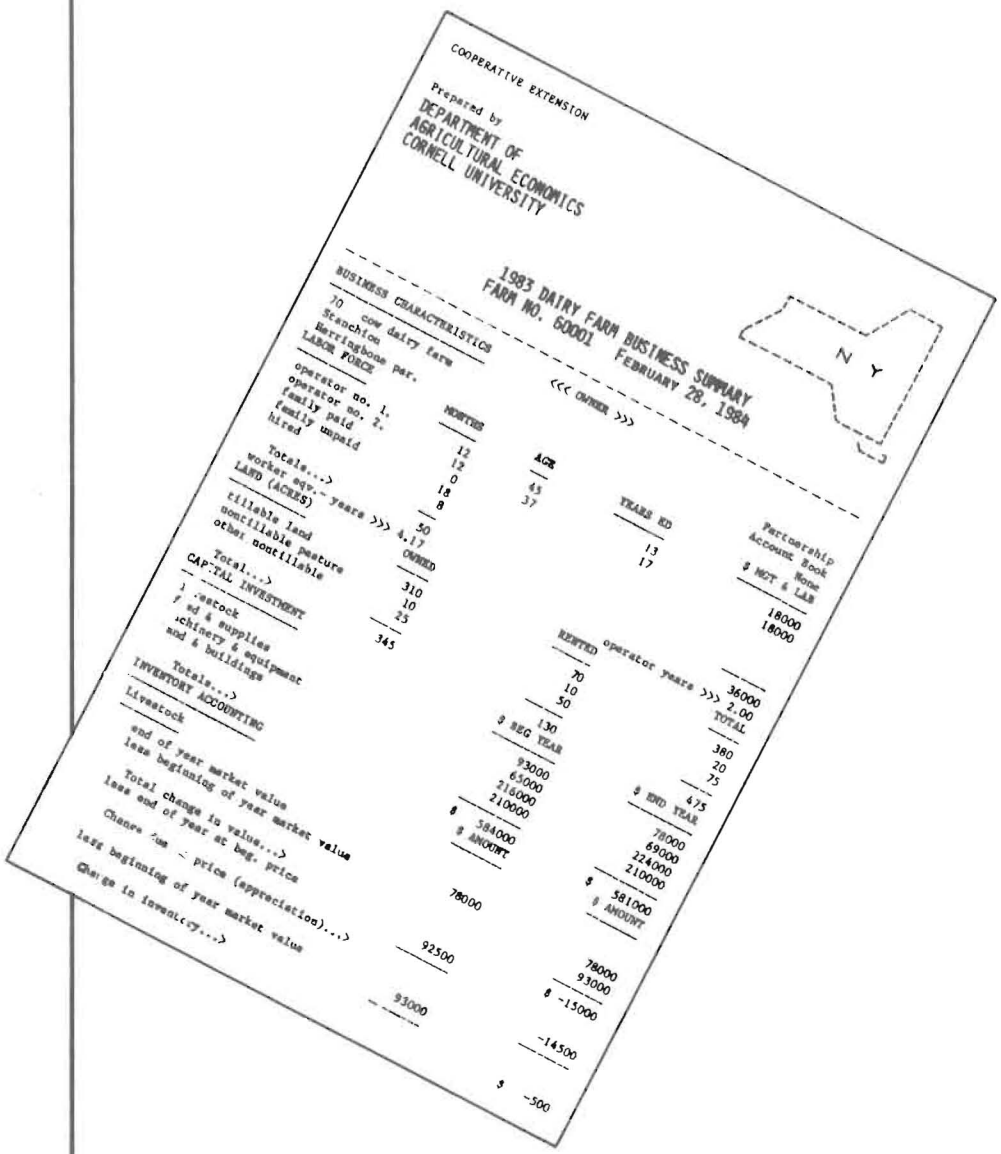
April 1984

A.E. Ext. 84-11

# DAIRY FARM BUSINESS SUMMARY

# ONEIDA-MOHAWK REGION 1983



COOPERATIVE EXTENSION

Prepared by
DEPARTMENT OF
AGRICULTURAL ECONOMICS
CORNELL UNIVERSITY

1983 DAIRY FARM BUSINESS SUMMARY
FARM NO. 60001 FEBRUARY 28, 1984

BUSINESS CHARACTERISTICS
70 cow dairy farm
Stanchion
Herringbone par.

LABOR FORCE

| | MONTHS | AGE | YEARS ED | Partnership Account Book Name $ MGT & LAB |
|---|---|---|---|---|
| operator no. 1. | 12 | 45 | 13 | 18000 |
| operator no. 2. | 12 | 37 | 17 | 18000 |
| family paid | 0 | | | |
| family unpaid | 18 | | | |
| hired | 8 | | | |
| Totals...> | 50 | | | |
| worker eqv.- years >>> | 4.17 | | | |

LAND (ACRES)

| | OWNED | RENTED | operator years >>> | TOTAL |
|---|---|---|---|---|
| tillable land | 310 | 70 | | 380 |
| nontillable pasture | 10 | 10 | | 20 |
| other nontillable | 25 | 50 | | 75 |
| Total...> | 345 | 130 | | 475 |

CAPITAL INVESTMENT

| | $ BEG YEAR | $ END YEAR |
|---|---|---|
| livestock | 93000 | 78000 |
| feed & supplies | 65000 | 69000 |
| machinery & equipment | 216000 | 224000 |
| land & buildings | 210000 | 210000 |
| Totals...> | $ 584000 | $ 581000 |

