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# DAIRY FARM MANAGEMENT

## BUSINESS SUMMARY NEW YORK 1989

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## ABSTRACT

This summary and analysis of 409 New York dairy farm businesses uses up to date methods of cash and accrual accounting to measure cash flow, farm profitability, and financial growth. Traditional methods of analyzing dairy farm businesses are combined with new evaluation techniques to show the relationship between good management performance and financial success. These farms which are above average in size and management compared to all New York dairy farms averaged 104 cows per farm and 17,259 pounds of milk sold per cow in 1989. Net farm income excluding appreciation, which is the return to the operator's labor, management, capital, and other unpaid family labor, averaged \$49,575 per farm. The rate of return to all capital invested in the farm business averaged 9.4 percent in 1989.

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## INTRODUCTION

Dairy farm business summary (DFBS) projects are an integral part of Cornell Cooperative Extension's agriculture program in New York State. The Department of Agricultural Economics of the New York State College of Agriculture and Life Sciences, and County Extension staff, cooperate in sponsoring DFBS projects. In 1989, about 500 dairy farmers participated. Business records submitted by dairy farmers from 48 counties in the State provide the basis for continued Extension educational programs, data for applied research studies, and for use in the classroom. Regardless of the use of the data, confidentiality of individual farm data is maintained.

Cooperative Extension agents and specialists enroll the cooperators and collect the records. Each cooperator receives a detailed summary and analysis of his or her business. More than 90 percent of the agents and specialists are using a microcomputer in their offices and/or on the farm to process and return the individual farm business reports for immediate use. Regional reports are prepared by Cornell faculty and used by DFBS cooperators and other farmers to compare their farm with regional averages. The DFBS program helps farmers develop managerial skills and solve business management problems.

Records from the eight regions of the State have been combined and the total data set analyzed as an applied research study of the effects of changes in price, technology, and management on dairy farm incomes (Figure 1, page 2). This research provides current farm business information for use by dairy farmers, Cooperative Extension staff, teachers, and others concerned with the New York dairy industry.

### Farms Included

Data from 409 specialized dairy farms are included in the main body of this report. These farms do NOT represent the "average" for all dairy farms in the State. Participation was on a voluntary basis, therefore, not all areas or types of operations were equally represented (Figure 1, page 2). The 409 specialized dairy farms represent a cross section of better than average commercial dairy farm owner-operators in the State. Dairy farm renters, dairy-cash crop farmers with crop sales exceeding 10 percent of milk sales, and part-time dairy operators have been excluded from the main body of this report. Dairy farm renters are summarized separately in the supplemental information section of the publication.

### Features

Accrual accounting procedures have been used to provide the most accurate accounting of farm receipts and farm expenses for measuring farm profits. An explanation of these procedures is found on page 6. Four measures of farm profits are calculated on pages 9 through 11. The balance sheet and cash flow statement are featured on pages 12 through 16.

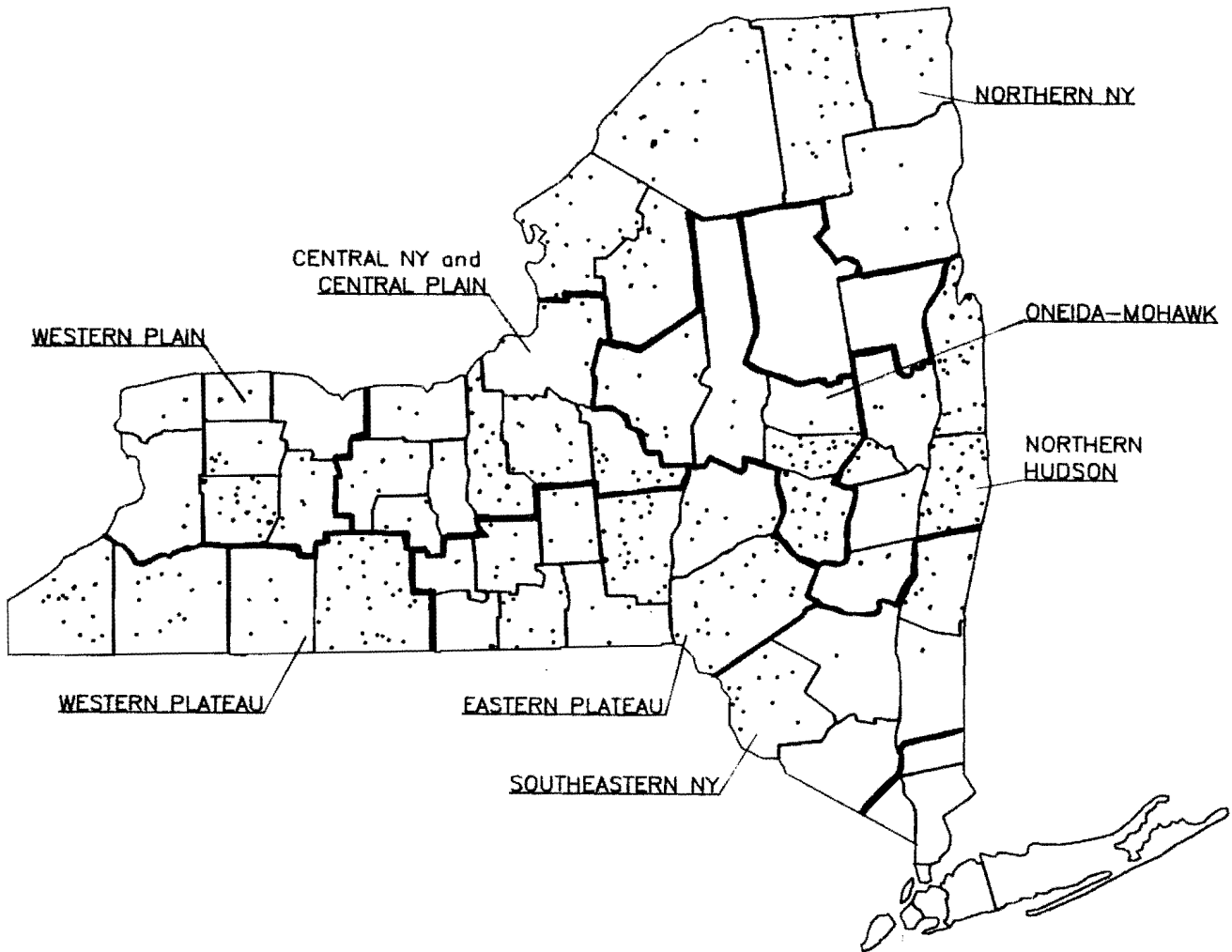
The dairy program analysis includes data on the costs of producing milk (pages 20-24) and separate farm business charts using data from freestall farms versus conventional stall dairy farms (pages 44-48).

