# DAIRY FARM BUSINESS SUMMARY

June 1988 A.E. Ext. 88-11

## EASTERN PLATEAU REGION
## 1987

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# INTRODUCTION

Dairy farmers throughout the State have been participating in Cornell Cooperative Extension's farm business summary and analysis program since the early 1950's. Each participating farmer receives a comprehensive business summary and analysis of his or her farm business. The information in this report represents an average of the data submitted from farms in the Eastern Plateau Region.*

## Program Objective

The primary objective of the dairy farm business summary, DFBS, is to help farm managers improve the financial management of their farm business through appropriate use of historical farm data and the application of modern farm business analysis techniques. In short, DFBS identifies the business and financial information farmers need and demonstrates how it should be used in identifying and evaluating the strengths and weaknesses of the farm business.

## Format Features

This regional report follows the same general format as in the 1987 DFBS printout received by all participating dairy farmers. Worksheets have been included to give non-DFBS participants an opportunity to summarize their businesses. The analysis tables include an open column or section labeled My Farm. It may be used by any dairy farm manager who wants to compare his or her business with the average data of this region.

This report features:

(1) an income statement including accrual accounting for farm business expenses and receipts, as well as measures of profitability with and without appreciation,
(2) a complete balance sheet including financial ratios,
(3) a cash flow summary including debt repayment ability,
(4) a cropping program analysis,
(5) a dairy program analysis, and
(6) capital and labor efficiency analysis.

Micro DFBS, a computer program which enables Cooperative Extension agents and specialists to calculate and print individual farm business reports in their offices, is now being used by the dairy farm management field staff for more than 70 percent of the farms cooperating. This innovative approach provides faster processing of farm record data and increased use of the DFBS in farm management programs.

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*This summary was prepared by Linda D. Putnam and Robert A. Milligan, Department of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University, in cooperation with Cooperative Extension Agents Carl Crispell, Dean Frazier, and Jerry LeClar, and Farm Consultant Charles Radick. The Eastern Plateau Region is comprised of Broome, Chemung, Chenango, Delaware, Otsego, Schuyler, Tioga, and Tompkins Counties.

## SUMMARY AND ANALYSIS OF THE FARM BUSINESS

### Business Characteristics

Finding the right management strategies is an important part of operating a successful farm. Various combinations of farm resources, enterprises, business arrangements, and management techniques are used by the dairy farmers in this region. The following table shows important farm business characteristics and the number of farmers reporting these characteristics.

BUSINESS CHARACTERISTICS
88 Eastern Plateau Region Dairy Farms, 1987

| Type of Farm | Number |
|---|---|
| Dairy | 88 |
| Part-time dairy | 0 |
| Dairy cash-crop | 0 |
| Part-time cash-crop dairy | 0 |

| Type of Business | Number |
|---|---|
| Single proprietorship | 59 |
| Partnership | 29 |
| Corporation | 0 |

| Type of Ownership | Number |
|---|---|
| Owner | 80 |
| Renter | 8 |

| Type of Barn | Number |
|---|---|
| Stanchion/Tie-Stall | 64 |
| Freestall | 22 |
| Combination | 2 |

| Milking System | Number |
|---|---|
| Bucket & carry | 0 |
| Dumping station | 5 |
| Pipeline | 57 |
| Herringbone parlor | 23 |
| Other parlor | 3 |

| Business Record System | Number |
|---|---|
| ELFAC | 9 |
| Account Book | 39 |
| Agrifax (mail-in only) | 9 |
| On-Farm Computer | 4 |
| Other | 27 |

| Production Records | Number |
|---|---|
| DHIC | 68 |
| Owner-Sampler | 11 |
| Other | 1 |
| None | 8 |

The averages used in this report were compiled using data from all the participating dairy farms in this region unless noted otherwise. There may be regular dairy farms, part-time farms, dairy cash-crop farms, farm renters, partnerships, and corporations included in the average. Dairy Termination Program participants who sold their cows in 1987 are not included in the report. These specific classifications are used to separate farms in the State Business Summary.

A part-time farm has less than six months of labor from all operators and total labor is less than 12 months.

A dairy cash-crop farm has accrual receipts from crop sales that exceed 10 percent of accrual milk sales. These farms were summarized using 1986 data in Knoblauch, Wayne A. and Linda D. Putnam, Dairy Farm Business Summary, New York Dairy-Cash Crop Summary, 1986, Cornell University, Department of Agricultural Economics, A.E. Ext. 87-20, August 1987.

A farm renter does not own farm real estate at the end of the year or does not own tillable land. These farms were summarized using 1986 data in Putnam, Linda D. and Stuart F. Smith, Dairy Farm Business Summary, Eastern New York Renter Summary, 1986, Cornell University, Department of Agricultural Economics, A.E. Ext. 87-19, August 1987.

Income Statement

The accrual income statement begins with an accounting of all farm business expenses.

CASH AND ACCRUAL FARM EXPENSES
88 Eastern Plateau Region Dairy Farms, 1987

| Expense Item | Cash Paid + | Change in Inventory or Prepaid Expense* + | Change in Accounts Payable | = Accrual Expenses |
|---|---|---|---|---|
| Hired Labor | $ 17,786 | $ 0 | $ -50 | $ 17,736 |
| Feed | | | | |
| Dairy grain & conc. | 46,640 | -1,309 | 337 | 45,668 |
| Dairy roughage | 1,002 | -1 | 10 | 1,011 |
| Other livestock | 980 | -7 | 0 | 973 |
| Machinery | | | | |
| Mach. hire, rent/lease | 1,473 | 0 | 5 | 1,478 |
| Machinery repairs/parts | 10,128 | -53 | 195 | 10,270 |
| Auto exp. (farm share) | 636 | 0 | -3 | 633 |
| Fuel, oil & grease | 4,924 | -8 | 51 | 4,967 |
| Livestock | | | | |
| Replacement livestock | 1,674 | 0 | 20 | 1,694 |
| Breeding | 2,997 | 41 | -2 | 3,036 |
| Vet & medicine | 3,669 | -22 | 7 | 3,654 |
| Milk marketing | 9,424 | 0 | 0 | 9,424 |
| Cattle lease/rent | 235 | 0 | 0 | 235 |
| Other livestock expense | 7,177 | -1 | -164 | 7,012 |
| Crops | | | | |
| Fertilizer & lime | 7,565 | 34 | -40 | 7,559 |
| Seeds & plants | 2,552 | 2 | -14 | 2,540 |
| Spray, other crop exp. | 2,790 | -76 | 30 | 2,744 |
| Real Estate | | | | |
| Land/bldg./fence repair | 2,599 | -44 | -24 | 2,531 |
| Taxes | 4,832 | 0 | 101 | 4,933 |
| Insurance | 3,135 | 0 | -5 | 3,130 |
| Rent & lease | 3,491 | 0 | -30 | 3,461 |
| Other | | | | |
| Telephone (farm share) | 649 | 0 | -10 | 639 |
| Electricity (farm share) | 5,586 | 0 | 5 | 5,591 |
| Interest paid | 14,255 | 0 | 0 | 14,255 |
| Miscellaneous | 1,737 | 153 | -42 | 1,848 |
| Total Operating | $157,936 | $ -1,291 | $ 377 | $157,022 |
| Expansion livestock | 833 | 0 | 0 | 833 |
| Machinery depreciation | | | | 13,102 |
| Building depreciation | | | | 6,052 |
| TOTAL ACCRUAL EXPENSES | | | | $177,009 |

Cash paid is the actual amount of money paid out during the year and does not necessarily represent the cost of goods and services actually used.

Change in inventory: An increase in inventory is subtracted in computing accrual expenses because it represents purchased inputs not actually used during the year. A decrease in inventory is added to expenses because it represents the cost of inputs purchased in a prior year and used this year.

Changes in prepaid expenses apply to non-inventory categories. Include any expenses that have been paid for in advance of their use, for example, 1988 rent paid in 1987. A positive change is the amount the prepayment account declined from beginning to end year, a negative change indicates an increase in the account.

Change in accounts payable: An increase in payables is added and a decrease is subtracted when calculating accrual expenses.

Accrual expenses are the costs of inputs actually used in this year's production.

Worksheets are provided to enable any dairy farmer to compute his or her accrual farm expenses and compare them with the averages on the previous page.

CASH AND ACCRUAL FARM EXPENSES WORKSHEET

| Expense Item | Cash Paid + | Change in Inventory or Prepaid Expense + | Change in Accounts Payable - | Accrual Expenses |
|---|---|---|---|---|
| Hired Labor | $ | $ | $ | $ |
| Feed | | | | |
| Dairy grain & conc. | | | | |
| Dairy roughage | | | | |
| Other livestock | | | | |
| Machinery | | | | |
| Mach. hire, rent/lease | | | | |
| Machinery repairs/parts | | | | |
| Auto exp. (farm share) | | | | |
| Fuel, oil & grease | | | | |
| Livestock | | | | |
| Replacement livestock | | | | |
| Breeding | | | | |
| Vet & medicine | | | | |
| Milk marketing | | | | |
| Cattle lease/rent | | | | |
| Other livestock expense | | | | |
| Crops | | | | |
| Fertilizer & lime | | | | |
| Seeds & plants | | | | |
| Spray, other crop exp. | | | | |
| Real Estate | | | | |
| Land/bldg./fence repair | | | | |
| Taxes | | | | |
| Insurance | | | | |
| Rent & lease | | | | |
| Other | | | | |
| Telephone (farm share) | | | | |
| Electricity (farm share) | | | | |
| Interest paid | | | | |
| Miscellaneous | | | | |
| Total Operating | $ | $ | $ | $ |
| Expansion livestock | | | | |
| Machinery depreciation | | | | |
| Building depreciation | | | | |
| TOTAL ACCRUAL EXPENSES | | | | $ |

CASH AND ACCRUAL FARM RECEIPTS
88 Eastern Plateau Region Dairy Farms, 1987

| Receipt Item | Cash Receipts | + | Change in Inventory | + | Change in Accounts Receivable | = | Accrual Receipts |
|---|---|---|---|---|---|---|---|
| Milk sales | $177,554 | | | | $ 416 | | $177,970 |
| Dairy cattle | 13,624 | | $ 2,141 | | -3 | | 15,762 |
| Dairy calves | 3,025 | | | | 0 | | 3,025 |
| Other livestock | 86 | | -3 | | 0 | | 83 |
| Crops | 1,301 | | 923 | | -106 | | 2,119 |
| Government receipts | 3,531 | | -106* | | 10 | | 3,435 |
| Custom machine work | 628 | | | | -101 | | 527 |
| Gas tax refund | 77 | | | | 7 | | 84 |
| Other | 1,830 | | | | 0 | | 1,830 |
| Less nonfarm noncash cap.** | | (-) | 57 | | | (-) | 57 |
| Total Accrual Receipts | $201,657 | | $ 2,899 | | $ 223 | | $204,778 |

*Change in advanced government receipts.
**Gifts or inheritances of cattle or crops included in inventory.

Cash receipts include the gross value of milk checks received during the year plus all other payments received from the sale of farm products, services, and government programs. Nonfarm income is not included in calculating farm profitability.

Changes in inventory are calculated by subtracting beginning of year values from end of year values excluding appreciation. Increases in livestock inventory caused by herd growth and/or quality are added and decreases caused by herd reduction and for quality are subtracted. Changes in inventories of crops grown are also calculated. Changes in advanced government receipts are calculated by subtracting the end year balance from the beginning year balance (balances are listed with the current liabilities on the Balance Sheet).

Changes in accounts receivable are calculated by subtracting beginning year balances from end year balances. The January milk check for this December's marketings compared with the previous January's check is included as a change in accounts receivable.

Accrual receipts represent the value of all farm commodities produced and services actually generated by the farmer during the year.

CASH AND ACCRUAL FARM RECEIPT WORKSHEET

| Receipt Item | Cash Receipts | + | Change in Inventory | + | Change in Accounts Receivable | = | Accrual Receipts |
|---|---|---|---|---|---|---|---|
| Milk sales | $_____ | | | | $_____ | | $_____ |
| Dairy cattle | _____ | | $_____ | | _____ | | _____ |
| Dairy calves | _____ | | _____ | | _____ | | _____ |
| Other livestock | _____ | | _____ | | _____ | | _____ |
| Crops | _____ | | _____ | | _____ | | _____ |
| Government receipts | _____ | | _____ | | _____ | | _____ |
| Custom machine work | _____ | | | | _____ | | _____ |
| Gas tax refund | _____ | | | | _____ | | _____ |
| Other | _____ | | | | _____ | | _____ |
| Less gifts of cattle & crops | | | (-)_____ | | | (-) | _____ |
| Total Accrual Receipts | $_____ | | $_____ | | $_____ | | $_____ |

## Profitability Analysis

Farm owners/operators contribute labor, management, and capital to their businesses and the best combination of these resources maximizes income. Farm profitability can be measured as the return to all family resources or as the return to one or more individual resources such as labor and management.

Net farm income is the total combined return to the farm operators and other unpaid family members for their labor, management, and equity capital. It is the farm family's net annual return from working, managing, financing, and owning the farm business. This is not a measure of cash available from the year's business operation. Cash flow is evaluated later in this report.

Net farm income is computed both with and without appreciation. Appreciation represents the change in values caused by annual changes in prices of livestock, machinery, real estate inventory, and stocks and certificates (other than FLB and PCA). Appreciation is a major factor contributing to changes in farm net worth and must be included for a complete profitability analysis.

NET FARM INCOME
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Average | My Farm |
|---|---|---|
| Total accrual receipts | $204,778 | $_____ |
| Appreciation: Livestock | 5,620 | _____ |
| Machinery | 2,529 | _____ |
| Real Estate | 12,169 | _____ |
| Other Stock/Certificates | 386 | _____ |
| Total Including Appreciation | $225,481 | $_____ |
| Total accrual expenses | -177,009 | -_____ |
| Net Farm Income (with appreciation) | $ 48,472 | $_____ |
| Net Farm Income (without appreciation) | $ 27,768 | $_____ |

Return to operators' labor, management, and equity capital measures the total business profits for the farm operator(s). It is calculated by deducting a charge for unpaid family labor from net farm income. Operators' labor is not included in unpaid family labor. Return to operators' labor, management, and equity capital has been calculated both with and without appreciation. Appreciation is considered an important part of the return to ownership of farm assets.