INVENTORY ACCOUNTING

| | $ AMOUNT |
|---|---|
| Livestock | |
| end of year market value | 78000 |
| less beginning of year market value | 92500 |
| Total change in value...> | 93000 |
| less end of year at beg. price | |
| Change due - price (appreciation)...> | $ -15000 |
| less beginning of year market value | -14500 |
| Change in inventory...> | $ -500 |

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DAIRY FARM BUSINESS SUMMARY

Oneida-Mohwak Region

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# DAIRY FARM BUSINESS SUMMARY
## Oneida-Mohawk Region

## INTRODUCTION

Dairyfarmers throughout New York State submit business records for summarization and analysis through Cooperative Extension's Farm Business Management Program. Each participating farmer receives an individual farm analysis report containing all the management information found in this publication. Averages from a compilation of the individual farm reports are published in several regional summaries and in a statewide summary.

The year ahead will bring increased economic pressures on the dairy farming industry. The Dairy Production Stabilization Act of 1983 is expected to reduce milk prices two to three percent while production costs may increase four to six percent. Dairy farmers must continue to place emphasis on operating efficiency and cost control in order to maintain adequate farm incomes. This year, more than ever, improving weak links in the business and projecting cash flows will be critical management steps to enhance business survival probabilities.

### Program Objectives

Primary objectives of the dairy farm business management program are to (1) assist farmers in developing and maintaining more complete farm business data for use in management decisions and (2) help farmers improve their management skills through appropriate use of farm record data and application of modern decision-making techniques. This report is prepared in workbook form for use in the systematic study of individual farm business performance.

### Changes in Computation

The interest charge made for using equity capital in the farm business was changed in 1982 to five percent. This real rate of interest reflects the long time average rate of return that a farmer might expect to earn in investments with comparable risk to farm businesses in an economy with little or no inflation. Labor and management income does not include appreciation of farm assets, therefore, appreciation has been excluded in determining the use charge for equity capital.

Renting and leasing farm assets is becoming more common on New York dairy farms. Rental and lease payments are included as cash farm expenses. The discounted values of future financial lease payments have been added as a liability and an asset on the farm balance sheet to reflect the farmer's committed liability as well as the value of an asset.

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This summary was prepared by Eddy L. LaDue, Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University, in cooperation with Cooperative Extension Agents Frederick L. Brueck, David L. Roy, and Terence W. Ramsey. The Oneida-Mohawk Region is comprised of Oneida, Schoharie, Montgomery, Fulton, and Herkimer Counties.

## SUMMARY OF THE FARM BUSINESS

### Business Characteristics

The combination of resources and management techniques used to put resources to work is an important part of planning. The tables below show important farm business characteristics, the number of farms reporting these characteristics, and the average level of resources used in production.

MANAGEMENT SYSTEMS, PRODUCTION TECHNOLOGY AND FARM SIZE
42 Oneida-Mohawk Region Dairy Farms, 1983

| Type of Business | Number | Business Records | Number | Dairy Records | Number |
|---|---|---|---|---|---|
| Proprietorship | 33 | CAMIS | 4 | D.H.I.C. | 29 |
| Partnership | 8 | Account Book | 19 | Owner Sampler | 5 |
| Other | 1 | Agrifax | 9 | Other | 2 |
| | | Farm Bureau | 0 | None | 6 |
| Owner | 39 | Agway | 1 | | |
| Renter | 3 | Other | 9 | | |

| Barn Type | Number | Milking System | Number | | Number |
|---|---|---|---|---|---|
| Stanchion | 31 | Bucket & Carry | 0 | Herringbone | 5 |
| Freestall | 5 | Dumping Station | 6 | Other Parlor | 1 |
| Other | 6 | Pipeline | 30 | | |

| Labor Force | My Farm | Average | Land Use | My Farm | Average |
|---|---|---|---|---|---|
| Operator 1. | _____ mo. | 12 | Total acres owned | _____ | 264 |
| 2. | _____ mo. | 3 | Total acres rented | _____ | 57 |
| 3. | _____ mo. | 0 | Total tillable acres | _____ | 195 |
| Family paid | _____ mo. | 4 | Tillable acres rented | _____ | 43 |
| Family unpaid | _____ mo. | 3 | | | |
| Hired | _____ mo. | 5 | Number of Cows | My Farm | Average |
| Total | _____ mo. | 27 | | | |
| Age of operator(s) 1. | _____ yrs. | 43 | Beginning of year | _____ | 60 |
| 2. | _____ yrs. | 38 | End of year | _____ | 62 |
| 3. | _____ yrs. | 29 | Average for year | _____ | 60 |

Capital Investment-Farm Inventory represents the market value of resources committed to the farm business at the beginning and end of the year. Increases in inventory occur with herd expansion, new machinery, and building additions and appreciation of land, buildings and livestock.

CAPITAL INVESTMENT - FARM INVENTORY
42 Oneida-Mohwak Region Dairy Farms, 1983

| Item | My Farm 1/1/83 | My Farm 1/1/84 | Average 1/1/83 | Average 1/1/84 |
|---|---|---|---|---|
| Livestock | $_____ | $_____ | $ 79,918 | $ 78,472 |
| Feed & supplies | _____ | _____ | 20,502 | 22,496 |
| Machinery & equipment | _____ | _____ | 74,300 | 76,427 |
| Land & buildings | _____ | _____ | 172,328 | 178,499 |
| TOTAL | $_____ | $_____ | $347,048 | $355,894 |

## Inventory Accounting

The value of the dairy herd is influenced by market prices, herd quality and quantity. Changes in market value caused by inflationary or deflationary price changes, are separated from changes in inventory caused by changes in herd quality and quantity.