### Acknowledgements

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Figure 1.

LOCATION OF THE 409 NEW YORK DAIRY FARMS  
IN THE 1989 DAIRY FARM BUSINESS SUMMARY



1989 Regional Summary Publications

| <u>Region</u>                       | <u>Publications</u> | <u>Author(s)</u>                                                                                        |
|-------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------|
| Northern New York                   | A.E. Ext. 90-8      | Stuart F. Smith & Linda D. Putnam                                                                       |
| Western Plain Region                | A.E. Ext. 90-9      | Stuart F. Smith & Linda D. Putnam                                                                       |
| Central New York<br>& Central Plain | A.E. Ext. 90-10     | Wayne A. Knoblauch & Linda D. Putnam                                                                    |
| Eastern Plateau Region              | A.E. Ext. 90-11     | Robert A. Milligan, Linda D. Putnam,<br>Carl A. Crispell, Gerald A. LeClair,<br>& William H. Gengenbach |
| Oneida-Mohawk Region                | A.E. Ext. 90-13     | Eddy L. LaDue, Mark E. Anibal &<br>Jacqueline M. Mierek                                                 |
| Western Plateau Region              | A.E. Ext. 90-14     | George L. Casler                                                                                        |
| Northern Hudson Region              | A.E. Ext. 90-15     | Stuart F. Smith & Linda D. Putnam                                                                       |
| Southeastern New York               | A.E. Ext. 90-16     | Stuart F. Smith & Linda D. Putnam                                                                       |

### GROWTH AND PROGRESS ON NEW YORK DAIRY FARMS

Two hundred and nine farmers have participated in the dairy farm business summary for each of the years 1986, 1987, 1988, and 1989. Over this four year period, milk sold per farm increased by nearly 367,000 pounds or 21 percent as average herd size increased by 13 cows or 12 percent, and milk output per cow increased 1,288 pounds or eight percent.

Cow numbers, and milk output per farm and per cow, increased at relatively steady rates during this four year period although milk sold increased faster than herd size. The size of the farm labor force grew eight percent from 1986 to 1989 with one-half the increase occurring in the last year. Milk sold per worker increased 12 percent but grew at a decreasing rate over the four year period.

Crop yields were affected by a variety of climatic conditions during this four year period. The most serious were the 1988 drought and poor planting and harvesting conditions in 1989. Much of the 1988 and 1989 increases in feed and crop expenses can be attributed to below normal production of forage crop quantity and quality.

Feed costs have increased dramatically since 1986 with the largest increase occurring in 1988. Twenty-seven percent of 1988 milk receipts or \$608 per cow were used to purchase dairy grains and concentrates. Feed and crop expenses per hundredweight of milk sold have increased 22 percent in four years and jumped 18 percent from 1987 to 1989. Feed costs have not been this high since the early 1980's and have not increased as rapidly since 1973.

The average operating costs of producing milk declined four percent from 1986 to 1987 then increased 14 percent from 1987 to 1989. Total costs per hundredweight followed the same pattern. The average price received per hundredweight of milk sold increased from \$12.72 to \$14.56 or 14.5 percent over the total time period. The margin or difference between the total costs of producing milk and the average price received improved from \$-0.93 per hundredweight in 1986 to \$+0.12 per hundredweight in 1989. This is the first positive return or profit over total costs since 1979.

Capital investments per cow have increased by almost 10 percent between 1986 and 1989. Machinery and equipment investments per cow have increased six percent in 1989 over 1988 and eight percent over 1986 and 1987. Real estate investments per cow have steadily increased. Capital turnover at 2.00 years in 1989 was at its lowest and healthiest point during this four year period.

Average net farm income without appreciation increased 103 percent over the four year period with significant improvement occurring in 1987 and 1989. The increase in labor and management income per operator has been more dramatic although the pattern is similar. Rates of return on farm capital increased in 1989 and now exceed the levels achieved in 1987. The 11.1 percent return on equity capital is the highest average return achieved since 1980.

