| Labor income per cow | \$99 | \$175 | \$99 | \$176 |

* Includes interest paid, interest on equity capital, and building depreciation which were not included in total farm expenses in earlier years.

PROGRESS OF THE FARM BUSINESS

Comparing your business with that of other farmers is one part of a business checkup. A second part is to compare your current year's business with that of earlier years to show the progress you are making. In planning ahead, it helps to set business targets or goals. These should be in line with the progress you have been making.

| Item | 1972 | 1973 | 1974 | 1975 target |
|----------------------------|----------|----------|----------|----------------|
| <u>Size of Business</u> | | | | |
| Number of cows | _____ | _____ | _____ | _____ |
| Number of heifers | _____ | _____ | _____ | _____ |
| Pounds of milk sold | _____ | _____ | _____ | _____ |
| Acres of crops | _____ | _____ | _____ | _____ |
| <u>Rates of Production</u> | | | | |
| Lbs. milk sold per cow | _____ | _____ | _____ | _____ |
| Tons corn silage/acre | _____ | _____ | _____ | _____ |
| <u>Labor Efficiency</u> | | | | |
| Lbs. milk sold per man | _____ | _____ | _____ | _____ |
| <u>Cost Control</u> | | | | |
| Feed bought per cow | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| Machinery cost/cow | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| Labor cost per cow | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| <u>Capital Efficiency</u> | | | | |
| Total end inventory | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| End inventory/cow | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| <u>Debt Situation</u> | | | | |
| Total debt outstanding | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| Debt per cow | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| Net Worth | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| <u>Price</u> | | | | |
| Price per cwt. milk | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| <u>Financial Summary</u> | | | | |
| Total Farm Receipts | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| Total Farm Expenses | \$ _____ | \$ _____ | \$ _____ | \$ _____ |
| Labor Income/Operator | \$ _____ | \$ _____ | \$ _____ | \$ _____ |

Are you satisfied with your progress?

Selected Competitive Dairy Areas

Dairy business summary data from four states are presented below. These were taken from reports on farm business management projects similar to the ones in New York. An examination of these data will show how New York's dairy operations compare with those in competing areas.

1973 DAIRY FARM BUSINESS SUMMARY DATA

| Item | New York | Vermont | West Virginia | Michigan |
|-----------------------------|-----------|-----------|---------------|-----------|
| Number of farms | 609 | 125 | 25 | 365 |
| <u>Size of Business</u> | | | | |
| Number of cows | 69 | 65 | 62 | 73 |
| Total crop acres | 198 | 178 | 124 | 334 |
| Pounds of milk sold | 851,900 | 796,781 | 790,178 | 936,590 |
| Man equivalent | 2.2 | 2.2 | 2.4 | 2.5 |
| <u>Rates of Production</u> | | | | |
| Milk sold per cow | 12,350 | 12,242 | 12,746 | 12,830 |
| Tons hay per acre | 2.6 | 2.0 | 2.5 | 3.5 |
| Tons corn silage per acre | 13 | 13 | 19 | 12 |
| <u>Labor Efficiency</u> | | | | |
| Cows per man | 32 | 29 | 25 | 29 |
| Pounds milk sold per man | 392,580 | 356,449 | 323,844 | 374,636 |
| <u>Cost Control Factors</u> | | | | |
| Feed bought per cow | \$278 | \$304 | \$328 | \$132 |
| % Feed is of milk receipts | 31% | 33% | 37% | 14% |
| Fertilizer & lime per cow | \$45 | \$40 | \$56 | \$71 |
| Taxes per cow | \$25 | \$27 | \$6 | \$24 |
| Veterinary per cow | \$15 | \$14 | \$15 | \$17 |
| Labor costs per cow | \$192 | \$208 | \$199 | \$268 |
| <u>Capital Efficiency</u> | | | | |
| Total capital investment | \$207,598 | \$156,654 | \$156,158 | \$237,211 |
| Total investment per cow | \$3,009 | \$2,407 | \$2,519 | \$3,249 |
| Machinery investment/cow | \$527 | \$392 | \$355 | \$552 |
| <u>Prices</u> | | | | |
| Price/cwt. 3.5% milk sold | \$7.31 | \$7.59 | \$7.02 | \$7.15 |
| <u>Financial Summary</u> | | | | |
| Total farm receipts | \$84,682 | \$84,394 | \$82,349 | \$93,294 |
| Total farm expenses | \$72,570 | \$76,134 | \$74,833 | \$71,166 |
| Labor income per operator | \$10,195 | \$8,260 | \$7,517 | \$18,830 |

SOURCE: Vermont and West Virginia NEC70 - 1973 Elfac Dairy Farm Business Analysis.

Michigan Agricultural Economics Report No. 273 - TelFarm Business Analysis Summary for Specialized Michigan Dairy Farms.