CHANGE IN LIVESTOCK INVENTORY
42 Oneida-Mohawk Region Dairy Farms, 1983

| Item | My Farm | | Average | |
|---|---|---|---|---|
| End of year market value | $_____ | | $78,472 | |
| less end at beginning prices | -_____ | | -84,306 | |
| Change due to price | | $_____ | | $-5,834 |
| End inventory at beginning prices | $_____ | | $84,306 | |
| less beginning of year inventory | -_____ | | -79,918 | |
| Change due to quality & quantity | | $_____ | | $ 4,388 |

Changes in machinery and real estate inventories that are not accounted for by purchases, sales or depreciation reflect price changes that are called appreciation.

MACHINERY AND EQUIPMENT INVENTORY
42 Oneida-Mohawk Region Dairy Farms, 1983

| Item | My Farm | | Average | |
|---|---|---|---|---|
| End of year market value | | (1)$_____ | | $76,427 |
| Beginning market value | $_____ | | $74,300 | |
| Plus machinery purchased | +_____ | | + 8,317 | |
| Less machinery sold | -_____ | | - 332 | |
| Less depreciation | -_____ | | - 8,657 | |
| Net end investment | | (2)$_____ | | $73,628 |
| APPRECIATION (1 minus 2) | | $_____ | | $ 2,799 |

The change in real estate value is affected by market forces, building depreciation, and lost capital which is the portion of a new building investment that is not reflected in the value of the farm.

REAL ESTATE INVENTORY CALCULATIONS
42 Oneida-Mohwak Region Dairy Farms, 1983

| Item | My Farm | | Average | |
|---|---|---|---|---|
| End of year market value | | (1)$_____ | | $178,499 |
| Beginning market value | | $_____ | | $172,328 |
| Cost of new real estate | $_____ | | $8,017 | |
| Less lost capital | -_____ | | - 984 | |
| Value of new added | | +_____ | | + 7,033 |
| Less building depreciation | | -_____ | | - 3,751 |
| Less real estate sold | | -_____ | | - 0 |
| Net end investment | | (2)$_____ | | $175,610 |
| APPRECIATION (1 minus 2) | | $_____ | | $ 2,889 |

## Receipts

Receipts from the business should be large enough to cover all expenses and leave a reasonable return for the operator's labor and management. Cash receipts occur when farm products and livestock are sold or services are performed and payment is received during the year. Noncash receipts do not result from sales, but are due to appreciation in value or increases in physical quantities of inventories that occurred during the year. Most of these items could be readily transformed into cash.

FARM RECEIPTS
42 Oneida-Mohawk Region Dairy Farms, 1983

| Item | My Farm | Per Farm | Per Cow |
|---|---|---|---|
| CASH RECEIPTS | | | |
| Milk sales | $_____ | $121,611 | $2,027 |
| Crop sales | _____ | 1,410 | 24 |
| Dairy cattle sold | _____ | 6,177 | 103 |
| Calves & other livestock sales | _____ | 1,142 | 19 |
| Gas tax refunds | _____ | 79 | 1 |
| Government payments | _____ | 927 | 15 |
| Custom machine work | _____ | 50 | 1 |
| Other | _____ | 1,775 | 30 |
| Total Cash Receipts | $_____ | $133,171 | $2,220 |
| NONCASH RECEIPTS | | | |
| Increase in livestock inventory[1] | _____ | 4,388 | 73 |
| Increase in feed & supplies | _____ | 1,994 | 33 |
| TOTAL FARM RECEIPTS EXCLUDING APPRECIATION | $_____ | $139,553 | $2,326 |
| Livestock appreciation[2] | _____ | - 5,834 | - 97 |
| Machinery appreciation[3] | _____ | 2,799 | 47 |
| Real estate appreciation[3] | _____ | 2,889 | 48 |
| TOTAL FARM RECEIPTS | $_____ | $139,407 | $2,324 |

[1]The increase in herd market value attributed to a change in numbers and/or a definite change in herd quality.

[2]The increase in herd market value, caused by inflationary price increase.

[3]Defined on page 3.

Income Analysis provides a means of examining the annual receipt producing capability of the farm business.

INCOME ANALYSIS
Oneida-Mohawk Region Dairy Farms, 1983 & 1982

| Item | My Farm | 42 Farms 1983 | 52 Farms 1982 |
|---|---|---|---|
| Average price/cwt. milk sold | $_____ | $13.47 | $13.46 |
| Milk and cattle sales per cow | _____ | $2,149 | $2,161 |
| Total cash receipts/worker | _____ | $59,187 | $53,943 |

## Expenses

All farm expenses, cash operating and overhead, are summarized below.