Over this period net worth has exhibited a substantial 36 percent increase from \$394,638 in 1986 to \$538,319 in 1989. The debt to asset ratio has improved from 0.37 in 1986 to 0.31 in 1989. Farm debt per cow was \$1,968 in 1989, down 4.6 percent from 1988 and eight percent from 1986.

In 1989, these 209 farms were larger, producing more milk, more efficient, and financially stronger than in the past three years. See the Appendix beginning on page 61 for a description of the economic environment facing New York dairy farmers.



Table 1. COMPARISON OF FARM BUSINESS SUMMARIES FOR 1986-1989  
Same 209 New York Dairy Farms

| Selected Factors                                       | 1986      | 1987      | 1988      | 1989      |
|--------------------------------------------------------|-----------|-----------|-----------|-----------|
| <u>Size of Business</u>                                |           |           |           |           |
| Average number of cows                                 | 107       | 112       | 116       | 120       |
| Average number of heifers                              | 87        | 87        | 90        | 93        |
| Milk sold, cwt.                                        | 17,462    | 18,649    | 19,886    | 21,125    |
| Worker equivalent                                      | 3.28      | 3.34      | 3.40      | 3.54      |
| Total tillable acres                                   | 318       | 321       | 331       | 337       |
| <u>Rates of Production</u>                             |           |           |           |           |
| Milk sold per cow, pounds                              | 16,374    | 16,732    | 17,207    | 17,662    |
| Hay DM per acre, tons                                  | 2.9       | 2.9       | 2.7       | 2.8       |
| Corn silage per acre, tons                             | 14.4      | 17.0      | 14.0      | 13.5      |
| <u>Labor Efficiency</u>                                |           |           |           |           |
| Cows per worker                                        | 33        | 33        | 34        | 34        |
| Milk sold per worker, pounds                           | 532,226   | 558,201   | 584,167   | 596,833   |
| <u>Cost Control</u>                                    |           |           |           |           |
| Grain & concentrate purchased as percent of milk sales | 23%       | 23%       | 27%       | 26%       |
| Dairy feed & crop expense per cwt. milk                | \$3.94    | \$4.07    | \$4.56    | \$4.81    |
| Labor & machinery costs per cow                        | \$792     | \$819     | \$834     | \$903     |
| Oper. cost of producing cwt. milk                      | \$9.47    | \$9.10    | \$9.42    | \$10.39   |
| Total cost of producing cwt. milk                      | \$13.65   | \$13.14   | \$13.37   | \$14.44   |
| Milk receipts per cwt. milk                            | \$12.72   | \$12.88   | \$13.07   | \$14.56   |
| <u>Capital Efficiency (avg. for year)</u>              |           |           |           |           |
| Farm capital per cow                                   | \$5,761   | \$5,883   | \$6,073   | \$6,317   |
| Machinery & equip. per cow                             | \$1,060   | \$1,060   | \$1,085   | \$1,145   |
| Real estate per cow                                    | \$2,723   | \$2,771   | \$2,832   | \$2,906   |
| Livestock investment per cow                           | \$1,154   | \$1,193   | \$1,247   | \$1,313   |
| Capital turnover, years                                | 2.27      | 2.11      | 2.15      | 2.00      |
| <u>Profitability</u>                                   |           |           |           |           |
| Net farm income w/o apprec.                            | \$29,298  | \$43,807  | \$45,911  | \$59,401  |
| Net farm income w/apprec.                              | \$45,289  | \$71,915  | \$66,765  | \$88,218  |
| Labor & management income per operator/manager         | \$6,438   | \$16,069  | \$15,758  | \$23,601  |
| Rate return on:                                        |           |           |           |           |
| equity capital w/apprec.                               | 5.0%      | 10.6%     | 8.2%      | 11.1%     |
| all capital w/apprec.                                  | 6.4%      | 9.6%      | 8.2%      | 10.4%     |
| all capital w/o apprec.                                | 3.8%      | 5.3%      | 5.2%      | 6.5%      |
| <u>Financial Summary, End Year</u>                     |           |           |           |           |
| Farm net worth                                         | \$394,638 | \$442,745 | \$479,467 | \$538,319 |
| Change in net worth w/apprec.                          | \$23,445  | \$46,111  | \$36,849  | \$53,364  |
| Debt to asset ratio                                    | 0.37      | 0.35      | 0.34      | 0.31      |
| Farm debt per cow                                      | \$2,141   | \$2,040   | \$2,062   | \$1,968   |

## SUMMARY AND ANALYSIS OF THE FARM BUSINESS

Business Characteristics and Resources Used

Recognition of important business characteristics and identification of the farm resources used is necessary for evaluating management performance. The combination of resources used and management practices employed is known as farm organization. Important farm business characteristics, the number of farms reporting these characteristics, and a listing of the average labor, land, and dairy cattle resources used in 1989 are presented in the following table.