RETURN TO OPERATORS' LABOR, MANAGEMENT, AND EQUITY
88 Eastern Plateau Region Dairy Farms, 1987

| | Average | | My Farm | |
|---|---|---|---|---|
| Item | With Apprec. | Without Apprec. | With Apprec. | Without Apprec. |
| Net farm income | $ 48,472 | $ 27,768 | $_____ | $_____ |
| Family labor unpaid @ $650 per month | - 1,315 | - 1,315 | -_____ | -_____ |
| Return to operators' labor, management, & equity | $ 47,157 | $ 26,453 | $_____ | $_____ |

Labor and management income is the return which farm operators receive for their labor and management used in operating the farm business. Appreciation is not included as part of the return to labor and management because it results from ownership of assets rather than management of the farm business. Labor and management income is calculated by deducting the opportunity cost of using equity capital at a real interest rate of five percent, from the return to operators' labor, management, and equity capital excluding appreciation. The interest charge of five percent reflects the long-term average rate of return above inflation that a farmer might expect to earn in comparable risk investments.

LABOR AND MANAGEMENT INCOME
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Average | My Farm |
|---|---|---|
| Return to operators' labor, management, & equity without appreciation | $ 26,453 | $_____ |
| Real interest @ 5% on $325,815 average equity capital | - 16,291 | -_____ |
| Labor & Management Income | $ 10,162 | $_____ |
| Labor & Management Income per 1.28 Operator/Manager | $ 7,939 | $_____ |

Return on equity capital measures the net return remaining for the farmer's equity or owned capital after a charge has been made for the owner-operator's labor and management. The earnings or amount of net farm income allocated to labor and management is the opportunity cost of operators' labor and management estimated by the cooperators. Return on equity capital is calculated with and without appreciation. The rate of return on equity capital is determined by dividing the amount returned by the average farm net worth or equity capital. Return on total capital is calculated by adding interest paid to the return on equity capital and then dividing by average farm assets to calculate the rate of return on total capital.

RETURN ON EQUITY CAPITAL AND RETURN ON TOTAL CAPITAL
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Average | My Farm |
|---|---|---|
| Return to operators' labor, management, & equity capital with appreciation | $ 47,157 | $_____ |
| Value of operators' labor & management | - 23,172 | -_____ |
| Return on equity capital with appreciation | $ 23,985 | $_____ |
| Interest paid | $ 14,255 | $_____ |
| Return on total capital with appreciation | $ 38,240 | $_____ |
| Return on equity capital without appreciation | $ 3,281 | $_____ |
| Return on total capital without appreciation | $ 17,536 | $_____ |
| Rate of return on average equity capital: | | |
| with appreciation | 7.4% | _____% |
| without appreciation | 1.0% | _____% |
| Rate of return on average total capital: | | |
| with appreciation | 7.6% | _____% |
| without appreciation | 3.5% | _____% |

## Farm and Family Financial Status

The first step in evaluating the financial status of the farm is to construct a balance sheet which identifies all the assets and liabilities of the business. The second step is to evaluate the relationship between assets, liabilities, and net worth and changes that occurred during the year.

1987 FARM BUSINESS & NONFARM BALANCE SHEET
88 Eastern Plateau Region Dairy Farms, 1987

| Farm Assets | Jan. 1 | Dec. 31 | Farm Liabilities & Net Worth | Jan. 1 | Dec. 31 |
|---|---|---|---|---|---|
| Current | | | Current | | |
| Farm cash, checking & savings | $ 4,190 | $ 6,186 | Accounts payable | $ 3,573 | $ 3,937 |
| Accounts rec. | 15,928 | 16,156 | Operating debt | 2,477 | 2,463 |
| Prepaid exp. | 0 | 0 | Short-term | 2,481 | 2,209 |
| Feed & supplies | 38,492 | 40,706 | Advanced govt. rec. | 0 | 106 |
| Total | $ 58,610 | $ 63,048 | Total | $ 8,530 | $ 8,715 |
| Intermediate | | | | | |
| Dairy cows: | | | Intermediate | | |
| owned | $ 75,415 | $ 79,924 | Structured debt | | |
| leased | 856 | 753 | 1-10 years | $ 69,015 | $ 70,226 |
| Heifers | 29,059 | 32,304 | Financial lease | | |
| Bulls/other lvstk. | 574 | 579 | (cattle/mach.) | 1,834 | 1,352 |
| Mach./eq. owned | 91,723 | 95,017 | FLB/PCA stock | 3,584 | 3,643 |
| Mach./eq. leased | 978 | 599 | | | |
| FLB/PCA stock | 3,584 | 3,643 | Total | $ 74,433 | $ 75,221 |
| Other stock/cert. | 979 | 934 | | | |
| Total | $203,168 | $213,753 | Long Term | | |
| Long-Term | | | Structured debt | | |
| Land/buildings: | | | ≥10 yrs | $ 96,282 | $ 93,337 |
| owned | $229,295 | $240,275 | Financial lease | | |
| leased | 1,086 | 829 | (structures) | 1,086 | 829 |
| Total | $230,381 | $241,104 | Total | $ 97,368 | $ 94,166 |
| Total Farm Assets | $492,159 | $517,905 | Total Farm Liab. | $180,331 | $178,102 |
| | | | FARM NET WORTH | $311,828 | $339,803 |

| (Average for 57 farms reporting) Nonfarm Assets* | Jan. 1 | Dec. 31 | Nonfarm Liabilities* & Net Worth | Jan. 1 | Dec. 31 |
|---|---|---|---|---|---|
| Personal cash, chkg. & savings | $ 3,747 | $ 4,780 | Nonfarm Liab. | $ 4,171 | $ 4,477 |
| Cash value life ins. | 5,514 | 5,978 | NONFARM NET WORTH | $ 40,027 | $ 45,302 |
| Nonfarm real estate | 8,061 | 9,535 | | | |
| Auto (personal sh.) | 3,111 | 3,223 | FARM & NONFARM* | Jan. 1 | Dec. 31 |
| Stocks & bonds | 5,250 | 5,917 | Total Assets | $536,357 | $567,684 |
| Household furn. | 9,588 | 9,572 | Total Liabilities | 184,502 | 182,579 |
| All other | 8,927 | 10,773 | | | |
| Total Nonfarm | $ 44,198 | $ 49,779 | TOTAL FARM & NON-FARM NET WORTH | $351,855 | $385,105 |

*Assumes that average nonfarm assets and liabilities for the nonreporting farms were the same as for those reporting.

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 by signing the lease. The present value is also listed as an asset, representing the future value the item has to the business.

Advanced government receipts are included as current liabilities. Government payments received in 1987 that are for participation in the 1988 program are the end year balance and payments received in 1986 for participation in the 1987 program are the beginning year balance.

Date _____

1987 FARM BUSINESS & NONFARM BALANCE SHEET

| Farm Assets | Jan. 1 | Dec. 31 | Farm Liabilities & Net Worth | Jan. 1 | Dec. 31 |
|---|---|---|---|---|---|
| Current | | | Current | | |
| Farm cash, checking & savings | | | Accounts payable | | |
| Accounts rec. | | | Operating debt: | | |
| Prepaid expense | | | | | |
| Feed & supplies | | | | | |
| Total | | | Short Term: | | |
| | | | | | |
| Intermediate | | | | | |
| Dairy cows: | | | Adv. govt. rec. | | |
| owned | | | Total | | |
| leased | | | Intermediate | | |
| Heifers | | | | | |
| Bulls/other lvstk. | | | | | |
| Mach./eq. owned | | | | | |
| Mach./eq. leased | | | | | |
| FLB/PCA stock | | | Financial lease | | |
| Other stock/cert. | | | (cattle/mach.) | | |
| Total | | | FLB/PCA stock | | |
| | | | Total | | |
| | | | Long-Term | | |
| Long-Term | | | | | |
| Land/buildings: | | | | | |
| owned | | | | | |
| leased | | | | | |
| | | | Financial lease | | |
| Total | | | (structures) | | |
| | | | Total | | |
| Total Farm Assets | | | Total Farm Liab. | | |
| | | | FARM NET WORTH | | |

| Nonfarm Assets | Jan. 1 | Dec. 31 | Nonfarm Liabilities & Net Worth | Jan. 1 | Dec. 31 |
|---|---|---|---|---|---|
| Personal cash, chkg. & savings | | | Nonfarm Liab.: | | |
| Cash val. life ins. | | | | | |
| Nonfarm real est. | | | | | |
| Auto (pres. share) | | | | | |
| Stocks & bonds | | | Total Nonfarm | | |
| Household furn. | | | Liabilities | | |
| All other | | | Nonfarm | | |
| Total Nonfarm | | | Net Worth | | |

| TOTAL FARM & NONFARM | Jan. 1 | Dec. 31 |
|---|---|---|
| Total Farm & Nonfarm Assets | | |
| Less Total Farm & Nonfarm Liabilities | | |
| Farm & Nonfarm Net Worth | | |

Balance sheet analysis requires an examination of financial and debt ratios measuring levels of debt. Percent equity is calculated by dividing end of year net worth by end of year assets. The debt to asset ratio is compiled by dividing liabilities by assets. Low debt to asset ratios reflect strength in solvency and the potential capacity to borrow. Debt levels per unit of production include some old standards that are still useful if used with measures of cash flow and repayment ability. The change in farm net worth without appreciation is an excellent indicator of financial progress.

BALANCE SHEET ANALYSIS
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Average | My Farm |
|---|---|---|
| Financial Ratios - Farm: | | |
| Percent equity | 66% | _____% |
| Debt/asset ratio: total | 0.34 | _____ |
| long-term | 0.39 | _____ |
| intermediate/current | 0.30 | _____ |
| Change in Net Worth: | | |
| Without appreciation | $ 7,271 | $_____ |
| With appreciation | 27,975 | $_____ |
| Farm Debt Analysis: | | |
| Accounts payable as % of total debt | 2% | _____% |
| Long-term liabilities as a % of total debt | 53% | _____% |
| Current & inter. liab. as a % of total debt | 47% | _____% |

| Farm Debt Levels: | Per Cow | Per Tillable Acre Owned | Per Cow | Per Tillable Acre Owned |
|---|---|---|---|---|
| Total farm debt | $ 1,979 | $ 1,127 | $_____ | $_____ |
| Long-term debt | 1,046 | 596 | _____ | _____ |
| Intermediate & current debt | 933 | 531 | _____ | _____ |

Farm inventory balance is an accounting of the value of assets used on the balance sheet and the changes that occur from the beginning to end of year. Changes in the livestock inventory are included in the dairy analysis. Net investment indicates whether the capital stock is being expanded (positive) or depleted (negative).

FARM INVENTORY BALANCE
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Avg. of Regional Farms | | My Farm | |
|---|---|---|---|---|
| | R.E. | Mach./Eq. | R.E. | Mach./Eq. |
| Value beg. of year | $229,295 | $ 91,723 | $_____ | $_____ |
| Purchases | $ 7,784* | $ 14,330 | $_____ | $_____ |
| Gift/inheritance | + 18 | + 18 | +_____ | +_____ |
| Lost capital | - 1,134 | -- | -_____ | |
| Sales | - 1,176 | - 482 | -_____ | -_____ |
| Depreciation | - 6,052 | - 13,102 | -_____ | -_____ |
| Net investment | = -560 | = 764 | =+_____ | =+_____ |
| Appreciation | + 11,538** | + 2,529 | +_____ | +_____ |
| Value end of year | $240,275 | $ 95,017 | $_____ | $_____ |

*$ 2,081 land and $ 5,703 buildings and/or depreciable improvements.
**Excludes $631 of appreciation on assets sold during the year.

## Cash Flow Statement

Completing an annual cash flow statement is an important step in understanding the sources and uses of funds for the business. Understanding last year's cash flow is the first step toward planning and managing cash flow for the current and future years.

The annual cash flow statement is structured to compare all the cash inflows with all the cash outflows for the year. A complete list of cash inflows and cash outflows are identified in the following table. By definition, total cash inflows must equal total cash outflows when beginning and ending balances are included. Any imbalance is, therefore, the error from incorrect accounting of cash inflows and cash outflows.

ANNUAL CASH FLOW STATEMENT
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Average | My Farm |
|---|---|---|
| **Cash Inflows** | | |
| Beginning farm cash, checking & savings | $ 4,190 | $ |
| Cash farm receipts | 201,657 | |
| Sale of assets: Machinery | 482 | |
| Real estate | 685 | |
| Other stock & certificate | 593 | |
| Money borrowed (intermediate & long-term) | 22,096 | |
| Money borrowed (short-term) | 1,913 | |
| Increase in operating debt | 0 | |
| Nonfarm income | 4,472 | |
| Cash from nonfarm capital used in the business | 2,466 | |
| Money borrowed - nonfarm | 726 | |
| Total | $239,280 | $ |
| **Cash Outflows** | | |
| Cash farm expenses | $157,936 | $ |
| Capital purchases: Expansion livestock | 833 | |
| Machinery | 14,330 | |
| Real estate | 7,784 | |
| Other stock & certificate | 162 | |
| Principal payments (intermediate & long-term) | 23,830 | |
| Principal payments (short-term) | 2,184 | |
| Decrease in operating debt | 15 | |
| Nonfarm debt payments | 746 | |
| Personal withdrawals & family expenditures | 20,157 | |
| Ending farm cash, checking & savings | 6,186 | |
| Total | $234,162 | $ |
| Imbalance (error) | $ 5,118 | $ |

Repayment Analysis

The second step in cash flow analysis is to compare the debt payments planned for the last year with the amount actually paid. The measures listed below provide a number of different perspectives on the repayment performance of the business. However, the critical question to many farmers and lenders is whether planned payments can be made in 1988. The cash flow projection worksheet on the next page can be used to estimate repayment ability, which can then be compared to planned 1988 debt payments shown below.