FARM EXPENSES
42 Oneida-Mohawk Region Dairy Farms, 1983

| Item | My Farm | Per Farm | Per Cow |
|---|---|---|---|
| Hired Labor | $_____ | $ 7,131 | $ 119 |
| Feed | | | |
| Dairy concentrate | _____ | 30,085 | 502 |
| Hay and other | _____ | 671 | 11 |
| Machinery | | | |
| Machine hire, rent and lease | _____ | 1,443 | 24 |
| Machinery repairs | _____ | 5,680 | 95 |
| Auto expense (farm share) | _____ | 505 | 8 |
| Gas and oil | _____ | 3,922 | 65 |
| Livestock | | | |
| Replacement livestock | _____ | 1,199 | 20 |
| Breeding fees | _____ | 1,760 | 29 |
| Veterinary and medicine | _____ | 2,180 | 36 |
| Milk marketing | _____ | 7,520 | 125 |
| Cattle lease | _____ | 548 | 9 |
| Other livestock expense | _____ | 3,917 | 65 |
| Crops | | | |
| Fertilizer & lime | _____ | 4,329 | 72 |
| Seeds and plants | _____ | 1,772 | 30 |
| Spray, other crop expense | _____ | 904 | 15 |
| Real Estate | | | |
| Land, building, fence repair | _____ | 2,247 | 38 |
| Taxes | _____ | 3,607 | 60 |
| Insurance | _____ | 1,972 | 33 |
| Rent and lease | _____ | 1,768 | 30 |
| Other | | | |
| Telephone (farm share) | _____ | 457 | 8 |
| Electricity (farm share) | _____ | 2,897 | 48 |
| Interest paid | _____ | 12,849 | 214 |
| Miscellaneous | _____ | 1,807 | 30 |
| Total Cash Expenses | $_____ | $101,170 | $1,686 |
| Expansion livestock | _____ | 404 | 7 |
| Machinery depreciation | _____ | 8,657 | 144 |
| Building depreciation | _____ | 3,751 | 63 |
| Unpaid family labor @ $500/month | _____ | 1,488 | 25 |
| TOTAL FARM EXPENSES EXCLUDING INTEREST ON EQUITY CAPITAL | $_____ | $115,470 | $1,925 |
| Interest on equity capital @ 5% | _____ | 11,851 | 197 |
| TOTAL FARM EXPENSES | $_____ | $127,321 | $2,122 |

## Farm Business Profitability

The results of management are reflected in the net return from the business. Four common ways to measure the returns from a farm business are calculated.

Net cash farm income reflects the cash available from the year's operation of the business. Family living has first claim on cash income followed by fixed payments on debts. A family may have additional cash available if they have nonfarm income. Cash flow is not a good measure of farm business profits, but it is useful when planning debt repayment programs. Guidelines for annual cash flow planning are presented on page 9. Monthly cash flow planning is also recommended and may be required in order to identify cash flow problems in the year ahead. This is particularly true when major changes in the business are planned or when the price of important factors such as milk or purchased grain are expected to change significantly.

NET CASH FARM INCOME
Oneida-Mohawk Region Dairy Farms, 1983 & 1982

| Item | My Farm | 42 Farms 1983 | 52 Farms 1982 |
|---|---|---|---|
| Cash Farm Receipts | $_____ | $133,171 | $130,542 |
| Cash Farm Expenses | _____ | 101,170 | 100,809 |
| NET CASH FARM INCOME | $_____ | $ 32,001 | $ 29,733 |

Labor and management income is the return to the operator for his or her labor and management input into the business. A five percent charge for the use of the operator's equity capital in the business has been included as a farm expense. This interest charge reflects the long term average rate of return that a farmer might expect to earn in investments with comparable risk to farm businesses in an economy with little or no inflation. Labor and management income is the measure used most commonly when comparing farm businesses. Appreciation in livestock, machinery and real estate inventories is included as ownership income, not return to operator labor and management.

LABOR AND MANAGEMENT INCOME
Oneida-Mohawk Region Dairy Farms, 1983 & 1982

| Item | My Farm | 42 Farms 1983 | 52 Farms 1982 |
|---|---|---|---|
| Total farm receipts excluding appreciation | $_____ | $139,553 | $132,763 |
| Total farm expenses | _____ | 127,321 | 127,073 |
| LABOR & MANAGEMENT INCOME | $_____ | $ 12,232 | $ 5,690 |
| Full-time operator-manager equivalents | s_____ | 1.31 | 1.23 |
| LABOR & MANAGEMENT INCOME PER OPERATOR-MANAGER | $_____ | $ 9,337 | $ 4,626 |

Labor, management and ownership income per operator reflects the combined return to the farmer for his or her triple role of worker-manager, financier and owner. Again, this is not a measure of the cash flow situation of the farm business. A satisfactory labor, management and ownership income does not eliminate cash flow problems if liabilities are large and repayment is rapid.

LABOR, MANAGEMENT AND OWNERSHIP INCOME
Oneida-Mohawk Region Dairy Farms, 1983 & 1982

| Item | My Farm | 42 Farms 1983 | 52 Farms 1982 |
|---|---|---|---|
| Total farm receipts | $_____ | $139,407 | $136,085 |
| Total farm expenses excluding interest on equity capital | _____ | 115,470 | 116,274 |
| LABOR, MANAGEMENT AND OWNERSHIP INCOME PER FARM | $_____ | $ 23,937 | $ 19,811 |
| Full-time operator-manager equivalents | _____ | 1.31 | 1.23 |
| LABOR, MANAGEMENT AND OWNERSHIP INCOME PER OPERATOR-MANAGER | $_____ | $ 18,273 | $ 16,107 |

Return on equity capital measures the net profit remaining for the farmer's owned or equity capital after earnings have been allocated to the owner-operator's labor and management. The earnings or amount of gross profit allocated to labor and management is the opportunity cost or value of operator's labor and management estimated by the cooperators. Return on equity capital is computed including and excluding appreciation.