Table 2. BUSINESS CHARACTERISTICS AND RESOURCES USED  
409 New York Dairy Farms, 1989

| <u>No. Dairy Livestock</u> | <u>Cows</u>   | <u>Heifers</u> | <u>Dairy Records</u>           | <u>Number</u>          | <u>Percent</u>               |
|----------------------------|---------------|----------------|--------------------------------|------------------------|------------------------------|
| Beginning of Year          | 103           | 82             | D.H.I.C.                       | 313                    | 77                           |
| End of Year                | 108           | 84             | Owner Sampler                  | 43                     | 10                           |
| Average for Year           | 104           | 83             | Other                          | 20                     | 5                            |
|                            |               |                | None                           | 33                     | 8                            |
| <u>Type of Business</u>    | <u>Number</u> | <u>Percent</u> | <u>Labor Force</u>             | <u>Average</u>         | <u>Percent</u>               |
| Sole Proprietorship        | 270           | 66             | Operators                      | 16.7 mo.               | 42                           |
| Partnership                | 118           | 29             | Family                         | 4.8 mo.                | 12                           |
| Corporation                | 28            | 5              | Family unpaid                  | 3.0 mo.                | 8                            |
|                            |               |                | Hired                          | 15.1 mo.               | 38                           |
|                            |               |                | Total Months                   | 39.6 mo.               | 100                          |
| <u>Barn Type</u>           | <u>Number</u> | <u>Percent</u> |                                |                        |                              |
| Stanchion                  | 231           | 56             |                                |                        |                              |
| Freestall                  | 150           | 37             |                                |                        |                              |
| Combination                | 28            | 7              |                                |                        |                              |
| <u>Milking System</u>      | <u>Number</u> | <u>Percent</u> | <u>Operators</u> (total = 569) | <u>Average</u>         |                              |
| Bucket & Carry             | 5             | 1              | Age                            | 1.39                   | 44                           |
| Dumping Station            | 27            | 7              | Education                      | 13 yrs.                |                              |
| Pipeline                   | 218           | 53             | Estimated Value of             |                        |                              |
| Herringbone                | 143           | 35             | Labor & Management             | \$28,841               |                              |
| Other Parlor               | 16            | 4              |                                |                        |                              |
| <u>Milking Frequency</u>   | <u>Number</u> | <u>Percent</u> | <u>Land Used</u>               | <u>Farms Reporting</u> | <u>Number</u> <u>Average</u> |
| 2x/day                     | 375           | 92             | Total acres:                   |                        |                              |
| 3x/day                     | 29            | 7              | Owned                          | 409                    | 355                          |
| Other                      | 5             | 1              | Rented                         | 364                    | 152                          |
| <u>Business Records</u>    | <u>Number</u> | <u>Percent</u> |                                |                        |                              |
| Account Book               | 170           | 42             | Tillable acres:                |                        |                              |
| Agrifax (mail-in)          | 62            | 15             | Owned                          | 409                    | 199                          |
| ELFAC                      | 26            | 6              | Rented                         | 362                    | 132                          |
| On-Farm Computer           | 62            | 15             | Total                          | 409                    | 316                          |
| Other                      | 89            | 22             |                                |                        |                              |

There were 569 full-time operator equivalents on the 409 dairy farms for an average of 1.39 operators per farm. The operators averaged 44 years of age and 13 years of formal education. Additional data on the labor force is in Table 34.

All 409 farm businesses included in the regular dairy summary own farm real estate. Dairy farm renters are summarized separately later in this publication. However, 362 of the dairy farm owners rented an average of 132 acres of tillable land in 1989. The 409 farms averaged 316 total tillable acres per farm of which 117 acres were rented. Tables 17 and 23 contain additional information on land use and the dairy herd.

### Accounting Procedures

Accrual accounting is used for measuring farm profitability. It expresses value of production and cost of production for the year, regardless of whether cash was received or expended. Accrual is a more accurate method than cash accounting when examining the profitability of a business in a particular year. Cash expenses and cash receipts are used when evaluating the cash flow position of the business.

The accrual accounting system considers changes in accounts payable and receivable, prepaid expenses, and changes in inventory of not only such items as crops and livestock, but also the inventory of production items such as fertilizer, seed, and fuel. In this manner, the total costs of production and the total value of production are obtained to provide an accurate representation of profitability in that year.

Accrual accounting is complimented by accounting procedures used to separate changes in inventory into changes caused by price and those caused by quality or quantity changes. Separating price changes (appreciation) from physical changes in the farm inventory are important in determining farm profitability. Appreciation of farm assets are included in the return to farm capital, but excluded from the return to labor and management.

### Income Statement

The accrual income statement on the following page begins with an accounting of all farm business expenses. Farm business expenditures are grouped into seven major categories.

Hired labor includes gross wages plus the farm share of social security, worker's compensation insurance, health insurance, and other employee benefits paid by the farm employer.

Feed expenses are divided into purchased dairy grain and concentrate, purchased dairy roughage, and all feed purchased for nondairy livestock to allow more thorough analysis of dairy herd feeding costs. The costs of growing grain and roughage are not included in cash and accrual feed expenses.

Machinery costs represent all the operating costs of using power machinery on the farm. Ownership costs are excluded here but are included in the analysis of machinery costs.

Livestock expenses include the cost of supplies and services directly associated with the care and maintenance of the dairy herd, plus milk marketing costs. The purchase of replacement cattle is considered a herd maintenance expense while expansion livestock is not.

Crop expenses include the costs of fertilizer, lime, seeds, pesticides, and other crop supplies.

Real estate expenses are the direct costs associated with owning and maintaining farmland and buildings.

Other includes insurance, the farm share of utilities, interest paid on all farm indebtedness, and miscellaneous costs. Expansion livestock and machinery and building depreciation are nonoperating costs included in total expenses. Depreciation charges are based on income tax figures.