FARM DEBT PAYMENTS PLANNED
Same 68 Eastern Plateau Region Dairy Farms, 1987 & 1988

| | Average | | | My Farm | | |
|---|---|---|---|---|---|---|
| | 1987 Payments | | Planned | 1987 Payments | | Planned |
| Debt Payments | Planned | Made | 1988 | Planned | Made | 1988 |
| Long-term | $ 10,256 | $ 13,741 | $ 9,996 | $_____ | $_____ | $_____ |
| Intermediate-term | 19,553 | 25,698 | 19,156 | _____ | _____ | _____ |
| Short-term | 1,858 | 2,088 | 1,301 | _____ | _____ | _____ |
| Operating (net reduction) | 727 | 0 | 378 | _____ | _____ | _____ |
| Accounts payable (net reduction) | 287 | 127 | 186 | _____ | _____ | _____ |
| Total | $ 32,682 | $ 41,654 | $ 31,017 | $_____ | $_____ | $_____ |
| Per cow | $ 376 | $ 480 | | $_____ | $_____ | |
| Per cwt. 1987 milk | $ 2.32 | $ 2.96 | | $_____ | $_____ | |
| Percent of total 1987 receipts | 16% | 20% | | _____ | _____ | |
| Percent of 1987 milk receipts | 18% | 23% | | _____ | _____ | |

The cash flow coverage ratio measures the ability of the farm business to meet its planned debt payment schedule. The ratio shows the percentage of planned payments that could have been made with last year's available cash flow. Farmers that did not participate in DFBS last year will find in their report a cash flow coverage ratio based on planned debt payments for 1988.

CASH FLOW COVERAGE RATIO
Same 68 Eastern Plateau Region Dairy Farms, 1987

| Item | Average | My Farm |
|---|---|---|
| Cash farm receipts | $204,927 | $_____ |
| - Cash farm expenses | 158,794 | _____ |
| + Interest paid | 14,031 | _____ |
| - Net personal withdrawals from farm* | 15,975 | _____ |
| (A) = Amount Available for Debt Service | $ 44,189 | $_____ |
| (B) = Debt Payments Planned for 1987 (as of December 31, 1986) | $ 32,682 | $_____ |
| (A + B) = Cash Flow Coverage Ratio for 1987 | 1.35 | _____ |

*Personal withdrawals and family expenditures less nonfarm income and nonfarm money borrowed. If family withdrawals are excluded the cash flow coverage ratio will be incorrect.

# ANNUAL CASH FLOW WORKSHEET

| Item | Regional Average (per cow) | My Farm Total | My Farm Per Cow | Expected Change | 1988 Projection |
|---|---|---|---|---|---|
| Average number of cows | 86 | | | | |
| Accrual Oper. Receipts | | | | | |
| Milk | $ 2,077 | $ | $ | | $ |
| Dairy cattle | 184 | | | | |
| Dairy calves | 35 | | | | |
| Other livestock | 1 | | | | |
| Crops | 25 | | | | |
| Misc. receipts | 69 | | | | |
| Total | $ 2,390 | $ | $ | | $ |
| Accrual Oper. Expenses | | | | | |
| Hired labor | $ 207 | $ | $ | | $ |
| Dairy grain & conc. | 533 | | | | |
| Dairy roughage | 12 | | | | |
| Other lvstk. feed | 11 | | | | |
| Mach. hire/rent/lease | 17 | | | | |
| Mach. rpr./parts & auto | 127 | | | | |
| Fuel, oil & grease | 58 | | | | |
| Replacement lvstk. | 20 | | | | |
| Breeding | 35 | | | | |
| Vet & medicine | 43 | | | | |
| Milk marketing | 110 | | | | |
| Cattle lease | 3 | | | | |
| Other lvstk. exp. | 82 | | | | |
| Fertilizer & lime | 88 | | | | |
| Seeds & plants | 30 | | | | |
| Spray/other crop exp. | 32 | | | | |
| Land, bldg.,fence repair | 30 | | | | |
| Taxes | 58 | | | | |
| Insurance | 37 | | | | |
| Real est. rent/lease | 40 | | | | |
| Utilities | 73 | | | | |
| Miscellaneous | 22 | | | | |
| Total Less Int. Paid | $ 1,666 | | | | $ |
| Net Accrual Operating Income (without interest paid) | (total) $ 62,067 | $ | | | $ |
| - Change in lvstk./crop inv. | 2,898 | | | | |
| - Change in accts. rec. | 223 | | | | |
| + Change in feed/supply inv. | -1,291 | | | | |
| + Change in accts. payable* | 381 | | | | |
| NET CASH FLOW | $ 58,037 | $ | | | $ |
| - Net personal withdrawals & family expenditures | 14,959 | | | | |
| Available for Farm Debt Payments & Investments | $ 43,078 | $ | | | $ |
| - Farm debt payments | 40,153 | | | | |
| Available for Farm Investment | $ 2,925 | $ | | | $ |
| - Capital purchases: cattle, machinery & improvements | $ 23,109 | | | | |
| Additional Capital Needed | | $ | | | $ |

*Excludes change in interest account payable.

## Cropping Program Analysis

The cropping program is an important part of the dairy farm business and sometimes it is overlooked and neglected. A complete evaluation of available land resources, how they are being used, how well crops are producing and what it costs to produce them, is required to evaluate alternative cropping and feed purchasing choices.

LAND RESOURCES AND CROP PRODUCTION
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Average | | | My Farm | | |
|---|---|---|---|---|---|---|
| Land | Owned | Rented | Total | Owned | Rented | Total |
| Tillable | 158 | 96 | 254 | | | |
| Nontillable | 66 | 20 | 86 | | | |
| Other nontillable | 97 | 16 | 113 | | | |
| Total | 321 | 133 | 453 | | | |

| Crop Yields | Farms | Acres | Prod/Acre | Acres | Prod/Acre |
|---|---|---|---|---|---|
| Hay crop | 86 | 139 | 2.60 tn DM | | tn DM |
| Corn silage | 82 | 58 | 16.86 tn | | tn |
| | | | 5.45 tn DM | | tn DM |
| Other forage | 5 | 16 | 1.89 tn DM | | tn DM |
| Total forage | 86 | 195 | 3.40 tn DM | | tn DM |
| Corn grain | 47 | 57 | 114.14 bu | | bu |
| Oats | 17 | 30 | 61.57 bu | | bu |
| Wheat | 2 | 37 | 41.26 bu | | bu |
| Other crops | 5 | 27 | | | |
| Tillable pasture | 28 | 41 | | | |
| Idle | 33 | 31 | | | |
| Total Tillable Acres | 86 | 254 | | | |

Average crop acres and yields compiled for the region are for the number of farms reporting each crop. Yields of forage crops have been converted to tons of dry matter using dry matter coefficients reported by the farmers. Grain production has been converted to bushels of dry grain equivalent based on dry matter information provided.

The following measures of crop management measure how efficiently the land resource is being used and how well total forage requirements are being met.

CROP MANAGEMENT FACTORS
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Average | My Farm |
|---|---|---|
| Total tillable acres per cow | 2.96 | |
| Total forage acres per cow | 2.22 | |
| Harvested forage dry matter, tons per cow | 7.55 | |

Cropping Program Analysis (continued)

A substantial number of cooperators have allocated crop expenses to hay crop, corn, and other crop production. Fertilizer and lime, seeds and plants, and spray and other crop expenses have been computed per acre and per production unit for hay and corn. Additional expense items such as fuels, labor, and machinery repairs are not included.

CROP RELATED ACCRUAL EXPENSES
Eastern Plateau Region Dairy Farms, 1987

| Item | Total Per Till. Acre | Hay Crop Per Acre | Hay Crop Per Ton DM | All Corn Per Acre | Corn Silage Per Ton DM | Corn Grain Per Dry Shell Bu. |
|---|---|---|---|---|---|---|
| Number of farms reporting | 86 | 47 | | 47 | | |
| Average number of acres | 254 | 131 | | 87 | | |
| Fertilizer & lime | $ 29.78 | $ 12.18 | $ 4.69 | $ 25.80 | $ 4.74 | $ 0.23 |
| Seeds & plants | 10.01 | 3.94 | 1.52 | 11.35 | 2.08 | 0.10 |
| Spray & other crop expense | 10.81 | 3.29 | 1.27 | 14.51 | 2.66 | 0.13 |
| Total | $ 50.60 | $ 19.41 | $ 7.47 | $ 51.65 | $ 9.48 | $ 0.45 |
| My Farm: | | | | | | |
| Fertilizer & lime | $_____ | $_____ | $_____ | $_____ | $_____ | $_____ |
| Seeds & plants | _____ | _____ | _____ | _____ | _____ | _____ |
| Spray & other crop expense | _____ | _____ | _____ | _____ | _____ | _____ |
| Total | $_____ | $_____ | $_____ | $_____ | $_____ | $_____ |

Most machinery costs are associated with crop production and should be analyzed with the crop enterprise. Total machinery expenses include the major fixed costs (interest and depreciation), as well as the accrual operating costs. Although machinery costs have not been allocated to individual crops, they are shown below per total tillable acre.

ACCRUAL MACHINERY EXPENSES
88 Eastern Plateau Region Dairy Farms, 1987

| Machinery Expense Item | Average Total Expenses | Average Per Til. Acre | My Farm Total Expenses | My Farm Per Til. Acre |
|---|---|---|---|---|
| Fuel, oil & grease | $ 4,967 | $ 19.57 | $_____ | $_____ |
| Machinery repairs & parts | 10,270 | 40.46 | _____ | _____ |
| Machine hire, rent & lease | 1,478 | 5.82 | _____ | _____ |
| Auto expense (farm share) | 633 | 2.50 | _____ | _____ |
| Interest (5%) | 4,669 | 18.39 | _____ | _____ |
| Depreciation | 13,102 | 51.62 | _____ | _____ |
| Total | $ 35,121 | $ 138.36 | $_____ | $_____ |

Dairy Program Analysis

Analysis of the dairy enterprise can tell a great deal about the strengths and weaknesses of the dairy farm business. Information on this page should be used in conjunction with DHI and other dairy production information. Changes in dairy herd size and market values that occur during the year are identified in the table below. The change in inventory value without appreciation is attributed to physical changes in herd size and quality. This increase in inventory is included as an accrual farm receipt when calculating profitability without appreciation impacts.

DAIRY HERD INVENTORY
88 Eastern Plateau Region Dairy Farms, 1987

| | Dairy Cows | | Heifers | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Bred | | Open | | Calves | |
| Item | No. | Value | No. | Value | No. | Value | No. | Value |
| Beg. year (owned) | 86 | $75,415 | 29 | $16,335 | 23 | $ 9,082 | 16 | $ 3,641 |
| + Change w/o apprec. | | 1,105 | | 173 | | 503 | | 362 |
| + Appreciation | | 3,404 | | 1,427 | | 633 | | 147 |
| End year (owned) | 88 | $79,924 | 26 | $17,935 | 24 | $10,218 | 19 | $ 4,150 |
| End incl. leased | 90 | | | | | | | |
| Average number | 86 | | 65 (all age groups) | | | | | |
| My Farm: | | | | | | | | |
| Beg. of year (owned) | ___ | $_____ | ___ | $_____ | ___ | $_____ | ___ | $_____ |
| + Change w/o apprec. | | _____ | | _____ | | _____ | | _____ |
| + Appreciation | | _____ | | _____ | | _____ | | _____ |
| End of year (owned) | ___ | $_____ | ___ | $_____ | ___ | $_____ | ___ | $_____ |
| End including leased | ___ | | | | | | | |
| Average number | ___ | | ___ (all age groups) | | | | | |

Total milk sold and milk sold per cow are extremely valuable measures of productivity on the dairy farm. These measures of milk output are based on pounds of milk marketed during the year. Farm managers on DHI should compare milk sold per cow with rolling herd average on the test date nearest December 31.

MILK PRODUCTION
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Average | My Farm |
|---|---|---|
| Total milk sold, lbs. | 1,386,641 | _____ |
| Milk sold per cow, lbs. | 16,181 | _____ |
| Average milk plant test, percent butterfat | 3.53 | _____ |

The cost of producing milk has been compiled using the whole farm method, and is featured in the following table. Accrual receipts from milk sales can be compared with the accrual costs of producing milk per cow and per hundredweight of milk. Using the whole farm method, operating costs of producing milk are estimated by deducting nonmilk accrual receipts from total accrual operating expenses. Total costs of producing milk include the operating costs plus expansion livestock purchased, depreciation on machinery and buildings, the value of operators' labor and management, and the interest charge for using equity capital. Note that the cost of labor, management, and equity capital has been excluded in the intermediate calculation.

ACCRUAL RECEIPTS FROM DAIRY AND COST OF PRODUCING MILK
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Average | | | My Farm | | |
|---|---|---|---|---|---|---|
| | Total | Per Cow | Per Cwt. | Total | Per Cow | Per Cwt. |
| Accrual Costs of Producing Milk | | | | | | |
| Operating costs | $131,048 | $ 1,529 | $ 9.45 | $_____ | $_____ | $_____ |
| Total costs w/o opers' labor, mgmt. & capital | $151,517 | $ 1,768 | $ 10.93 | $_____ | $_____ | $_____ |
| Total Costs | $190,980 | $ 2,229 | $ 13.77 | $_____ | $_____ | $_____ |
| Accrual Receipts From Milk | $177,970 | $ 2,077 | $ 12.83 | $_____ | $_____ | $_____ |

The accrual operating expenses most commonly associated with the dairy enterprise are listed in the table below. Evaluating these costs per unit of production enables an evaluation of the dairy enterprise.

DAIRY RELATED ACCRUAL EXPENSES
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Average | | My Farm | |
|---|---|---|---|---|
| | Per Cow | Per Cwt. | Per Cow | Per Cwt. |
| Purchased dairy grain & concentrates | $ 533 | $ 3.29 | $_____ | $_____ |
| Purchased dairy roughage | 12 | 0.07 | _____ | _____ |
| Total Purchased Dairy Feed | $ 545 | $ 3.37 | $_____ | $_____ |
| Purchased grain & conc. as % of milk receipts | | 26% | ____% | |
| Purchased feed & crop exp. | $ 695 | $ 4.29 | $_____ | $_____ |
| Purchased feed & crop exp. as % of milk receipts | | 33% | ____% | |
| Breeding | $ 35 | $ 0.22 | $_____ | $_____ |
| Veterinary & medicine | 43 | 0.26 | _____ | _____ |
| Milk marketing | 110 | 0.68 | _____ | _____ |
| Cattle lease | 3 | 0.02 | _____ | _____ |
| Other livestock expense | 82 | 0.51 | _____ | _____ |

## Capital and Labor Efficiency Analysis

Capital efficiency factors measure how intensively the capital is being used in the farm business. Measures of labor efficiency are key indicators of management's success in generating products per unit of labor input.