RETURN ON EQUITY CAPITAL
Oneida-Mohawk Region Dairy Farms, 1983 & 1982

| Item | My Farm | 42 Farms 1983 | 52 Farms 1982 |
|---|---|---|---|
| Labor, management & ownership income per farm | $_____ | $23,937 | $19,811 |
| Less value of operator's labor & management | _____ | 17,602 | 18,542 |
| Return on equity capital | $_____ | $ 6,335 | $ 1,269 |
| RATE OF RETURN INCLUDING APPRECIATION | _____ % | 2.7% | 0.6% |
| RATE OF RETURN EXCLUDING APPRECIATION | _____ % | 2.7% | -1.0% |

The rate of return on equity capital is computed as the amount returned divided by farm net worth or equity capital.

## Farm Family Financial Situation

The financial situation is an important part of the farm business summary. It has a direct affect on current cash outflow and future capital investment decisions. Financial lease obligations are included in the balance sheet. The present value of all future payments is listed as a liability since the farmer is committed to make the payments. The present values are also listed as assets, representing the future value the item has to the business.

FARM FAMILY NET WORTH
42 Oneida-Mohawk Region Dairy Farms, January 1, 1984

| Item | My Farm | Average |
|---|---|---|
| **Assets** | | |
| Livestock | $_____ | $ 78,826 |
| (includes discounted lease pymts) | | (354) |
| Feed and supplies | _____ | 22,496 |
| Machinery and equipment | _____ | 77,152 |
| (includes discounted lease pymts) | | (725) |
| Land and buildings | _____ | 180,784 |
| (includes discounted lease pymts) | | (2,285) |
| Co-op investments | _____ | 4,641 |
| Accounts receivable | _____ | 11,230 |
| Cash and checking accounts | _____ | 3,184 |
| Total Farm Assets | $_____ | $378,313 |
| Savings accounts | $_____ | $ 6,014 |
| Cash value life insurance | _____ | 1,738 |
| Stocks and bonds | _____ | 3,131 |
| Nonfarm real estate | _____ | 4,726 |
| Auto (personal share) | _____ | 1,845 |
| All Other | _____ | 7,848 |
| TOTAL FARM & NONFARM ASSETS | $_____ | $403,615 |
| **Liabilities** | | |
| Long term | $_____ | $ 77,065 |
| Intermediate | _____ | 55,381 |
| Financial lease | _____ | 3,364 |
| Short term | _____ | 2,492 |
| Other farm accounts | _____ | 2,991 |
| Total Farm Liabilities | $_____ | $141,293 |
| Nonfarm Liabilities | _____ | 985 |
| TOTAL LIABILITIES | $_____ | $142,278 |
| FARM NET WORTH (EQUITY CAPITAL) | $_____ | $237,020 |
| FAMILY NET WORTH | $_____ | $261,337 |

Payment ability is the most important consideration in determining if and how proposed investments should be financed. The farm business must produce sufficient cash income to meet operating expenses, to cover family or personal living expenses, to make payments on debts and to cover cash purchases of capital items that occur during the year. Interest paid and income from off-farm work are added to net cash farm income because planned or budgeted debt payments will include interest as well as principal. Estimate family living expenses for your farm to calculate cash available for debt payment and capital purchases made in cash.

Some farms in the group have scheduled debt payments exceeding 50 percent of the milk receipts. Committing this much cash inflow to debt payments can create a serious cash flow problem.

FARM FAMILY DEBT REPAYMENT
42 Oneida-Mohawk Region Dairy Farms, January 1, 1984

| Item | My Farm | Average |
|---|---|---|
| Payment Ability | | |
| Net cash farm income | $_____ | $32,001 |
| Plus interest paid | _____ | 12,849 |
| Plus off-farm income | _____ | 1,129 |
| CASH AVAILABLE FOR DEBT SERVICE AND LIVING | $_____ | $45,979 |
| Less family living expenses* | _____ | 19,081 |
| CASH AVAILABLE FOR DEBT PAYMENT AND CAPITAL PURCHASES | $_____ | $26,898 |
| Scheduled Annual Debt Payments | | |
| Long term | $_____ | $ 9,821 |
| Intermediate | _____ | 15,766 |
| Short term | _____ | 1,168 |
| Other farm accounts | _____ | 705 |
| TOTAL FARM DEBT PAYMENTS | $_____ | $27,460 |
| Nonfarm debt payments | _____ | 303 |
| TOTAL PAYMENTS PLANNED 1984 | $_____ | $27,763 |
| Commitment and Measures of Debt Equity Position | | |
| Cash flow coverage ratio | _____ | .97 |
| Farm debt payments planned per cow | $_____ | $443 |
| Farm debt payments as % milk sales | _____% | 23% |
| Farm debt/asset ratio-long term | _____ | .43 |
| Farm debt/asset ratio-intermediate and short term | _____ | .31 |
| Farm debt per cow | $_____ | $2,279 |
| Percent equity (total) | _____% | 65% |

*Estimated as $10,500 per family plus four percent of cash farm receipts.

## ANALYSIS OF THE FARM BUSINESS

When analyzing a farm business, a manager must consider measures or factors that reflect the performance of specified parts of the farm business. To do this one must look at factors of size, rates of production, labor efficiency, capital efficiency and cost control. These measures and factors are detailed on the following pages.

### Size of Business

Studies have shown that, in general, larger farms are more profitable than smaller farms. Larger businesses make possible more efficient use of overhead inputs such as labor and machinery and there are more units of production on which to earn a profit. Profitable farm businesses with good management have the ability and incentive to become larger. Large farms are not necessarily more profitable however, and size increases are only profitable with good management.