Cash and accrual farm expenses are summarized below. Total operating accrual expenses for the 409 farms averaged \$608 per day and 90 percent of total farm accrual expenses.

Table 3. CASH AND ACCRUAL FARM EXPENSES  
409 New York Dairy Farms, 1989

| Expense Item              | Cash<br>Paid + | Change in<br>Inventory<br>or Prepaid<br>Expense + | Change in<br>Accounts<br>Payable = | Accrual<br>Expenses | Percent |
|---------------------------|----------------|---------------------------------------------------|------------------------------------|---------------------|---------|
| <u>Hired Labor</u>        | \$ 29,126      | \$ -23*                                           | \$ -26                             | \$ 29,077           | 13      |
| <u>Feed</u>               |                |                                                   |                                    |                     |         |
| Dairy grain & conc.       | 70,812         | -1,287                                            | -116                               | 69,409              | 31      |
| Dairy roughage            | 2,700          | -234                                              | -156                               | 2,310               | 1       |
| Nondairy livestock        | 465            | -7                                                | 14                                 | 472                 | <1      |
| <u>Machinery</u>          |                |                                                   |                                    |                     |         |
| Mach. hire, rent/lease    | 2,754          | 0*                                                | -24                                | 2,730               | 1       |
| Machinery repairs/parts   | 14,079         | -71                                               | -174                               | 13,834              | 6       |
| Auto expense (farm share) | 806            | 0*                                                | 0                                  | 806                 | <1      |
| Fuel, oil & grease        | 6,129          | -87                                               | -61                                | 5,981               | 3       |
| <u>Livestock</u>          |                |                                                   |                                    |                     |         |
| Replacement livestock     | 2,959          | 0*                                                | 10                                 | 2,969               | 1       |
| Breeding                  | 3,339          | -35                                               | 5                                  | 3,309               | 1       |
| Vet & medicine            | 5,531          | -61                                               | -1                                 | 5,469               | 2       |
| Milk marketing            | 8,756          | 0*                                                | 5                                  | 8,761               | 4       |
| Cattle lease/rent         | 517            | 0*                                                | -13                                | 504                 | <1      |
| Other livestock expense   | 10,411         | -17                                               | -33                                | 10,361              | 5       |
| <u>Crops</u>              |                |                                                   |                                    |                     |         |
| Fertilizer & lime         | 9,367          | -425                                              | 124                                | 9,066               | 4       |
| Seeds & plants            | 4,279          | -277                                              | -17                                | 3,985               | 2       |
| Spray, other crop exp.    | 3,945          | -243                                              | 7                                  | 3,709               | 2       |
| <u>Real Estate</u>        |                |                                                   |                                    |                     |         |
| Land/bldg./fence repair   | 4,990          | -103                                              | -18                                | 4,869               | 2       |
| Taxes                     | 6,347          | -25*                                              | 75                                 | 6,397               | 3       |
| Rent & lease              | 4,494          | -26*                                              | -21                                | 4,447               | 2       |
| <u>Other</u>              |                |                                                   |                                    |                     |         |
| Insurance                 | 4,151          | -66*                                              | -4                                 | 4,081               | 2       |
| Telephone (farm share)    | 703            | 0*                                                | -1                                 | 702                 | <1      |
| Electricity (farm share)  | 6,299          | -1*                                               | -18                                | 6,280               | 3       |
| Interest paid             | 18,946         | 0*                                                | 83                                 | 19,029              | 9       |
| Miscellaneous             | 3,383          | -56                                               | 13                                 | 3,340               | 1       |
| Total Operating           | \$225,288      | \$-3,044                                          | \$-347                             | \$221,897           | 100     |
| Expansion livestock       | \$2,392        | \$0*                                              | \$ 0                               | \$2,392             |         |
| Machinery depreciation    |                |                                                   |                                    | \$14,934            |         |
| Building depreciation     |                |                                                   |                                    | \$8,676             |         |
| TOTAL ACCRUAL EXPENSES    |                |                                                   |                                    | \$247,899           |         |

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 represents feeds and supplies purchased this year but not used (negative change), and inputs purchased in a prior year and used this year (positive change).

Prepaid expenses (noted by \* in the above table) are advance payments made for services and noninventory items. For example, advance payments for rent increased an average of \$26 per farm in 1989, and that increase is subtracted from cash rent to determine the correct 1989 accrual rental expense.

Changes in accounts payable reflect supplies/services used in this year's production but not paid for (positive change), and payments for production inputs used in a prior year (negative change).

Accrual expenses are cash expenses adjusted for changes in inventory, prepaid expenses, and accounts payable. They are the total costs of inputs actually used in this year's business.

Cash and accrual farm receipts are presented in the following table. Total cash receipts averaged \$288,692 per farm. Total accrual receipts averaged \$297,474 per farm. Accrual receipts were greater than cash receipts due to dairy herd growth and increases in crop inventory. Cow numbers increased an average of three head per farm and the homegrown feed inventory increased \$4 per cow.