CAPITAL EFFICIENCY
88 Eastern Plateau Region Dairy Farms, 1987

| Item | Per Worker | Per Cow | Per Tillable Acre | Per Tillable Acre Owned |
|---|---|---|---|---|
| Farm capital | $176,770 | $ 5,893 | $ 1,990 | $ 3,196 |
| Real estate | | 2,751 | | 1,492 |
| Machinery & equipment | 32,957 | 1,099 | 371 | |
| Capital turnover, years | 2.24 | | | |
| My Farm: | | | | |
| Farm capital | $_____ | $_____ | $_____ | $_____ |
| Real estate | _____ | _____ | _____ | _____ |
| Machinery & equipment | _____ | _____ | _____ | _____ |
| Capital turnover, years | _____ | | | |

LABOR FORCE INVENTORY AND ANALYSIS
88 Eastern Plateau Region Dairy Farms, 1987

| Labor Force | Months | Age | Years of Educ. | Value of Labor & Mgmt. |
|---|---|---|---|---|
| Operator number 1 | 12 | 44 | 14 | $ 17,682 |
| Operator number 2 | 3 | 33 | 14 | 5,035 |
| Operator number 3 | 0 | 55 | 14 | 455 |
| Family paid | 5 | | | |
| Family unpaid | 2 | | | |
| Hired | 12 | | | |
| Total | 34 | + 12 = | 2.86 Worker Equivalent | |
| | | | 1.28 Operator/Manager Equiv. | |
| My Farm: Total | ____ | + 12 = | _____ Worker Equivalent | |
| Operator's | ____ | + 12 = | _____ Operator/Manager Equiv. | |

| Labor Efficiency | Average Total | Average Per Worker | My Farm Total | My Farm Per Worker |
|---|---|---|---|---|
| Cows, average number | 86 | 30 | _____ | _____ |
| Milk sold, pounds | 1,386,641 | 485,347 | _____ | _____ |
| Tillable acres | 254 | 89 | _____ | _____ |
| Work units | 882 | 309 | _____ | _____ |

| Labor Costs | Average Total | Average Per Cow | Average Per Til. Acre | My Farm Total | My Farm Per Cow | My Farm Per Til. Acre |
|---|---|---|---|---|---|---|
| Value of operator(s) labor ($900/mo.) | $ 13,858 | $ 162 | $54.59 | $_____ | $_____ | $_____ |
| Family unpd.($650/mo.) | 1,315 | 15 | 5.18 | _____ | _____ | _____ |
| Hired | 17,736 | 207 | 69.87 | _____ | _____ | _____ |
| Total Labor | $ 32,910 | $ 384 | $129.65 | $_____ | $_____ | $_____ |
| Machinery Cost | $ 35,121 | $ 410 | $138.36 | $_____ | $_____ | $_____ |
| Total Labor & Mach. | $ 68,030 | $ 794 | $268.00 | $_____ | $_____ | $_____ |

## COMPARATIVE ANALYSIS OF THE FARM BUSINESS

### Progress of the Farm Business

Comparing your business with average data from regional DFBS cooperators that participated in both of the last two years is one part of a business checkup. It is equally important for you to determine the progress your business has made over the past two or three years and to set targets or goals for the future.

PROGRESS OF THE FARM BUSINESS
Same 68 Eastern Plateau Region Dairy Farms, 1986 & 1987

| | Average | | My Farm | | |
|---|---|---|---|---|---|
| Selected Factors | 1986 | 1987 | 1986 | 1987 | Goal |
| **Size of Business** | | | | | |
| Average number of cows | 85 | 87 | | | |
| Average number of heifers | 66 | 67 | | | |
| Milk sold, lbs. | 1,372,106 | 1,408,515 | | | |
| Worker equivalent | 2.86 | 2.86 | | | |
| Total tillable acres | 256 | 252 | | | |
| **Rates of Production** | | | | | |
| Milk sold per cow, lbs. | 16,201 | 16,220 | | | |
| Hay DM per acre, tons | 2.56 | 2.55 | | | |
| Corn silage per acre, tons | 15 | 17 | | | |
| **Labor Efficiency** | | | | | |
| Cows per worker | 30 | 30 | | | |
| Milk sold/worker, lbs. | 479,914 | 491,805 | | | |
| **Cost Control** | | | | | |
| Grain & conc. purchased as % of milk sales | 25% | 25% | % | % | % |
| Dairy feed & crop exp. per cwt. milk | $ 4.17 | $ 4.25 | $ | $ | $ |
| Labor & mach. costs/cow | $ 773 | $ 797 | $ | $ | $ |
| **Capital Efficiency*** | | | | | |
| Farm capital per cow | $ 5,634 | $ 5,814 | $ | $ | $ |
| Mach. & equip. per cow | $ 1,125 | $ 1,142 | $ | $ | $ |
| Capital turnover, years | 2.23 | 2.19 | | | |
| **Profitability** | | | | | |
| Net farm inc. w/o apprec. | $ 23,368 | $ 30,923 | $ | $ | $ |
| Net farm inc. w/apprec. | $ 39,444 | $ 53,579 | $ | $ | $ |
| Labor & mgmt. income | $ 6,632 | $ 13,102 | $ | $ | $ |
| Rate of return on eq. capital w/apprec. | 4.71% | 8.77% | % | % | % |
| Rate of return on all capital w/apprec. | 6.25% | 8.46% | % | % | % |
| **Financial Summary** | | | | | |
| Farm net worth, end year | $308,232 | $342,075 | $ | $ | $ |
| Debt to asset ratio | 0.36 | 0.34 | | | |
| Farm debt per cow | $ 2,043 | $ 1,937 | $ | $ | $ |

*Average for the year.

Farm Business Chart

The Farm Business Chart is a tool which can be used in analyzing a business by drawing a line through the figure in each column which represents the current level of management performance. The figure at the top of each column is the average of the top 10 percent of the 414 farms for that factor. The other figures in each column are the average for the second 10 percent, third 10 percent, etc. 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.

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

References to DFBS output page numbers for participating dairy farmers are provided in the table headings.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
414 New York Dairy Farms, 1986

| Size of Business | | | Rates of Production | | | Labor Efficiency | |
|---|---|---|---|---|---|---|---|
| Worker Equivalent (DFBS pg. 10) | No. of Cows | Pounds Milk Sold | Pounds Milk Sold Per Cow | Tons Hay Crop DM/Acre | Tons Corn Silage Per Acre | Cows Per Worker | Pounds Milk Sold Per Worker |
| | (10) | (10) | (9) | (8) | (8) | (10) | (10) |
| 7.4 | 286 | 5,067,341 | 19,686 | 4.6 | 21 | 48 | 767,478 |
| 4.2 | 137 | 2,199,034 | 18,065 | 3.7 | 18 | 38 | 614,002 |
| 3.5 | 106 | 1,711,440 | 17,165 | 3.3 | 17 | 34 | 545,894 |
| 3.1 | 88 | 1,394,330 | 16,585 | 3.0 | 15 | 32 | 499,543 |
| 2.8 | 77 | 1,214,123 | 15,981 | 2.7 | 15 | 29 | 462,369 |
| 2.5 | 68 | 1,053,490 | 15,498 | 2.5 | 14 | 27 | 432,308 |
| 2.3 | 59 | 896,427 | 15,025 | 2.3 | 13 | 26 | 402,824 |
| 2.0 | 52 | 779,541 | 14,393 | 2.1 | 12 | 24 | 358,752 |
| 1.9 | 45 | 671,587 | 13,423 | 1.8 | 10 | 21 | 304,576 |
| 1.4 | 34 | 468,617 | 11,150 | 1.4 | 6 | 16 | 230,949 |

| Cost Control | | | | | |
|---|---|---|---|---|---|
| Grain Bought Per Cow | % Feed is of Milk Receipts | Machinery Costs Per Cow | Labor & Machinery Costs Per Cow | Feed & Crop Expenses Per Cow | Feed & Crop Expenses Per Cwt. Milk |
| (9) | (9) | (10) | (10) | (9) | (9) |
| $188 | 10% | $197 | $ 496 | $352 | $2.44 |
| 290 | 15 | 262 | 599 | 449 | 3.00 |
| 354 | 18 | 310 | 663 | 502 | 3.36 |
| 402 | 21 | 351 | 712 | 550 | 3.59 |
| 445 | 23 | 384 | 757 | 590 | 3.83 |
| 483 | 25 | 411 | 805 | 632 | 4.04 |
| 528 | 27 | 441 | 868 | 682 | 4.28 |
| 573 | 29 | 481 | 916 | 728 | 4.50 |
| 629 | 31 | 542 | 1,007 | 794 | 4.85 |
| 765 | 37 | 712 | 1,201 | 936 | 5.86 |

The next section of the Farm Business Chart provides for comparative analysis of the value of production as measured by milk receipts per cow and dairy receipts per hundredweight of milk sold and the costs of production. The final or profitability section shows the variation in farm income by decile and enables a dairy farmer to determine where he or she ranks by using several measures of farm profitability. Remember that each column is independently established and the farms making up the top decile in the first column will not necessarily be on the top of any other column. The dairy farmer who ranks at or near the top of most of these columns is in a very enviable position.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS
414 New York Dairy Farms, 1986

| Milk Receipts Per Cow (9) | Dairy Receipts Per Cwt. (9) | Oper. Cost Milk Per Cow (9) | Oper. Cost Milk Per Cwt. (9) | Total Cost Production Per Cow (9) | Total Cost Production Per Cwt. (9) |
|---|---|---|---|---|---|
| $2,747 | $15.65 | $ 922 | $ 6.41 | $1,678 | $11.39 |
| 2,518 | 14.69 | 1,149 | 7.69 | 1,920 | 12.48 |
| 2,401 | 14.30 | 1,274 | 8.29 | 2,026 | 13.19 |
| 2,293 | 14.01 | 1,368 | 8.80 | 2,124 | 13.69 |
| 2,189 | 13.82 | 1,445 | 9.26 | 2,218 | 14.04 |
| 2,115 | 13.57 | 1,533 | 9.59 | 2,308 | 14.54 |
| 2,026 | 13.36 | 1,599 | 10.12 | 2,415 | 15.23 |
| 1,932 | 13.11 | 1,693 | 10.64 | 2,522 | 15.97 |
| 1,812 | 12.80 | 1,798 | 11.20 | 2,671 | 16.98 |
| 1,517 | 12.10 | 2,039 | 13.18 | 3,026 | 20.35 |

Profitability

| Net Farm Income | | Return to Operator's Labor, Management, & Equity Capital | | Labor & Management Income | |
|---|---|---|---|---|---|
| With Appreciation (3) | Without Appreciation (3) | With Appreciation (3) | Without Appreciation (3) | Per Farm (3) | Per Operator (3) |
| $157,944 | $112,483 | $157,154 | $111,814 | $72,075 | $50,073 |
| 72,699 | 46,862 | 70,487 | 44,957 | 25,129 | 18,115 |
| 51,682 | 33,290 | 49,335 | 31,000 | 15,514 | 12,290 |
| 40,559 | 25,457 | 39,083 | 23,381 | 9,128 | 7,659 |
| 33,904 | 19,749 | 32,076 | 17,627 | 4,136 | 3,599 |
| 26,429 | 15,395 | 23,588 | 13,469 | 21 | -24 |
| 19,844 | 10,520 | 18,127 | 8,427 | -4,171 | -3,475 |
| 14,690 | 4,432 | 12,898 | 2,090 | -9,752 | -8,829 |
| 6,680 | -3,173 | 4,611 | -5,189 | -20,244 | -16,770 |
| -13,617 | -23,915 | -15,804 | -25,722 | -44,712 | -39,924 |

Farm Business Charts for farms with freestall barns and 120 cows or less and more than 120 cows, and farms with conventional barns with 60 cows or less and more than 60 cows are discussed in the section on pages 23-28.

Financial Analysis Chart

The farm financial analysis chart is designed just like the Farm Business Chart and may be used to measure the financial health of the farm business. Most of the financial measures used in the chart are presented on pages 7, 10, 13, and 18 of this publication. References to DFBS output page numbers for participating dairy farmers are provided in the table headings.

FINANCIAL ANALYSIS CHART
414 New York Dairy Farms, 1986

| Liquidity (repayment) | | | | |
|---|---|---|---|---|
| Debt Payments Made Per Cow (DFBS pg. 7) | Debt Payments as Percent of Milk Receipts (7) | Cash Flow Coverage Ratio (7) | Available for Debt Service Per Cow (11) | Debt Per Cow (5) |
| $ 48 | 2% | 4.68 | $984 | $ 136 |
| 204 | 10 | 1.99 | 726 | 705 |
| 291 | 15 | 1.56 | 635 | 1,249 |
| 367 | 19 | 1.31 | 571 | 1,670 |
| 426 | 22 | 1.16 | 522 | 2,036 |
| 488 | 25 | 1.02 | 461 | 2,402 |
| 578 | 29 | 0.89 | 400 | 2,751 |
| 670 | 35 | 0.76 | 336 | 3,053 |
| 804 | 42 | 0.53 | 244 | 3,567 |
| 1,525 | 78 | 0.02 | 76 | 4,482 |

| Solvency | | | Efficiency & Profitability | | |
|---|---|---|---|---|---|
| | Debt/Asset Ratio | | | | |
| Percent Equity (DFBS pg. 5) | Current & Intermediate (5) | Long Term (5) | Total Farm Cap. Per Cow (10) | Capital Turnover (years) (10) | Rate of Return on Equity Cap. (3) |
| 98% | 0.01 | 0.00 | $3,753 | 1.52 | 38% |
| 88 | 0.07 | 0.02 | 4,529 | 1.88 | 12 |
| 79 | 0.14 | 0.15 | 4,963 | 2.06 | 8 |
| 73 | 0.20 | 0.30 | 5,276 | 2.20 | 5 |
| 65 | 0.26 | 0.38 | 5,620 | 2.34 | 3 |
| 58 | 0.32 | 0.48 | 5,901 | 2.50 | 1 |
| 52 | 0.39 | 0.60 | 6,322 | 2.68 | -1 |
| 46 | 0.47 | 0.71 | 6,945 | 2.90 | -4 |
| 37 | 0.56 | 0.86 | 7,751 | 3.19 | -9 |
| 15 | 0.88 | 1.33 | 9,489 | 4.39 | -45 |

Summarize Your Business Performance

The Farm Business and Financial Analysis Charts can be used to help identify strengths and weaknesses of your farm business. Identify three major strengths and three areas of your farm business that need improvement.