MEASURES OF SIZE OF BUSINESS
Oneida-Mohawk Region Dairy Farms, 1983 & 1982

| Item | My Farm | 42 Farms 1983 | 52 Farms 1982 |
|---|---|---|---|
| Number of cows | _____ | 60 | 59 |
| Number of heifers | _____ | 46 | 46 |
| Pounds of milk sold | _____ | 902,600 | 886,300 |
| Worker equivalent | _____ | 2.25 | 2.4 |
| Total work units | _____ | 654 | 654 |
| Total tillable acres | _____ | 195 | 202 |

In the table below, the 572 New York farms for 1982 are sorted by number of cows and the labor and management income is shown for each size group. In general, the large farms paid better, but, variability of income was significant.

COWS PER FARM AND LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

| Number of Cows | Ave. Number of Cows | Number of Farms | Percent of Farms | Labor & Mgmt. Income Per Operator |
|---|---|---|---|---|
| Under 40 | 34 | 76 | 13 | $ 812 |
| 40 to 54 | 47 | 128 | 22 | -19 |
| 55 to 69 | 61 | 107 | 19 | 3,225 |
| 70 to 84 | 76 | 82 | 14 | 3,064 |
| 85 to 99 | 90 | 52 | 9 | 2,152 |
| 100 to 149 | 120 | 69 | 12 | 4,073 |
| 150 to 199 | 169 | 33 | 6 | -3,577 |
| 200 to 249 | 230 | 15 | 3 | 27,218 |
| 250 & over | 363 | 10 | 2 | 45,479 |

## Rates of Production

Crop yields and rates of animal production are factors that have a significant impact on farm incomes. Here is a description of crops grown and yields along with the pounds of milk sold per cow.

CROP YIELDS & MILK SOLD PER COW
42 Oneida-Mohawk Region Dairy Farms, 1983

| Crop | My Farm | | Average of Farms Reporting | | |
|---|---|---|---|---|---|
| | Acres | Yield | Farms | Acres | Yield/Acre |
| Dry hay | _____ | | 39 | (combined below) | |
| Hay crop silage | _____ | | 30 | (combined below) | |
| Total hay crops | _____ | _____ | 42 | 115 | 2.4 tons D.M. |
| Corn silage | _____ | _____ | 35 | 39 | 13.3 tons |
| Other forage | _____ | _____ | 5 | 34 | 1.3 tons D.M. |
| Total forage crops | _____ | _____ | 42 | 152 | 2.8 tons D.M. |
| Grain corn | _____ | _____ | 20 | 39 | 80 bushels |
| Oats | _____ | _____ | 11 | 20 | 51 bushels |
| Wheat | _____ | _____ | 2 | 7 | 36 bushels |
| Other crops | _____ | _____ | 7 | 17 | |
| Tillable pasture | _____ | | 14 | 26 | |
| Idle tillable land | _____ | | 15 | 23 | |
| Milk sold per cow | _____ | | | 15,043 pounds | |

Tons of dry matter per acre from all hay and silage is a good measure of the overall rate of forage production.

The importance of strong milk output per cow is shown in the table below.

MILK SOLD PER COW AND LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

| Pounds of Milk Sold Per Cow | Number of Farms | Number of Cows | Labor & Mgmt. Income/Oper. | Labor, Mgmt., & Ownership Income/Operator |
|---|---|---|---|---|
| Under 11,000 | 52 | 53 | $-6,028 | $-1,924 |
| 11,000 to 11,999 | 27 | 55 | -3,637 | 5,492 |
| 12,000 to 12,999 | 50 | 74 | -4,893 | 7,908 |
| 13,000 to 13,999 | 88 | 88 | 348 | 15,624 |
| 14,000 to 14,999 | 109 | 86 | 2,475 | 15,311 |
| 15,000 to 15,999 | 117 | 87 | 6,453 | 22,074 |
| 16,000 to 16,999 | 64 | 88 | 10,715 | 26,851 |
| 17,000 to 17,999 | 43 | 97 | 7,024 | 26,668 |
| 18,000 & over | 22 | 91 | 22,966 | 49,864 |

## Labor Efficiency

Labor input is an important factor in farm production. Several measures of accomplishment per worker (labor efficiency) are shown below.

MEASURES OF LABOR EFFICIENCY
Oneida-Mohawk Region Dairy Farms, 1983 & 1982

| Item | My Farm | 42 Farms 1983 | 52 Farms 1982 |
|---|---|---|---|
| Worker equivalent | _____ | 2.25 | 2.4 |
| Cows per worker | _____ | 27 | 24 |
| Lbs. milk sold per worker | _____ | 401,000 | 366,000 |
| Work units per worker | _____ | 291 | 270 |

Number of cows per worker is calculated by dividing the average number of cows by the worker equivalent which represents the total farm labor force. Pounds of milk sold per worker is an important measure of labor efficiency on the dairy farm. It measures the ability of the labor force to handle a large number of cows without sacrificing milk output per cow.

It is important to look at other measures of labor efficiency, such as work units per worker because all dairy farms do not have the same relationship between cows, heifers, and crops grown.

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.

Another factor which may influence the productivity of labor is the wage paid to employees. A productive employee will require a reasonable and competitive wage.