Table 4. CASH AND ACCRUAL FARM RECEIPTS  
409 New York Dairy Farms, 1989

| Receipt Item                | Cash Receipts | Change in + Inventory | Change in Accounts Receivable + | Accrual Receipts = | Percent |
|-----------------------------|---------------|-----------------------|---------------------------------|--------------------|---------|
| Milk sales                  | \$257,386     |                       | \$3,757                         | \$261,144          | 88      |
| Dairy cattle                | 17,345        | \$4,731               | 23                              | 22,098             | 7       |
| Dairy calves                | 4,554         |                       | -1                              | 4,552              | 1       |
| Other livestock             | 534           | 19                    | 0                               | 554                | <1      |
| Crops                       | 2,046         | 406                   | -31                             | 2,421              | 1       |
| Government receipts         | 3,177         | -15*                  | 74                              | 3,236              | 1       |
| Custom machine work         | 288           |                       | 8                               | 295                | <1      |
| Gas tax refund              | 249           |                       | 6                               | 255                | <1      |
| Other                       | 3,112         |                       | 34                              | 3,147              | 1       |
| - Nonfarm noncash capital** |               | (-) 228               |                                 | (-) 228            |         |
| Total                       | \$288,692     | \$4,912               | \$3,870                         | \$297,474          | 100     |

\*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 for the sale of farm products, services, and government programs.

Accrual receipts represent the value of all farm commodities produced and services actually provided by the farmer during the year. Increases in livestock inventory caused by herd growth and/or quality, are included. Decreases in inventory caused by herd reduction are deducted. Changes in inventories of crops grown are accounted for. Changes in advanced government receipts are the amount government payments received for participating in a future year's program have changed from 1988 to 1989. An increase requires a negative adjustment to cash receipts and a decrease a positive adjustment. Nonfarm noncash capital are gifts and inheritances of cattle and crops received by the farm owner/operator, and included in inventory or used in the business during the year. They are deducted from growth in inventory and reduce accrual receipts because they came from outside the farm business. Gifts and inheritances of machinery and real estate are accounted for in Table 12. Changes in accounts receivable include the difference between the January milk check for this December's marketings and the previous January's check, and other delayed payments.

## Profitability Analysis

Farm owners/operators contribute labor, management, and capital to their businesses. The best combination of these resources produces optimum profits. Farm profits 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 operator(s) 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 with and without appreciation. Appreciation represents the change in farm inventory values caused by changes in prices during the year. Appreciation is a major factor contributing to changes in farm net worth and must be included in the profitability analysis.

Table 5. NET FARM INCOME  
409 New York Dairy Farms, 1989

| Item                                   | Average<br>409 Farms | Average Top<br>10% Farms* |
|----------------------------------------|----------------------|---------------------------|
| Total accrual receipts                 | \$297,474            | \$932,902                 |
| + Appreciation: Livestock              | 11,022               | 16,984                    |
| Machinery                              | 2,802                | 5,294                     |
| Real Estate                            | 11,116               | 27,053                    |
| Other Stock/Cert.                      | 272                  | 1,549                     |
| = Total including appreciation         | \$322,686            | \$983,782                 |
| - Total accrual expenses               | 247,899              | 746,621                   |
| = Net Farm Income (with appreciation)  | \$74,787             | \$237,161                 |
| Net Farm Income (without appreciation) | \$49,575             | \$186,281                 |

\*Average of 41 farms with highest net farm incomes (without appreciation).

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

Table 6. RETURN TO OPERATOR(S') LABOR, MANAGEMENT, AND EQUITY  
409 New York Dairy Farms, 1989

| Item                                                    | Average 409 Farms |                    | Average Top 10% Farms |                    |
|---------------------------------------------------------|-------------------|--------------------|-----------------------|--------------------|
|                                                         | With<br>Apprec.   | Without<br>Apprec. | With<br>Apprec.       | Without<br>Apprec. |
| Net farm income                                         | \$74,787          | \$49,575           | \$237,161             | \$186,281          |
| - Family labor unpaid<br>@ \$750 per month              | 2,239             | 2,239              | 750                   | 750                |
| = Return to Operator(s')<br>Labor, Management, & Equity | \$72,548          | \$47,336           | \$185,531             | \$236,411          |

Labor and management income is the share of net farm income without appreciation returned to the operator(s') labor and management. Appreciation is not included as part of the return to labor and management. Labor and management income is determined by deducting the cost of using equity capital at a real interest rate of five percent, from the return to operator(s') labor, management, and equity capital excluding appreciation. The interest charge reflects the long-term average rate of return above inflation that a farmer might expect to earn in comparable risk investments.

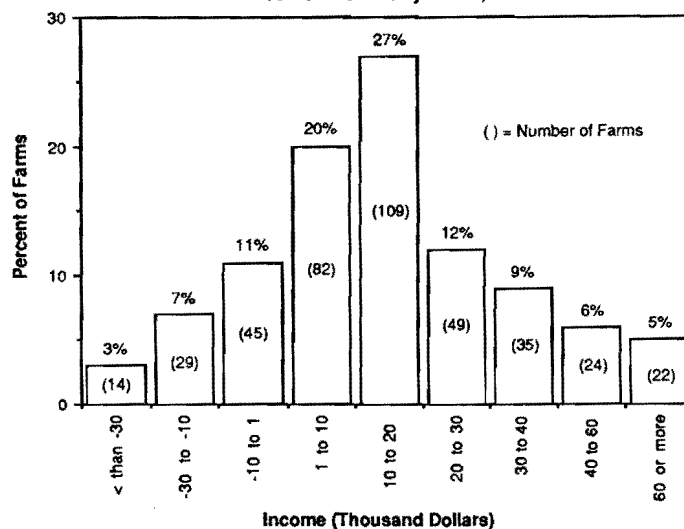
Labor and management income per operator measures the return to one full-time operator's labor and management. A full-time operator provides 12 months of labor and management.