Strengths: _____ Need Improvement: _____

_____ _____

_____ _____

Comparisons by Type of Barn and Herd Size

When analyzing a dairy farm business by comparing it to a group of farms, it is important that the group of farms used have as many of the same physical characteristics as possible as the farm being analyzed. To assist in this endeavor, dairy farms in the 1986 State Summary[1] have been divided into those with freestall and those with conventional housing. Within each group is a further classification by size of the dairy herd.

The table on page 24 shows the average values for the resulting four groups of dairy farms. Within each housing type, the larger herd size has the highest crop yields and pounds of milk sold per cow. The cost of producing milk was lower on the larger farms and labor efficiency greater. Profitability was also greater on the larger farms within each housing type.

Farm business charts have been computed for each of the four housing and herd size categories. From these charts on pages 25-28 the range in size of business rates of production, labor efficiency, value and cost of producing milk, and profitability can be observed. The range in every category of business performance is tremendous.

By comparing the farm's performance on the most appropriate business chart, a farm manager will be better able to evaluate his or her business performance. Farm managers should remember, however, that their competition is not limited to the other farms in their own barn type and herd size category. They should observe how their management performance compares with farms in other categories as well.

Herd Size Comparisons

A detailed comparison of profitability, financial situation, and business analysis factors across herd sizes is contained on pages 29-36. As herd size increases, the average profitability also increases (pages 29-30). Net farm income without appreciation was $123,246 per farm for the 250 or more herd size group and $6,845 per farm for those with less than 40 cows. This relationship holds for all measures of profitability including rate of return on equity capital.

As herd sizes increase above 55 cows, percent equity decreases (pages 31-34). However, farm net worth increases substantially as herd size increases. The average net worth for all size farms increased during 1986.

Crop yields increased as herd size increased, but fertilizer and lime expenses and machinery cost per tillable acre also increased (pages 35-36). Milk sold per cow also increased as herd size increased, ranging from 14,525 pounds on the farms with less than 40 cows to 18,593 pounds on farms with 250 or more cows. Farm capital per worker increased as herd size increased, while farm capital per cow decreased as herd size increased. Cows per worker increased dramatically as herd size increased, ranging from 20 at the lowest herd size category up to 41 at the largest size category.

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[1]Smith, Stuart F., Wayne A. Knoblauch, and Linda D. Putnam, Dairy Farm Management Business Summary, New York, 1986, Department of Agricultural Economics, Cornell University, A.E. Res. 87-20, July 1987.

SELECTED BUSINESS FACTORS BY TYPE OF BARN
AND HERD SIZE
414 New York Dairy Farms, 1986

| Farms with: | Conventional | | Freestall | |
|---|---|---|---|---|
| Item | ≤60 Cows | >60 Cows | ≤120 Cows | >120 Cows |
| Number of farms | 146 | 124 | 71 | 73 |
| Cropping Program Analysis | | | | |
| Total Tillable acres | 157 | 274 | 273 | 588 |
| Tillable acres rented* | 51 | 97 | 99 | 205 |
| Hay crop acres* | 96 | 155 | 139 | 243 |
| Corn silage acres* | 27 | 48 | 62 | 181 |
| Hay crop, tons DM/acre | 2.3 | 2.7 | 2.8 | 3.2 |
| Corn silage, tons/acre | 12.3 | 13.7 | 14.0 | 15.2 |
| Oats, bushels/acre | 56.1 | 70.4 | 68.7 | 56.5 |
| Forage DM per cow, tons | 7.2 | 7.9 | 7.8 | 7.8 |
| Tillable acres/cow | 3.4 | 3.4 | 3.1 | 2.7 |
| Fert. & lime exp./til. acre | $19.90 | $22.75 | $28.70 | $31.11 |
| Total machinery costs | $17,584 | $33,257 | $41,281 | $83,046 |
| Machinery cost/tillable acre | $112 | $121 | $151 | $141 |
| Dairy Analysis | | | | |
| Number of cows | 46 | 81 | 88 | 222 |
| Number of heifers | 35 | 68 | 73 | 182 |
| Milk sold, lbs. | 698,200 | 1,286,440 | 1,388,642 | 3,787,019 |
| Milk sold/cow, lbs. | 15,171 | 15,802 | 15,866 | 17,093 |
| Operating cost of prod. milk/cwt. | $9.51 | $9.33 | $9.36 | $9.60 |
| Total cost of prod. milk/cwt. | $15.38 | $14.37 | $14.22 | $12.96 |
| Price/cwt. milk sold | $12.47 | $12.53 | $12.84 | $12.72 |
| Purchased dairy feed/cow | $499 | $459 | $459 | $548 |
| Purchased dairy feed/cwt. milk | $3.29 | $2.91 | $2.89 | $3.21 |
| Purc. grain & conc. as % milk rec. | 25% | 23% | 22% | 24% |
| Purc. feed & crop exp./cwt. milk | $4.05 | $3.79 | $3.94 | $4.12 |
| Capital Efficiency | | | | |
| Farm capital/worker | $137,144 | $173,780 | $183,971 | $204,899 |
| Farm capital/cow | 6,020 | 6,233 | 5,970 | 5,355 |
| Farm capital/til. acre owned | 2,614 | 2,867 | 2,986 | 3,098 |
| Real estate/cow | 3,109 | 3,066 | 2,749 | 2,424 |
| Machinery investment/cow | 1,147 | 1,223 | 1,214 | 869 |
| Capital turnover, years | 2.57 | 2.52 | 2.37 | 2.05 |
| Labor Efficiency | | | | |
| Worker equivalent | 2.02 | 2.92 | 2.84 | 5.79 |
| Operator/manager equivalent | 1.15 | 1.33 | 1.41 | 1.47 |
| Milk sold/worker, lbs. | 345,644 | 440,562 | 488,958 | 654,062 |
| Cows/worker | 23 | 28 | 31 | 38 |
| Work units/worker | 240 | 299 | 328 | 399 |
| Labor cost/cow | $417 | $381 | $361 | $385 |
| Labor cost/tillable acre | $122 | $113 | $116 | $145 |
| Profitability & Balance Sheet Analysis | | | | |
| Net farm income (w/o apprec.) | $9,341 | $19,138 | $24,475 | $60,243 |
| Labor & mgmt. income/operator | $-999 | $455 | $4,275 | $16,090 |
| Farm debt/cow | $2,428 | $2,090 | $2,050 | $2,145 |
| Percent equity | 59% | 66% | 65% | 60% |

*Average of all farms, not only those reporting data.

FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARMS
146 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 1986

| Size of Business | | | Rates of Production | | | Labor Efficiency | |
|---|---|---|---|---|---|---|---|
| Worker Equiv-alent (DFBS pg. 10) | No. of Cows | Pounds Milk Sold | Pounds Milk Sold Per Cow | Tons Hay Crop DM/Acre | Tons Corn Silage Per Acre | Cows Per Worker | Pounds Milk Sold Per Worker |
| | (10) | (10) | (9) | (8) | (8) | (10) | (10) |
| 3.1 | 58 | 1,007,751 | 18,878 | 4.1 | 20 | 34 | 544,485 |
| 2.6 | 55 | 873,140 | 17,368 | 3.3 | 17 | 30 | 459,871 |
| 2.3 | 54 | 832,613 | 16,639 | 2.9 | 16 | 27 | 428,718 |
| 2.2 | 51 | 787,319 | 16,037 | 2.6 | 15 | 26 | 404,025 |
| 2.0 | 49 | 740,807 | 15,438 | 2.4 | 14 | 25 | 375,361 |
| 2.0 | 47 | 700,379 | 15,034 | 2.2 | 13 | 23 | 343,283 |
| 1.9 | 44 | 653,090 | 14,416 | 2.1 | 12 | 21 | 316,418 |
| 1.7 | 41 | 580,976 | 13,938 | 1.9 | 10 | 20 | 286,500 |
| 1.5 | 36 | 501,065 | 12,992 | 1.6 | 8 | 18 | 255,798 |
| 1.2 | 28 | 352,058 | 10,736 | 1.1 | 5 | 14 | 192,273 |

| Cost Control | | | | | |
|---|---|---|---|---|---|
| Grain Bought Per Cow | % Feed is of Milk Receipts | Machinery Costs Per Cow | Labor & Machinery Costs Per Cow | Feed & Crop Expenses Per Cow | Feed & Crop Expenses Per Cwt. Milk |
| (9) | (9) | (10) | (10) | (9) | (9) |
| $189 | 11% | $177 | $520 | $338 | $2.51 |
| 320 | 17 | 249 | 611 | 455 | 3.15 |
| 386 | 22 | 285 | 666 | 503 | 3.44 |
| 422 | 24 | 323 | 734 | 535 | 3.70 |
| 459 | 25 | 365 | 785 | 580 | 3.86 |
| 488 | 27 | 397 | 827 | 611 | 4.05 |
| 532 | 29 | 429 | 884 | 661 | 4.28 |
| 580 | 30 | 464 | 916 | 721 | 4.59 |
| 631 | 32 | 522 | 1,000 | 783 | 4.97 |
| 765 | 38 | 648 | 1,176 | 954 | 6.06 |

| Value and Cost of Production | | | Profitability | | | |
|---|---|---|---|---|---|---|
| | | | Net Farm Income | | | |
| Milk Receipts Per Cow | Oper. Cost Milk Per Cwt. | Total Cost Production Per Cwt. | With Apprec. | Without Apprec. | Labor & Mgmt. Income Per Farm | Per Oper. |
| (9) | (9) | (9) | (3) | (3) | (3) | (3) |
| $2,709 | $ 6.23 | $11.98 | $60,893 | $35,087 | $22,396 | $17,562 |
| 2,425 | 7.49 | 13.42 | 35,933 | 24,247 | 12,646 | 10,953 |
| 2,294 | 8.11 | 13.84 | 29,970 | 18,994 | 7,722 | 6,887 |
| 2,188 | 8.67 | 14.32 | 25,464 | 14,971 | 4,609 | 4,089 |
| 2,101 | 9.26 | 15.16 | 20,230 | 11,729 | 1,702 | 1,658 |
| 2,000 | 9.87 | 15.63 | 16,582 | 8,614 | -1,464 | -1,401 |
| 1,937 | 10.47 | 16.12 | 12,687 | 5,490 | -5,240 | -4,394 |
| 1,853 | 10.92 | 17.10 | 7,202 | 814 | -8,463 | -8,524 |
| 1,740 | 11.50 | 18.57 | -257 | -3,988 | -15,131 | -14,528 |
| 1,403 | 13.36 | 21.95 | -12,299 | -18,796 | -28,918 | -26,431 |

FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS
124 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 1986

| Size of Business | | | Rates of Production | | | Labor Efficiency | |
|---|---|---|---|---|---|---|---|
| Worker Equivalent (DFBS pg. 10) | No. of Cows (10) | Pounds Milk Sold (10) | Pounds Milk Sold Per Cow (9) | Tons Hay Crop DM/Acre (8) | Tons Corn Silage Per Acre (8) | Cows Per Worker (10) | Pounds Milk Sold Per Worker (10) |
| 4.7 | 124 | 2,093,475 | 19,571 | 4.8 | 22 | 44 | 652,718 |
| 3.7 | 99 | 1,649,764 | 18,016 | 3.6 | 19 | 37 | 571,684 |
| 3.4 | 90 | 1,441,447 | 17,121 | 3.3 | 17 | 34 | 530,017 |
| 3.1 | 85 | 1,317,509 | 16,694 | 3.0 | 16 | 31 | 496,060 |
| 3.0 | 79 | 1,251,151 | 16,141 | 2.8 | 15 | 29 | 471,986 |
| 2.8 | 76 | 1,206,039 | 15,667 | 2.6 | 14 | 28 | 446,181 |
| 2.5 | 72 | 1,147,970 | 15,233 | 2.4 | 13 | 26 | 425,808 |
| 2.4 | 68 | 1,074,750 | 14,662 | 2.2 | 12 | 25 | 396,893 |
| 2.1 | 65 | 967,717 | 13,618 | 2.0 | 10 | 22 | 346,946 |
| 1.8 | 62 | 810,022 | 11,546 | 1.5 | 6 | 18 | 256,917 |

| Cost Control | | | | | |
|---|---|---|---|---|---|
| Grain Bought Per Cow (9) | % Feed is of Milk Receipts (9) | Machinery Costs Per Cow (10) | Labor & Machinery Costs Per Cow (10) | Feed & Crop Expenses Per Cow (9) | Feed & Crop Expenses Per Cwt. Milk (9) |
| $186 | 10% | $191 | $476 | $342 | $2.32 |
| 269 | 14 | 259 | 554 | 428 | 2.91 |
| 333 | 17 | 317 | 625 | 487 | 3.29 |
| 380 | 21 | 353 | 704 | 528 | 3.43 |
| 429 | 22 | 381 | 750 | 579 | 3.65 |
| 473 | 24 | 409 | 800 | 624 | 3.95 |
| 512 | 26 | 456 | 877 | 671 | 4.21 |
| 557 | 27 | 504 | 950 | 713 | 4.41 |
| 624 | 30 | 556 | 1,050 | 773 | 4.65 |
| 761 | 37 | 713 | 1,219 | 897 | 5.52 |

| Value and Cost of Production | | | Profitability | | | |
|---|---|---|---|---|---|---|
| | | | Net Farm Income | | | |
| Milk Receipts Per Cow (9) | Oper. Cost Milk Per Cwt. (9) | Total Cost Production Per Cwt. (9) | With Apprec. (3) | Without Apprec. (3) | Labor & Mgmt. Income Per Farm (3) | Per Oper. (3) |
| $2,661 | $6.53 | $11.61 | $137,617 | $61,175 | $40,774 | $27,242 |
| 2,517 | 7.83 | 12.60 | 60,290 | 39,547 | 21,148 | 16,925 |
| 2,406 | 8.31 | 13.14 | 49,563 | 32,130 | 14,942 | 11,965 |
| 2,311 | 8.68 | 13.67 | 42,248 | 27,056 | 9,103 | 7,194 |
| 2,201 | 9.14 | 14.11 | 37,685 | 21,315 | 3,905 | 3,225 |
| 2,124 | 9.46 | 14.43 | 31,717 | 18,215 | 283 | 175 |
| 2,041 | 9.86 | 14.81 | 23,127 | 14,332 | -4,262 | -3,498 |
| 1,936 | 10.41 | 15.66 | 17,079 | 7,417 | -12,508 | -9.625 |
| 1,835 | 10.87 | 16.56 | 12,251 | -2,565 | -20,966 | -16,753 |
| 1,594 | 13.21 | 19.48 | -8,813 | -20,714 | -44,612 | -42,011 |

FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS
71 Freestall Barn Dairy Farms with 120 or Less Cows, New York, 1986

| Size of Business | | | Rates of Production | | | Labor Efficiency | |
|---|---|---|---|---|---|---|---|
| Worker Equivalent (DFBS pg. 10) | No. of Cows (10) | Pounds Milk Sold (10) | Pounds Milk Sold Per Cow (9) | Tons Hay Crop DM/Acre (8) | Tons Corn Silage Per Acre (8) | Cows Per Worker (10) | Pounds Milk Sold Per Worker (10) |
| 4.3 | 117 | 1,964,379 | 19,630 | 4.5 | 21 | 52 | 746,199 |
| 3.5 | 110 | 1,842,322 | 18,599 | 3.9 | 19 | 40 | 621,768 |
| 3.3 | 105 | 1,711,514 | 17,868 | 3.5 | 17 | 36 | 565,788 |
| 3.0 | 97 | 1,588,855 | 16,927 | 3.0 | 16 | 33 | 530,646 |
| 2.8 | 91 | 1,453,928 | 16,098 | 2.7 | 15 | 31 | 506,808 |
| 2.7 | 86 | 1,350,208 | 15,704 | 2.5 | 14 | 29 | 484,530 |
| 2.6 | 82 | 1,277,728 | 15,246 | 2.4 | 14 | 29 | 454,169 |
| 2.3 | 74 | 1,094,868 | 14,733 | 2.3 | 13 | 27 | 422,903 |
| 2.1 | 67 | 975,911 | 13,879 | 1.9 | 11 | 25 | 394,665 |
| 1.7 | 52 | 721,949 | 10,706 | 1.4 | 7 | 21 | 304,171 |

| Cost Control | | | | | |
|---|---|---|---|---|---|
| Grain Bought Per Cow (9) | % Feed is of Milk Receipts (9) | Machinery Costs Per Cow (10) | Labor & Machinery Costs Per Cow (10) | Feed & Crop Expenses Per Cow (9) | Feed & Crop Expenses Per Cwt. Milk (9) |
| $183 | 9% | $239 | $546 | $383 | $2.40 |
| 291 | 14 | 309 | 653 | 449 | 2.85 |
| 321 | 17 | 354 | 682 | 509 | 3.35 |
| 377 | 19 | 393 | 712 | 577 | 3.69 |
| 423 | 22 | 422 | 759 | 607 | 3.90 |
| 489 | 24 | 453 | 822 | 652 | 4.06 |
| 534 | 26 | 488 | 885 | 693 | 4.33 |
| 551 | 28 | 532 | 940 | 719 | 4.53 |
| 597 | 30 | 648 | 1,084 | 797 | 5.09 |
| 735 | 35 | 891 | 1,323 | 935 | 6.15 |

| Value and Cost of Production | | | Profitability | | | |
|---|---|---|---|---|---|---|
| | | | Net Farm Income | | | |
| Milk Receipts Per Cow (9) | Oper. Cost Milk Per Cwt. (9) | Total Cost Production Per Cwt. (9) | With Apprec. (3) | Without Apprec. (3) | Labor & Mgmt. Income Per Farm (3) | Per Oper. (3) |
| $2,763 | $ 6.52 | $11.16 | $119,436 | $85,723 | $56,843 | $31,786 |
| 2,517 | 7.84 | 12.33 | 75,141 | 51,430 | 29,843 | 19,619 |
| 2,456 | 8.22 | 13.18 | 58,064 | 39,357 | 19,804 | 14,086 |
| 2,349 | 8.83 | 13.70 | 45,183 | 34,141 | 14,167 | 9,502 |
| 2,247 | 9.26 | 14.00 | 40,801 | 25,936 | 7,804 | 6,962 |
| 2,179 | 9.55 | 14.48 | 34,830 | 20,431 | 2,896 | 2,591 |
| 2,113 | 10.11 | 14.97 | 27,277 | 14,804 | -1,786 | -1,478 |
| 2,041 | 10.62 | 15.79 | 19,458 | 8,785 | -5,399 | -4,633 |
| 1,932 | 11.55 | 16.77 | 11,308 | -531 | -16,982 | -13,373 |
| 1,494 | 13.08 | 19.53 | -6,377 | -27,829 | -46,468 | -39,164 |

FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS
73 Freestall Barn Dairy Farms with More Than 120 Cows, New York, 1986

| Size of Business | | | Rates of Production | | | Labor Efficiency | |
|---|---|---|---|---|---|---|---|
| Worker Equiv-alent (DFBS pg. 10) | No. of Cows | Pounds Milk Sold | Pounds Milk Sold Per Cow | Tons Hay Crop DM/Acre | Tons Corn Silage Per Acre | Cows Per Worker | Pounds Milk Sold Per Worker |
| | (10) | (10) | (9) | (8) | (8) | (10) | (10) |
| 13.3 | 540 | 10,200,698 | 20,554 | 5.1 | 20 | 59 | 926,835 |
| 7.6 | 311 | 5,862,327 | 19,208 | 4.0 | 18 | 46 | 821,108 |
| 6.7 | 254 | 4,456,278 | 17,921 | 3.7 | 17 | 43 | 728,084 |
| 6.0 | 226 | 3,713,183 | 17,284 | 3.4 | 16 | 40 | 678,995 |
| 5.3 | 194 | 3,138,231 | 16,825 | 3.3 | 16 | 39 | 644,490 |
| 4.9 | 173 | 2,616,444 | 16,360 | 3.1 | 15 | 37 | 611,932 |
| 4.4 | 156 | 2,458,443 | 15,867 | 3.0 | 15 | 35 | 565,128 |
| 4.0 | 145 | 2,327,342 | 15,350 | 2.7 | 13 | 33 | 541,569 |
| 3.6 | 132 | 2,099,647 | 14,395 | 2.4 | 12 | 31 | 476,755 |
| 3.0 | 122 | 1,739,656 | 12,476 | 1.9 | 9 | 27 | 415,285 |

Cost Control

| Grain Bought Per Cow | % Feed is of Milk Receipts | Machinery Costs Per Cow | Labor & Machinery Costs Per Cow | Feed & Crop Expenses Per Cow | Feed & Crop Expenses Per Cwt. Milk |
|---|---|---|---|---|---|
| (9) | (9) | (10) | (10) | (9) | (9) |
| $216 | 12% | $229 | $500 | $401 | $2.71 |
| 322 | 16 | 284 | 627 | 505 | 3.15 |
| 389 | 19 | 338 | 683 | 564 | 3.47 |
| 425 | 20 | 380 | 715 | 609 | 3.73 |
| 463 | 23 | 397 | 747 | 658 | 4.04 |
| 522 | 25 | 411 | 775 | 690 | 4.24 |
| 578 | 27 | 429 | 830 | 741 | 4.40 |
| 622 | 29 | 446 | 887 | 797 | 4.61 |
| 680 | 31 | 491 | 929 | 848 | 4.91 |
| 776 | 35 | 590 | 1,033 | 955 | 5.67 |

| Value and Cost of Production | | | Profitability | | | |
|---|---|---|---|---|---|---|
| | | | Net Farm Income | | | |
| Milk Receipts Per Cow | Oper. Cost Milk Per Cwt. | Total Cost Production Per Cwt. | With Apprec. | Without Apprec. | Labor & Mgmt. Income Per Farm | Per Oper. |
| (9) | (9) | (9) | (3) | (3) | (3) | (3) |
| $2,900 | $ 6.73 | $10.94 | $277,840 | $227,537 | $163,935 | $122,334 |
| 2,631 | 8.21 | 11.91 | 144,680 | 122,770 | 71,851 | 48,890 |
| 2,554 | 9.03 | 12.38 | 111,557 | 89,415 | 47,475 | 35,630 |
| 2,424 | 9.30 | 12.81 | 94,081 | 67,102 | 36,270 | 23,042 |
| 2,350 | 9.47 | 13.21 | 79,443 | 55,090 | 21,997 | 16,870 |
| 2,257 | 9.79 | 13.53 | 70,133 | 44,237 | 13,125 | 10,248 |
| 2,169 | 10.13 | 13.78 | 54,017 | 27,750 | 122 | -210 |
| 2,104 | 10.55 | 14.18 | 40,369 | 20,173 | -11,512 | -8,932 |
| 1,977 | 11.16 | 15.16 | 26,284 | 5,277 | -30,939 | -20,499 |
| 1,756 | 12.73 | 16.90 | -15,577 | -30,415 | -60,131 | -57,094 |

FARM BUSINESS SUMMARY BY HERD SIZE
414 New York Dairy Farms, 1986

| Item — Farm Size: | Less than 40 Cows | 40 to 54 Cows | 55 to 69 Cows | 70 to 84 Cows | 85 to 99 Cows |
|---|---|---|---|---|---|
| Number of farms | 32 | 87 | 76 | 60 | 46 |
| ACCRUAL EXPENSES | | | | | |
| Hired labor | $ 2,783 | $ 5,555 | $ 9,003 | $ 14,979 | $ 16,565 |
| Dairy grain & concentrate | 14,087 | 23,314 | 28,109 | 34,369 | 38,303 |
| Dairy roughage | 948 | 1,261 | 1,229 | 1,062 | 1,191 |
| Other livestock feed | 863 | 271 | 548 | 603 | 1,326 |
| Machine hire/rent/lease | 739 | 948 | 1,326 | 1,419 | 2,711 |
| Machine repairs/parts | 2,846 | 3,908 | 5,511 | 7,365 | 10,511 |
| Auto expense (farm share) | 641 | 456 | 449 | 477 | 771 |
| Fuel, oil & grease | 1,496 | 2,355 | 3,319 | 4,251 | 5,833 |
| Replacement livestock | 1,061 | 1,279 | 1,143 | 812 | 1,946 |
| Breeding | 1,077 | 1,372 | 2,053 | 2,303 | 2,303 |
| Veterinary & medicine | 974 | 1,702 | 2,840 | 2,826 | 3,997 |
| Milk marketing | 4,828 | 6,606 | 7,792 | 10,424 | 11,482 |
| Cattle lease/rent | 48 | 16 | 43 | 2 | 10 |
| Other livestock expense | 2,119 | 3,969 | 4,968 | 6,070 | 6,814 |
| Fertilizer & lime | 1,456 | 3,135 | 4,782 | 6,506 | 7,355 |
| Seeds & plants | 873 | 1,171 | 1,865 | 2,889 | 3,272 |
| Spray & other crop expense | 533 | 898 | 1,710 | 2,448 | 2,683 |
| Land/building/fence repair | 1,113 | 1,154 | 1,509 | 1,683 | 2,523 |
| Taxes & insurance | 3,743 | 4,807 | 6,408 | 7,257 | 9,077 |
| Telephone & electricity | 2,543 | 3,414 | 4,225 | 5,328 | 6,122 |
| Interest paid | 6,487 | 10,078 | 10,104 | 13,570 | 17,334 |
| Misc. (including rent) | 1,589 | 2,374 | 4,287 | 5,267 | 6,998 |
| Total Operating Expenses | $52,847 | $80,043 | $103,223 | $131,910 | $159,127 |
| Expansion livestock | 456 | 283 | 664 | 474 | 985 |
| Machinery depreciation | 4,657 | 7,458 | 10,906 | 13,388 | 16,449 |
| Building depreciation | 2,570 | 3,740 | 5,019 | 6,469 | 8,182 |
| Total Accrual Expenses | $60,530 | $91,524 | $119,812 | $152,241 | $184,743 |
| ACCRUAL RECEIPTS | | | | | |
| Milk sales | $58,125 | $89,125 | $121,096 | $149,343 | $180,096 |
| Dairy cattle | 5,294 | 6,411 | 9,025 | 10,559 | 14,433 |
| Dairy calves | 971 | 1,295 | 1,674 | 1,837 | 2,357 |
| Other livestock | 454 | 200 | 317 | 235 | 156 |
| Crops | 1,144 | 197 | 86 | 1,724 | 1,582 |
| Misc. receipts | 1,387 | 1,940 | 3,778 | 4,143 | 5,480 |
| Total Accrual Receipts | $67,375 | $99,168 | $135,976 | $167,841 | $204,104 |
| PROFITABILITY ANALYSIS | | | | | |
| Net farm income (w/o apprec.) | $6,845 | $7,644 | $16,164 | $15,600 | $19,361 |
| Net farm income (w/apprec.) | $14,484 | $17,774 | $25,724 | $31,524 | $40,888 |
| Labor & mgmt. income | $-2,533 | $-2,450 | $1,797 | $-1,674 | $518 |
| Number of operators | 1.00 | 1.13 | 1.32 | 1.22 | 1.37 |
| Labor & mgmt. inc./oper. | $-2,533 | $-2,168 | $1,361 | $-1,372 | $378 |
| Rate of return on equity capital (w/o apprec.) | -8.8% | -8.6% | -3.7% | -2.8% | -2.1% |
| Rate of return on equity capital (w/apprec.) | -3.2% | -2.1% | 0.1% | 2.5% | 4.2% |