MILK SOLD PER WORKER AND LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

| Pounds of Milk Sold Per Worker | Number of Farms | Number of Cows | Lbs. Milk Per Cow | Labor & Mgmt. Income Per Operator | Labor, Mgmt. & Ownership Inc. Per Operator |
|---|---|---|---|---|---|
| Under 250,000 | 73 | 43 | 11,553 | $-3,985 | $ 2,967 |
| 250,000 to 299,999 | 55 | 54 | 13,296 | -4,001 | 3,414 |
| 300,000 to 349,999 | 60 | 59 | 13,854 | -957 | 10,220 |
| 350,000 to 399,999 | 92 | 73 | 14,625 | 2,010 | 13,878 |
| 400,000 to 449,000 | 101 | 77 | 15,090 | 3,319 | 18,200 |
| 450,000 to 499,999 | 68 | 98 | 14,979 | 2,949 | 21,393 |
| 500,000 to 599,999 | 86 | 111 | 15,317 | 7,271 | 23,823 |
| 600,000 & over | 37 | 180 | 15,917 | 31,180 | 65,277 |

## Capital Efficiency

Capital is a key resource in dairy farm businesses and a manager must continually analyze its use in the business. The measures of capital efficiency shown in the following table include owned as well as borrowed capital. It is possible for the business to be undercapitalized, but investing too much capital per productive unit is a more common problem.

MEASURES OF CAPITAL EFFICIENCY
Oneida-Mohawk Region Dairy Farms, 1983 & 1982

| Item | My Farm | 42 Farms 1983 | 52 Farms 1982 |
|---|---|---|---|
| Farm capital per worker | $_____ | $158,000 | $146,000 |
| Farm capital per cow | $_____ | 5,740 | 5,780 |
| Machinery investment per cow | $_____ | 1,233 | 1,186 |
| Machinery per tillable acre | $_____ | 392 | 358 |
| Land & buildings per cow | $_____ | 2,879 | 2,850 |
| Land & buildings per tillable acre owned | $_____ | 1,088 | 1,094 |
| Capital turnover (years) | _____yrs. | 2.6 yrs. | 2.6 yrs. |

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 many farm buildings will have a relatively large land and building investment per crop acre owned. This could be an indication that capital use is out of balance.

Capital turnover is a good measure of capital efficiency as it shows the number of years of farm receipts required to equal or "turnover" capital investment. It is computed by dividing the year-end farm inventory by the year's total farm receipts. The relationship capital turnover has to labor and management income and other factors is shown below. As a general rule, dairy farmers should aim for a capital turnover of 2.0 years or less.

CAPITAL TURNOVER AND LABOR AND MANAGEMENT INCOME
572 New York Dairy Farms, 1982

| Capital Turnover Rate - Years | Number of Farms | Number of Cows | Capital Investment Per Cow | Capital Investment Per Worker | Labor & Mgmt. Income Per Operator |
|---|---|---|---|---|---|
| less than 1.5 | 11 | 112 | $3,293 | $ 97,431 | $ 23,365 |
| 1.5 to 1.99 | 74 | 124 | 4,513 | 152,003 | 20,036 |
| 2.0 to 2.49 | 173 | 90 | 5,126 | 165,015 | 3,603 |
| 2.5 to 2.99 | 157 | 71 | 5,993 | 171,893 | -662 |
| 3.0 to 3.49 | 90 | 70 | 6,602 | 184,237 | -1,843 |
| 3.5 & over | 67 | 54 | 7,551 | 181,486 | -4,766 |

## Cost Control

The control of costs is a big factor in the success of modern commercial dairy operations. Feed, machinery and labor costs are major items and should be examined in detail. It is important to check all cost items both large and small. Expenses should be incurred only when the returns from the expense are expected to be greater than the cost incurred.

### Feed Costs

Purchased feed is the largest single expenditure on most dairy farms. Two considerations are important in keeping the feed bill down: (1) Be careful that only nutrients required by the cow are being fed. A dairy farmer cannot afford to buy a feed mix that overfeeds energy or protein. (2) Be certain that the required nutrients are being obtained from their least expensive source. For example, is the lowest cost source of protein, urea, soybean meal or a commercial protein? Help in answering these questions can come from budgeting, from agribusiness people selling feeds, and from dairy and management extension agents. Extension is supporting computerized decision aids to assist in answering these questions including the NEWPLAN program, Least-Cost Balanced Dairy Rations, and the dairy ration analyzers.

The size and productivity of the cropping program has an important influence on the amount of the purchased feed bill. Increased production of either roughages or grains should reduce the purchased feed expense unless cow numbers are increased. Also, heifer raising practices affect feed costs. The overall feed situation must be examined and evaluated as a "system".

FEED COSTS AND RELATED MEASURES
Oneida-Mohawk Region Dairy Farms, 1983 & 1982

| Item | My Farm | 42 Farms 1983 | 52 Farms 1982 |
|---|---|---|---|
| Dairy concentrate purchased per cow | $_____ | $501 | $470 |
| Dairy concentrate purchased per cwt. of milk sold | $_____ | $3.33 | $3.13 |
| Percent dairy concentrate is of milk receipts | _____ % | 25% | 23% |
| Crop expense per cow | $_____ | $117 | $147 |
| Feed & crop expense/cwt. milk | $_____ | $4.18 | $4.21 |
| Forage dry matter harv./cow (tons) | _____ | 7.2 | 7.7 |
| Acres of forage per cow | _____ | 2.5 | 2.7 |
| Total tillable acres per cow | _____ | 3.3 | 3.4 |
| Fertilizer and lime/tillable acre | $_____ | $22 | $26 |
| Heifers as % of cow numbers | _____ % | 77% | 78% |

## Machinery, Labor and Miscellaneous Costs

Labor and machinery operate as a team on a dairy farm. The challenge is to obtain an efficient combination of these two inputs that will result in a low cost per unit of output.