Table 7. LABOR AND MANAGEMENT INCOME  
409 New York Dairy Farms, 1989

| Item                                                                                          | Average<br>409 Farms |        | Average Top<br>10% Farms |
|-----------------------------------------------------------------------------------------------|----------------------|--------|--------------------------|
| Return to operator(s') labor, management,<br>& equity without appreciation                    | \$47,336             |        | \$185,531                |
| - Real interest @ 5% on \$446,218 equity capital<br>for average & \$1,087,853 for the top 10% | <u>22,311</u>        |        | <u>54,393</u>            |
| = Labor & Management Income (1.39 operators)                                                  | \$25,025             | (1.70) | \$131,138                |
| Labor & Management Income per Operator                                                        | \$18,004             |        | \$77,140                 |

Labor and management income per operator averaged \$18,004 on these 409 dairy farms in 1989. The range in labor and management income per operator was from less than -\$40,000 to more than \$70,000. Returns to labor and management were negative on 21 percent of the farms. Labor and management income per operator ranged from \$0 to \$19,999 on 47 percent of the farms while 32 percent showed labor and management incomes of \$20,000 or more per operator.

Chart 1. DISTRIBUTION OF LABOR AND MANAGEMENT INCOMES PER OPERATOR  
409 New York Dairy Farms, 1989



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 or value of operator(s') 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.

Table 8. RETURN ON EQUITY CAPITAL  
409 New York Dairy Farms, 1989

| Item                                                                          | Average<br>409 Farms | Average Top<br>10% Farms |
|-------------------------------------------------------------------------------|----------------------|--------------------------|
| Return to operators' labor, management,<br>& equity capital with appreciation | \$72,548             | \$236,411                |
| - Value of operators' labor & management                                      | <u>28,841</u>        | <u>46,711</u>            |
| = Return on equity capital with appreciation                                  | \$43,707             | \$189,700                |
| + Interest paid                                                               | \$19,029             | \$47,405                 |
| = Return on total capital with appreciation                                   | \$62,736             | \$237,105                |
| Return on equity capital without appreciation                                 | \$18,495             | \$138,820                |
| Return on total capital without appreciation                                  | \$37,524             | \$186,225                |
| Rate of return on average equity capital:                                     |                      |                          |
| with appreciation                                                             | 9.8%                 | 17.4%                    |
| without appreciation                                                          | 4.1%                 | 12.8%                    |
| Rate of return on average total capital:                                      |                      |                          |
| with appreciation                                                             | 9.4%                 | 14.6%                    |
| without appreciation                                                          | 5.6%                 | 11.5%                    |

#### Returns Per Unit of Input

Income from a business can also be calculated in relation to various input units. For example, the labor and management return can be allocated to the entire labor force and figured on a per worker basis.

Table 9. RETURNS TO ALL LABOR AND MANAGEMENT  
409 New York Dairy Farms, 1989

| Item                                       | Average      |
|--------------------------------------------|--------------|
| Labor & management income per farm         | \$25,025     |
| + Cost of hired labor                      | 29,077       |
| + Value of unpaid family labor             | <u>2,239</u> |
| = Total Returns to All Labor & Management  | \$56,341     |
| Average worker equivalent                  | 3.30         |
| Returns per worker equivalent              | \$17,073     |
| Returns per hour (3,000 hours/worker/year) | \$5.69       |



Farm and Family Financial Status

Evaluating the financial status of the farm business and the farm family is an important part of business analysis. The first step is to inventory all the assets, determine all the liabilities, and fill out the balance sheet. The second step is to analyze the completed balance sheet by evaluating the relationships between assets and liabilities and changes made during the year.

Table 10. 1989 FARM BUSINESS AND NONFARM BALANCE SHEET  
409 New York Dairy Farms, 1989