FARM BUSINESS SUMMARY BY HERD SIZE
414 New York Dairy Farms, 1986

| Item — Farm Size: | 100 to 149 Cows | 150 to 199 Cows | 200 to 249 Cows | 250 or More Cows |
|---|---|---|---|---|
| Number of farms | 62 | 22 | 10 | 19 |
| ACCRUAL EXPENSES | | | | |
| Hired labor | $ 23,213 | $ 46,159 | $ 68,294 | $ 145,034 |
| Dairy grain & concentrate | 53,781 | 77,088 | 122,806 | 224,158 |
| Dairy roughage | 1,576 | 1,573 | 5,901 | 11,045 |
| Other livestock feed | 1,066 | 1,162 | 1,900 | 754 |
| Machine hire/rent/lease | 2,622 | 2,627 | 4,523 | 4,140 |
| Machine repairs/parts | 13,261 | 15,449 | 27,760 | 41,273 |
| Auto expense (farm share) | 558 | 550 | 262 | 1,383 |
| Fuel, oil & grease | 6,944 | 11,345 | 12,368 | 18,665 |
| Replacement livestock | 1,996 | 7,347 | 7,535 | 4,336 |
| Breeding | 3,629 | 4,076 | 7,832 | 12,224 |
| Veterinary & medicine | 4,985 | 6,909 | 12,373 | 23,522 |
| Milk marketing | 16,715 | 22,704 | 28,678 | 56,326 |
| Cattle lease/rent | 65 | 598 | 0 | 499 |
| Other livestock expense | 10,053 | 13,968 | 18,995 | 37,792 |
| Fertilizer & lime | 10,159 | 13,391 | 20,410 | 30,533 |
| Seeds & plants | 4,438 | 6,510 | 7,633 | 13,922 |
| Spray & other crop expense | 4,358 | 5,755 | 8,207 | 14,950 |
| Land/building/fence repair | 2,954 | 2,912 | 5,095 | 12,813 |
| Taxes & insurance | 10,320 | 14,487 | 20,465 | 25,083 |
| Telephone & electricity | 7,271 | 9,442 | 12,178 | 20,281 |
| Interest paid | 21,682 | 34,929 | 42,595 | 78,770 |
| Misc. (including rent) | 6,999 | 10,459 | 22,781 | 29,228 |
| Total Operating Expenses | $208,645 | $309,440 | $458,591 | $ 806,731 |
| Expansion livestock | 582 | 2,139 | 2,297 | 12,572 |
| Machinery depreciation | 20,893 | 26,190 | 37,063 | 52,995 |
| Building depreciation | 9,226 | 15,992 | 20,451 | 36,105 |
| Total Accrual Expenses | $239,346 | $353,761 | $518,402 | $ 908,403 |
| ACCRUAL RECEIPTS | | | | |
| Milk sales | $245,627 | $334,063 | $474,437 | $ 902,482 |
| Dairy cattle | 18,626 | 28,784 | 42,300 | 77,186 |
| Dairy calves | 3,038 | 3,468 | 4,742 | 9,618 |
| Other livestock | 345 | 1,275 | 9,333 | 877 |
| Crops | 3,668 | 5,490 | 4,850 | 16,858 |
| Misc. receipts | 7,122 | 14,311 | 25,621 | 24,628 |
| Total Accrual Receipts | $278,426 | $387,391 | $561,283 | $1,031,649 |
| PROFITABILITY ANALYSIS | | | | |
| Net farm income (w/o apprec.) | $39,080 | $33,630 | $42,881 | $123,246 |
| Net farm income (w/apprec.) | $65,839 | $58,481 | $65,595 | $163,623 |
| Labor & mgmt. income | $14,011 | $5,359 | $7,205 | $65,171 |
| Number of operators | 1.56 | 1.45 | 1.50 | 1.54 |
| Labor & mgmt. inc./oper. | $8,981 | $3,696 | $4,803 | $42,319 |
| Rate of return on equity capital (w/o apprec.) | 1.5% | 0.7% | 1.8% | 7.1% |
| Rate of return on equity capital (w/apprec.) | 7.3% | 5.3% | 5.1% | 10.6% |

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
414 New York Dairy Farms, 1986

| Farms with: | Less than 40 Cows | | 40 to 54 Cows | | 55 to 69 Cows | |
|---|---|---|---|---|---|---|
| Item | Jan. 1 | Dec. 31 | Jan. 1 | Dec. 31 | Jan. 1 | Dec. 31 |
| ASSETS | | | | | | |
| Farm cash/chkg./sav. | $ 1,986 | $ 2,198 | $ 1,938 | $ 2,701 | $ 2,526 | $ 3,408 |
| Accounts receivable | 4,661 | 4,646 | 7,038 | 7,400 | 10,126 | 10,700 |
| Feed & supplies | 10,565 | 11,503 | 16,819 | 16,887 | 25,547 | 25,019 |
| Livestock* | 35,537 | 37,823 | 50,999 | 54,104 | 72,821 | 74,528 |
| Machinery & equipment* | 40,675 | 41,786 | 54,251 | 54,042 | 76,061 | 76,061 |
| FLB & PCA stock | 893 | 874 | 1,522 | 1,645 | 1,584 | 1,560 |
| Coop stocks & cert. | 1,697 | 1,905 | 1,637 | 1,879 | 2,951 | 2,984 |
| Land & buildings* | 116,480 | 119,878 | 147,042 | 150,445 | 180,616 | 187,073 |
| Total Farm Assets | $212,494 | $220,613 | $281,246 | $289,103 | $372,232 | $381,333 |
| Pers. cash/chkg./sav. | $ 7,733 | $ 7,940 | $ 5,478 | $ 5,390 | $ 4,292 | $ 4,848 |
| Cash value of life ins. | 2,634 | 2,007 | 2,977 | 3,252 | 3,476 | 3,842 |
| Nonfarm real estate | 15,208 | 19,250 | 1,956 | 1,964 | 18,045 | 17,580 |
| Auto (personal share) | 1,866 | 1,923 | 2,398 | 2,906 | 2,870 | 3,669 |
| Stocks & bonds | 866 | 773 | 2,262 | 3,430 | 17,622 | 19,198 |
| Household furnishings | 8,083 | 8,167 | 8,936 | 9,139 | 6,732 | 7,755 |
| All other | 894 | 752 | 3,105 | 2,782 | 1,889 | 2,015 |
| Total Nonfarm Assets** | $ 37,285 | $ 40,812 | $ 27,113 | $ 28,865 | $ 54,925 | $ 58,908 |
| Total Farm & Nonfarm Assets | $249,779 | $261,425 | $308,359 | $317,968 | $427,157 | $440,241 |
| LIABILITIES | | | | | | |
| Accounts payable | $ 2,287 | $ 2,224 | $ 3,367 | $ 4,389 | $ 3,650 | $ 4,504 |
| Operating debt | 597 | 811 | 1,315 | 963 | 1,468 | 1,366 |
| Short term | 1,638 | 1,406 | 1,106 | 1,704 | 1,420 | 1,738 |
| Intermediate*** | 20,880 | 20,413 | 43,165 | 43,747 | 44,828 | 43,302 |
| Long term* | 56,147 | 53,569 | 80,763 | 78,938 | 77,843 | 77,741 |
| Total Farm Liab. | $ 81,550 | $ 78,423 | $129,716 | $129,741 | $129,208 | $128,651 |
| Tot. Nonfarm Liab.** | 1,354 | 981 | 1,046 | 1,083 | 1,917 | 2,034 |
| Total Farm & Nonfarm Liabilities | $ 82,904 | $ 79,404 | $130,762 | $130,824 | $131,125 | $130,685 |
| Farm Net Worth (Equity Capital) | $130,944 | $142,190 | $151,530 | $159,362 | $243,024 | $252,682 |
| Farm & Nonfarm Net Worth | $166,875 | $182,021 | $177,597 | $187,144 | $296,032 | $309,556 |

| FINANCIAL MEASURES | Less than 40 Cows | 40 to 54 Cows | 55 to 69 Cows |
|---|---|---|---|
| Percent equity | 64% | 55% | 66% |
| Debt/asset ratio-long term | 0.45 | 0.52 | 0.42 |
| Debt/asset ratio-inter. & current | 0.25 | 0.37 | 0.26 |
| Change in net worth with apprec. | $11,246 | $7,832 | $9,658 |
| Total farm debt per cow | $2,376 | $2,703 | $2,075 |
| Debt payments made per cow | $600 | $526 | $446 |
| Debt payments as % of milk sales | 33% | 28% | 22% |
| Amount avail. for debt service | $15,290 | $22,426 | $32,964 |
| Cash flow coverage ratio for 1986 | 1.25 | 1.04 | 1.33 |

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1986.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
414 New York Dairy Farms, 1986

| Farms with: | 70 to 84 Cows | | 85 to 99 Cows | |
|---|---|---|---|---|
| Item | Jan. 1 | Dec. 31 | Jan. 1 | Dec. 31 |
| ASSETS | | | | |
| Farm cash/chkg./savings | $ 3,624 | $ 4,311 | $ 4,152 | $ 4,674 |
| Accounts receivable | 13,182 | 13,731 | 15,052 | 16,928 |
| Feed & supplies | 32,473 | 33,003 | 41,277 | 41,802 |
| Livestock* | 86,471 | 91,004 | 104,001 | 109,208 |
| Machinery & equipment* | 92,371 | 93,896 | 116,081 | 117,533 |
| FLB & PCA stock | 3,140 | 3,362 | 3,246 | 2,959 |
| Coop stocks & cert. | 3,587 | 4,016 | 4,055 | 5,362 |
| Land & buildings* | 226,185 | 232,659 | 244,511 | 257,618 |
| Total Farm Assets | $461,034 | $475,981 | $532,375 | $556,084 |
| Pers. cash/chkg./savings | $ 11,952 | $ 12,071 | $ 5,906 | $ 6,958 |
| Cash value of life ins. | 4,330 | 4,257 | 3,120 | 3,430 |
| Nonfarm real estate | 8,671 | 8,474 | 3,577 | 3,423 |
| Auto (personal share) | 3,198 | 3,312 | 2,175 | 2,536 |
| Stocks & bonds | 4,062 | 4,383 | 3,912 | 4,181 |
| Household furnishings | 9,168 | 9,259 | 7,281 | 7,788 |
| All other | 4,362 | 3,032 | 4,423 | 5,554 |
| Total Nonfarm Assets** | $ 45,745 | $ 44,789 | $ 30,394 | $ 33,869 |
| Total Farm & Nonfarm Assets | $506,779 | $520,770 | $562,769 | $589,953 |
| LIABILITIES | | | | |
| Accounts payable | $ 5,836 | $ 6,211 | $ 5,443 | $ 5,899 |
| Operating debt | 1,932 | 1,840 | 3,774 | 3,883 |
| Short term | 1,955 | 2,047 | 827 | 1,540 |
| Intermediate*** | 55,996 | 57,039 | 78,119 | 80,681 |
| Long term* | 98,649 | 94,722 | 113,871 | 111,042 |
| Total Farm Liab. | $164,368 | $161,859 | $202,034 | $203,045 |
| Total Nonfarm Liab.** | 1,213 | 800 | 115 | 77 |
| Total Farm & Nonfarm Liabilities | $165,581 | $162,659 | $202,149 | $203,122 |
| Farm Net Worth (Equity Capital) | $296,666 | $314,122 | $330,342 | $353,039 |
| Farm & Nonfarm Net Worth | $341,198 | $358,111 | $360,620 | $386,831 |

| FINANCIAL MEASURES | 70 to 84 Cows | 85 to 99 Cows |
|---|---|---|
| Percent equity | 66% | 63% |
| Debt/asset ratio-long term | 0.41 | 0.43 |
| Debt/asset ratio-inter. & current | 0.28 | 0.31 |
| Change in net worth with apprec. | $17,456 | $22,698 |
| Total farm debt per cow | $2,102 | $2,207 |
| Debt payments made per cow | $484 | $465 |
| Debt payments as % of milk sales | 24% | 23% |
| Amount avail. for debt service | $34,979 | $42,858 |
| Cash flow coverage ratio for 1986 | 1.12 | 1.18 |

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1986.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
414 New York Dairy Farms, 1986

| Farms with: | 100 to 149 Cows | | 150 to 199 Cows | |
|---|---|---|---|---|
| Item | Jan. 1 | Dec. 31 | Jan. 1 | Dec. 31 |
| ASSETS | | | | |
| Farm cash/chkg./savings | $ 5,440 | $ 6,624 | $ 3,576 | $ 4,521 |
| Accounts receivable | 20,835 | 22,677 | 27,738 | 33,021 |
| Feed & supplies | 58,288 | 60,473 | 73,223 | 74,490 |
| Livestock* | 142,725 | 147,952 | 188,540 | 199,263 |
| Machinery & equipment* | 128,625 | 127,761 | 167,695 | 172,506 |
| FLB & PCA stock | 5,968 | 6,358 | 11,845 | 11,879 |
| Coop stocks & cert. | 9,312 | 9,610 | 9,224 | 10,601 |
| Land & buildings* | 322,502 | 343,761 | 417,368 | 427,326 |
| Total Farm Assets | $693,695 | $725,216 | $899,209 | $933,607 |
| Pers. cash/chkg./savings | $ 4,272 | $ 4,744 | $ 7,433 | $ 7,561 |
| Cash value of life ins. | 4,278 | 4,382 | 6,743 | 8,120 |
| Nonfarm real estate | 9,270 | 11,871 | 26,500 | 26,000 |
| Auto (personal share) | 2,762 | 3,248 | 4,370 | 4,780 |
| Stocks & bonds | 6,834 | 7,596 | 12,388 | 12,524 |
| Household furnishings | 8,716 | 8,689 | 14,790 | 14,850 |
| All other | 3,265 | 3,429 | 5,050 | 17,770 |
| Total Nonfarm Assets** | $ 39,398 | $ 43,960 | $ 77,274 | $ 91,605 |
| Total Farm & Nonfarm Assets | $733,093 | $769,176 | $976,483 | $1,025,212 |
| LIABILITIES | | | | |
| Accounts payable | $ 5,090 | $ 5,192 | $ 13,306 | $ 15,005 |
| Operating debt | 4,056 | 3,204 | 9,115 | 8,569 |
| Short term | 3,768 | 4,257 | 3,209 | 6,496 |
| Intermediate*** | 99,966 | 96,334 | 181,693 | 179,730 |
| Long term* | 137,951 | 132,876 | 161,152 | 168,331 |
| Total Farm Liab. | $250,831 | $241,863 | $368,475 | $ 378,130 |
| Total Nonfarm Liab.** | 1,546 | 2,545 | 11,759 | 10,833 |
| Total Farm & Nonfarm Liabilities | $252,377 | $244,408 | $380,234 | $ 388,963 |
| Farm Net Worth (Equity Capital) | $442,864 | $483,354 | $530,734 | $ 555,477 |
| Farm & Nonfarm Net Worth | $480,716 | $524,768 | $596,249 | $ 636,249 |

| FINANCIAL MEASURES | 100 to 149 Cows | 150 to 199 Cows |
|---|---|---|
| Percent equity | 67% | 59% |
| Debt/asset ratio-long term | 0.39 | 0.39 |
| Debt/asset ratio-inter. & current | 0.29 | 0.41 |
| Change in net worth with apprec. | $40,489 | $24,743 |
| Total farm debt per cow | $1,982 | $2,136 |
| Debt payments made per cow | $532 | $536 |
| Debt payments as % of milk sales | 26% | 28% |
| Amount avail. for debt service | $62,953 | $81,720 |
| Cash flow coverage ratio for 1986 | 1.20 | 1.04 |