MACHINERY AND LABOR COSTS
Oneida-Mohawk Region Dairy Farms, 1983 & 1982

| Item | | My Farm | 42 Farms 1983 | 52 Farms 1982 |
|---|---|---|---|---|
| Machinery: | Depreciation[1] | $_____ | $ 8,657 | $ 9,103 |
| | Interest[2] | _____ | 3,768 | 3,536 |
| | Operating expense[3] | _____ | 11,550 | 11,786 |
| Total machinery | | $_____ | $23,975 | $24,425 |
| | Per cow | _____ | $400 | $414 |
| Labor: | Value of operators[4] | $_____ | $11,607 | $10,962 |
| | Unpaid family[5] | _____ | 1,488 | 2,163 |
| | Hired | _____ | 7,131 | 7,525 |
| Total labor | | $_____ | $20,226 | $20,650 |
| | Per cow | _____ | $337 | $350 |
| | Per cwt. milk | _____ | $2.24 | $2.33 |
| Labor & machinery costs per cow | | _____ | $737 | $764 |
| Labor & machinery costs/cwt. milk | | $_____ | $4.90 | $5.09 |

[1]Regular depreciation from last year's tax plus 10 percent of new purchases.

[2]Five percent of average machinery investment.

[3]Machine hire, repairs, farm share auto expense, and gas and oil.

[4]$750 per month.

[5]$500 per month.

MISCELLANEOUS COST CONTROL MEASURES
Oneida-Mohawk Region Dairy Farms, 1983 & 1982

| Item | My Farm | 42 Farms 1983 | 52 Farms 1982 |
|---|---|---|---|
| Livestock expense per cow | $_____ | $265 | $220 |
| Real estate expense per cow | $_____ | $160 | $165 |
| Total farm expense per cow | $_____ | $2,122 | $2,154 |

Livestock expense per cow includes breeding fees, veterinary and medicine, milk marketing, dairy supplies, bedding and DHIC fees. Real estate expenses include repairs, taxes, insurance and rent.

## YEARLY CASH FLOW PLANNING & ANALYSIS

This worksheet is a valuable tool in financial planning, expansions and for setting goals for improving the farm business. The average is from 42 Oneida-Mohawk Region farms.

| Item | Average Per Cow | My Farm, _____ Cows Per Cow | Total | Goal |
|---|---|---|---|---|
| CASH RECEIPTS | | | | |
| Milk sales | $2,027 | $_____ | $_____ | $_____ |
| Crop sales | 24 | _____ | _____ | _____ |
| Dairy cattle | 103 | _____ | _____ | _____ |
| Calves & other livestock | 19 | _____ | _____ | _____ |
| Other | 47 | _____ | _____ | _____ |
| Total Cash Receipts | $2,220 | $_____ | $_____ | $_____ |
| CASH EXPENSES | | | | |
| Hired labor | $ 119 | $_____ | $_____ | $_____ |
| Dairy concentrate | 502 | _____ | _____ | _____ |
| Hay and other | 11 | _____ | _____ | _____ |
| Machine hire | 24 | _____ | _____ | _____ |
| Machine repair & auto expense | 103 | _____ | _____ | _____ |
| Gas & oil | 65 | _____ | _____ | _____ |
| Replacement livestock | 20 | _____ | _____ | _____ |
| Breeding fees | 29 | _____ | _____ | _____ |
| Vet & medicine | 36 | _____ | _____ | _____ |
| Milk marketing (ADA, Dues) | 125 | _____ | _____ | _____ |
| Other livestock exp. (incl. $9 lease) | 74 | _____ | _____ | _____ |
| Fertilizer & lime | 72 | _____ | _____ | _____ |
| Seeds & plants | 30 | _____ | _____ | _____ |
| Spray & other | 15 | _____ | _____ | _____ |
| Land, bldg. fence repair | 38 | _____ | _____ | _____ |
| Taxes | 60 | _____ | _____ | _____ |
| Insurance | 33 | _____ | _____ | _____ |
| Rent | 30 | _____ | _____ | _____ |
| Telephone & elec. (farm share) | 56 | _____ | _____ | _____ |
| Miscellaneous | 30 | _____ | _____ | _____ |
| Total Cash Expenses[1] | $1,472 | $_____ | $_____ | $_____ |
| Total Cash Receipts | $2,220 | _____ | _____ | _____ |
| Total Cash Expenses[1] | -1,472 | - _____ | - _____ | - _____ |
| Net Cash Flow | $ 748 | $_____ | $_____ | $_____ |
| Cash Family Living Expense[2] | - 318 | - _____ | - _____ | - _____ |
| Amount Left for Debt Service, Capital Investment & Retained Earnings | $ 430 | $_____ | $_____ | $_____ |
| Scheduled Debt Service | - 443 | - _____ | - _____ | - _____ |
| Available for Capital Investment | $ -13 | $_____ | $_____ | $_____ |
| Planned Expansion Livestock Purch. | | _____ | _____ | _____ |
| Planned Equipment Purchase | | _____ | _____ | _____ |
| Borrowed or Equity Funds Needed | | $_____ | $_____ | $_____ |

[1]Interest paid excluded for it is contained in Scheduled Debt Service.

[2]Estimated: $10,500 per family and four percent of cash farm receipts.