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1986.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
414 New York Dairy Farms, 1986

| Farms with: | 200 to 249 Cows | | More than 250 Cows | |
|---|---|---|---|---|
| Item | Jan. 1 | Dec. 31 | Jan. 1 | Dec. 31 |
| ASSETS | | | | |
| Farm cash/chkg./savings | $ 5,182 | $ 5,285 | $ 3,098 | $ 5,509 |
| Accounts receivable | 47,222 | 48,353 | 77,139 | 88,644 |
| Feed & supplies | 110,301 | 112,044 | 197,236 | 207,932 |
| Livestock* | 272,218 | 280,550 | 442,895 | 466,645 |
| Machinery & equipment* | 203,740 | 207,527 | 265,465 | 274,285 |
| FLB & PCA stock | 14,501 | 14,456 | 15,298 | 14,356 |
| Coop stocks & cert. | 21,898 | 29,283 | 32,024 | 53,851 |
| Land & buildings* | 486,214 | 495,339 | 882,690 | 934,130 |
| Total Farm Assets | $1,161,276 | $1,192,837 | $1,915,845 | $2,045,352 |
| Pers. cash/chkg./savings | $ 7,629 | $ 8,086 | $ 1,741 | $ 3,824 |
| Cash value of life ins. | 17,877 | 6,118 | 4,170 | 4,166 |
| Nonfarm real estate | 17,429 | 17,429 | 5,889 | 5,889 |
| Auto (personal share) | 5,429 | 7,357 | 1,046 | 1,889 |
| Stocks & bonds | 3,643 | 5,286 | 7,208 | 8,332 |
| Household furnishings | 6,714 | 7,714 | 4,000 | 4,000 |
| All other | 10,493 | 17,023 | 14,377 | 12,205 |
| Total Nonfarm Assets** | $ 69,213 | $ 69,012 | $ 38,430 | $ 40,305 |
| Total Farm & Nonfarm Assets | $1,230,489 | $1,261,849 | $1,954,275 | $2,085,657 |
| LIABILITIES | | | | |
| Accounts payable | $ 15,676 | $ 9,132 | $ 15,482 | $ 23,393 |
| Operating debt | 6,258 | 5,947 | 27,204 | 50,242 |
| Short term | 2,925 | 7,172 | 12,870 | 13,488 |
| Intermediate*** | 215,166 | 243,542 | 364,772 | 349,232 |
| Long term* | 232,444 | 215,211 | 380,025 | 428,144 |
| Total Farm Liab. | $ 472,468 | $ 481,004 | $ 800,354 | $ 864,499 |
| Total Nonfarm Liab.** | 0 | 2,217 | 0 | 0 |
| Total Farm & Nonfarm Liabilities | $ 472,468 | $ 483,221 | $ 800,354 | $ 864,499 |
| Farm Net Worth (Equity Capital) | $ 688,808 | $ 711,833 | $1,115,491 | $1,180,853 |
| Farm & Nonfarm Net Worth | $ 758,021 | $ 778,628 | $1,153,921 | $1,221,158 |

| FINANCIAL MEASURES | 200 to 249 Cows | More than 250 Cows |
|---|---|---|
| Percent equity | 60% | 58% |
| Debt/asset ratio-long term | 0.43 | 0.46 |
| Debt/asset ratio-inter. & current | 0.38 | 0.39 |
| Change in net worth with apprec. | $23,026 | $65,361 |
| Total farm debt per cow | $2,073 | $2,194 |
| Debt payments made per cow | $638 | $769 |
| Debt payments as % of milk sales | 30% | 33% |
| Amount avail. for debt service | $96,415 | $206,413 |
| Cash flow coverage ratio for 1986 | 0.98 | 1.25 |

*Includes discounted lease payments.
**Average of farms reporting nonfarm assets and liabilities for 1986.
***Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

SELECTED BUSINESS FACTORS BY HERD SIZE
414 New York Dairy Farms, 1986

| Item / Farms with: | Less than 40 Cows | 40 to 54 Cows | 55 to 69 Cows | 70 to 84 Cows | 85 to 99 Cows |
|---|---|---|---|---|---|
| Number of farms | 32 | 87 | 76 | 60 | 46 |
| Cropping Program Analysis | | | | | |
| Total Tillable acres | 117 | 162 | 198 | 266 | 301 |
| Tillable acres rented* | 28 | 58 | 62 | 91 | 114 |
| Hay crop acres* | 76 | 100 | 110 | 148 | 168 |
| Corn silage acres* | 14 | 30 | 38 | 48 | 56 |
| Hay crop, tons DM/acre | 2.1 | 2.2 | 2.6 | 2.6 | 2.7 |
| Corn silage, tons/acre | 11.8 | 12.3 | 13.1 | 13.6 | 13.7 |
| Oats, bushels/acre | 43.3 | 60.5 | 67.1 | 70.1 | 64.4 |
| Forage DM per cow, tons | 6.9 | 7.4 | 7.6 | 8.0 | 8.0 |
| Tillable acres/cow | 3.6 | 3.4 | 3.3 | 3.5 | 3.3 |
| Fert. & lime exp./til. acre | $12.43 | $19.38 | $24.13 | $24.42 | $24.42 |
| Total machinery costs | $12,414 | $17,793 | $25,291 | $31,515 | $42,081 |
| Machinery cost/tillable acre | $106 | $110 | $128 | $118 | $140 |
| Dairy Analysis | | | | | |
| Number of cows | 32 | 47 | 61 | 76 | 90 |
| Number of heifers | 25 | 36 | 50 | 62 | 73 |
| Milk sold, lbs. | 470,234 | 716,437 | 966,374 | 1,185,995 | 1,430,399 |
| Milk sold/cow, lbs. | 14,525 | 15,180 | 15,825 | 15,605 | 15,840 |
| Operating cost of prod. milk/cwt. | $9.27 | $9.77 | $9.14 | $9.56 | $9.45 |
| Total cost of prod. milk/cwt. | $16.34 | $15.40 | $14.75 | $14.57 | $14.29 |
| Price/cwt. milk sold | $12.36 | $12.44 | $12.53 | $12.59 | $12.59 |
| Purchased dairy feed/cow | $464 | $521 | $480 | $466 | $437 |
| Purchased dairy feed/cwt. milk | $3.20 | $3.43 | $3.04 | $2.99 | $2.76 |
| Purchased grain & conc. as % of milk receipts | 24% | 26% | 23% | 23% | 21% |
| Purchased feed & crop expense/cwt. milk | $3.81 | $4.16 | $3.90 | $3.99 | $3.69 |
| Capital Efficiency | | | | | |
| Farm capital/worker | $128,138 | $141,878 | $155,055 | $163,243 | $184,485 |
| Farm capital/cow | 6,689 | 6,042 | 6,170 | 6,165 | 6,027 |
| Farm capital/til. acre owned | 2,433 | 2,742 | 2,750 | 2,677 | 2,910 |
| Real estate/cow | 3,650 | 3,152 | 3,011 | 3,019 | 2,780 |
| Machinery investment/cow | 1,274 | 1,147 | 1,246 | 1,225 | 1,293 |
| Capital turnover, years | 2.89 | 2.61 | 2.59 | 2.55 | 2.41 |
| Labor Efficiency | | | | | |
| Worker equivalent | 1.69 | 2.01 | 2.43 | 2.87 | 2.95 |
| Operator/manager equivalent | 1.00 | 1.13 | 1.32 | 1.22 | 1.37 |
| Milk sold/worker, lbs. | 278,245 | 356,436 | 397,685 | 413,239 | 484,881 |
| Cows/worker | 20 | 23 | 25 | 26 | 31 |
| Work units/worker | 204 | 247 | 266 | 287 | 327 |
| Labor cost/cow | $480 | $411 | $400 | $388 | $357 |
| Labor cost/tillable acre | $133 | $120 | $123 | $111 | $107 |

*Average of all farms, not only those reporting data.

SELECTED BUSINESS FACTORS BY HERD SIZE
414 New York Dairy Farms, 1986

| Item / Farms with: | 100 to 149 Cows | 150 to 199 Cows | 200 to 249 Cows | 250 or More Cows |
|---|---|---|---|---|
| Number of farms | 62 | 22 | 10 | 19 |
| Cropping Program Analysis | | | | |
| Total tillable acres | 364 | 506 | 678 | 839 |
| Tillable acres rented* | 126 | 202 | 277 | 267 |
| Hay crop acres* | 180 | 228 | 268 | 310 |
| Corn silage acres* | 81 | 129 | 158 | 351 |
| Hay crop, tons DM/acre | 3.0 | 2.9 | 3.1 | 3.5 |
| Corn silage, tons/acre | 14.5 | 13.8 | 15.5 | 16.1 |
| Oats, bushels/acre | 67.4 | 55.4 | 50.0 | 57.5 |
| Forage DM per cow, tons | 7.9 | 7.6 | 7.4 | 7.8 |
| Tillable acres/cow | 3.1 | 3.0 | 3.0 | 2.2 |
| Fert. & lime exp./til. acre | $27.87 | $26.45 | $30.13 | $36.38 |
| Total machinery costs | $50,654 | $64,609 | $92,196 | $131,927 |
| Machinery cost/tillable acre | $139 | $128 | $136 | $157 |
| Dairy Analysis | | | | |
| Number of cows | 119 | 172 | 226 | 382 |
| Number of heifers | 102 | 139 | 176 | 314 |
| Milk sold, lbs. | 1,917,759 | 2,608,778 | 3,744,053 | 7,104,584 |
| Milk sold/cow, lbs. | 16,055 | 15,199 | 16,552 | 18,593 |
| Operating cost of prod. milk/cwt. | $9.17 | $9.82 | $9.93 | $9.54 |
| Total cost of prod. milk/cwt. | $13.65 | $13.71 | $13.26 | $12.37 |
| Price/cwt. milk sold | $12.81 | $12.81 | $12.67 | $12.70 |
| Purchased dairy feed/cow | $463 | $458 | $569 | $616 |
| Purchased dairy feed/cwt. milk | $2.89 | $3.02 | $3.44 | $3.31 |
| Purchased grain & conc. as % of milk receipts | 22% | 23% | 26% | 25% |
| Purchased feed & crop expense/cwt. milk | $3.87 | $4.00 | $4.41 | $4.15 |
| Capital Efficiency | | | | |
| Farm capital/worker | $198,727 | $196,654 | $201,206 | $211,602 |
| Farm capital/cow | 5,939 | 5,339 | 5,204 | 5,183 |
| Farm capital/til. acre owned | 2,968 | 3,014 | 2,943 | 3,463 |
| Real estate/cow | 2,789 | 2,461 | 2,170 | 2,377 |
| Machinery investment/cow | 1,073 | 991 | 909 | 706 |
| Capital turnover, years | 2.32 | 2.22 | 2.02 | 1.85 |
| Labor Efficiency | | | | |
| Worker equivalent | 3.57 | 4.66 | 5.85 | 9.36 |
| Operator/manager equivalent | 1.56 | 1.45 | 1.50 | 1.54 |
| Milk sold/worker, lbs. | 537,187 | 559,824 | 640,009 | 759,037 |
| Cows/worker | 33 | 37 | 39 | 41 |
| Work units/worker | 355 | 385 | 407 | 422 |
| Labor cost/cow | $343 | $362 | $372 | $423 |
| Labor cost/tillable acre | $113 | $123 | $124 | $192 |

*Average of all farms, not only those reporting data.

# IDENTIFY AND SET GOALS

If businesses are to be successful, they must have direction. Written goals help provide businesses with an identifiable direction over both the long and the short term. Goal setting is as important on a dairy farm as it is in other businesses. Written goals are a tool which farm operators can use to ensure that the business continues to move in the proper direction.

1. Goals should be specific.

2. Goals should be realistic and achievable.

3. The achievement of the goal should be verifiable.

4. You should designate a time when each goal will be achieved.

Goal setting on a dairy farm does not have to be a complex process. In many cases it provides a process for writing down and agreeing on goals that you have already given some thought to. It is also important to remember that once you write out your goals they are not cast in concrete. If a change takes place which has a major impact on the farm business, the goals should be reworked to accommodate that change. Refer to your goals as often as necessary to keep the farm business progressing.

It is important to identify both long and short range goals when looking at the future of your farm business.

A suggested format for writing out your goals is as follows:

a. Begin with a general philosophy statement which incorporates both business and family goals.

b. Identify 4-6 long range goals.

c. Identify specific short range goals for a given time period (i.e., one year).

## Worksheet for Setting Goals

I. General Philosophy and Objectives

_____

_____

_____

_____

_____

_____

_____

_____

_____

Worksheet for Setting Goals (continued)

II. Long Range Goals (require two or more years to achieve)

III. Short Range Goals (possible to achieve in one or two years).

| What | How | When |
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NOTE: Once long and short range goals have been identified, it is helpful to rank them in order of priority.

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