| Farm Assets                    |           |           | Farm Liabilities & Net Worth    |           |           |
|--------------------------------|-----------|-----------|---------------------------------|-----------|-----------|
|                                | Jan. 1    | Dec. 31   |                                 | Jan. 1    | Dec. 31   |
| <u>Current</u>                 |           |           | <u>Current</u>                  |           |           |
| Farm cash, checking & savings  | \$ 6,999  | \$ 8,431  | Accounts payable                | \$ 5,960  | \$ 5,614  |
| Accounts rec.                  | 20,862    | 24,732    | Operating debt                  | 6,558     | 8,011     |
| Prepaid expenses               | 240       | 382       | Short-term                      | 2,730     | 2,765     |
| Feed & supplies                | 50,395    | 53,702    | Advanced Govt. Rec.             | 4         | 19        |
| Total                          | \$ 78,496 | \$ 87,247 | Total                           | \$ 15,251 | \$16,409  |
| <u>Intermediate</u>            |           |           | <u>Intermediate</u>             |           |           |
| Dairy cows:                    |           |           | Structured debt                 |           |           |
| owned                          | \$ 93,574 | \$104,781 | 1-10 years                      | \$ 82,479 | \$ 85,071 |
| leased                         | 382       | 422       | Financial lease (cattle/mach.)  | 1,931     | 2,048     |
| Heifers                        | 39,210    | 43,682    | FLB & PCA stock                 | 4,752     | 3,199     |
| Bulls/other lvstk.             | 1,179     | 1,272     | Total                           | \$ 89,161 | \$ 90,318 |
| Mach./eq. owned                | 113,580   | 123,651   | <u>Long-Term</u>                |           |           |
| Mach./eq. leased               | 1,548     | 1,625     | Structured debt                 |           |           |
| FLB & PCA stock                | 4,752     | 3,199     | ≥10 years                       | \$115,739 | \$114,012 |
| Other stock & cert.            | 7,799     | 7,922     | Financial lease (structures)    | 689       | 448       |
| Total                          | \$262,025 | \$286,555 | Total                           | \$116,428 | \$114,460 |
| <u>Long-Term</u>               |           |           | Total Farm Liab.                | \$220,841 | \$221,187 |
| Land/buildings:                |           |           |                                 |           |           |
| owned                          | \$303,220 | \$315,785 |                                 |           |           |
| leased                         | 689       | 448       |                                 |           |           |
| Total                          | \$303,909 | \$316,233 |                                 |           |           |
| Total Farm Assets              | \$644,430 | \$690,035 | FARM NET WORTH                  | \$423,589 | \$468,848 |
|                                |           |           | <u>Nonfarm Liabilities*</u>     |           |           |
| <u>Nonfarm Assets*</u>         | Jan. 1    | Dec. 31   | <u>&amp; Net Worth</u>          | Jan. 1    | Dec. 31   |
| Personal cash, chkg. & savings | \$ 5,697  | \$ 6,444  | Nonfarm Liab.                   | \$2,622   | \$3,312   |
| Cash value life ins.           | 5,196     | 5,725     | NONFARM NET WORTH               | \$69,074  | \$72,066  |
| Nonfarm real estate            | 38,306    | 38,756    |                                 |           |           |
| Auto (personal sh.)            | 3,225     | 3,730     | <u>FARM &amp; NONFARM*</u>      | Jan. 1    | Dec. 31   |
| Stocks & bonds                 | 4,903     | 5,791     | Total Assets                    | \$716,126 | \$765,413 |
| Household furn.                | 8,638     | 8,953     | Total Liabilities               | 223,463   | 224,499   |
| All other                      | 5,732     | 5,979     |                                 |           |           |
| Total Nonfarm                  | \$71,696  | \$75,378  | TOTAL FARM & NON-FARM NET WORTH | \$492,663 | \$540,914 |

\*Average of 250 farms completing the nonfarm balance sheet.

Financial lease obligations are included in the balance sheet. The present values of all future payments are listed as liabilities since the farmer (lessee) is committed to make the payments. The present values are also listed as assets, representing the future value the item has to the business.

The farm balance sheet analysis continues by examining financial and debt ratios and factors measuring levels of debt. Percent equity is calculated by dividing farm net worth by farm assets. Equity increases as the value of assets increase more than liabilities. The debt to asset ratio is compiled by dividing farm liabilities by farm assets. Low debt to asset ratios reflect strength in solvency and the potential capacity to borrow. The debt analysis ratios show how well the debt is structured and managed. Debt levels per unit of production include some old standards that are still useful if used with measures of cash flow and repayment ability.

Table 11. FARM BALANCE SHEET ANALYSIS  
409 New York Dairy Farms, 1989

| Item                                   | Average<br>409 Farms | Average Top<br>10% Farms |
|----------------------------------------|----------------------|--------------------------|
| <u>Farm Financial Ratios:</u>          |                      |                          |
| Percent equity                         | 68%                  | 69%                      |
| Debt/asset ratio: total                | 0.32                 | 0.31                     |
| long-term                              | 0.36                 | 0.29                     |
| inter. & current                       | 0.29                 | 0.33                     |
| <u>Change in Net Worth:</u>            |                      |                          |
| Without appreciation                   | \$20,048             | \$100,590                |
| With appreciation                      | \$45,260             | \$151,470                |
| <u>Farm Debt Analysis:</u>             |                      |                          |
| Accts. payable as % of total debt      | 3%                   | 2%                       |
| Long-term liab. as % of total debt     | 52%                  | 40%                      |
| Current & int. liab. as % of tot. debt | 48%                  | 60%                      |
|                                        |                      |                          |
| Per Tillable                           |                      | Per Tillable             |
| <u>Farm Debt Levels:</u>               | <u>Per Cow</u>       | <u>Per Cow</u>           |
| Total farm debt                        | \$2,048              | \$1,697                  |
| Long-term debt                         | 1,060                | 680                      |
| Intermediate & current debt            | 988                  | 1,017                    |

The Farm Inventory Balance accounts for the changes in the values of major farm assets from the beginning to the end of the year.

Table 12. FARM INVENTORY BALANCE  
409 New York Dairy Farms, 1989

| Item                         | Real Estate | Machinery/Equip. | Livestock |
|------------------------------|-------------|------------------|-----------|
| Value beg. of year           | \$303,220   | \$113,580        | \$133,964 |
| Purchases                    | \$16,310*   | \$22,939         |           |
| + Nonfarm noncash transfer** | 309         | 53               |           |
| - Lost capital               | 3,736       |                  |           |
| - Sales                      | 2,248       | 789              |           |
| - Depreciation               | 8,676       | 14,934           |           |
| = Net investment             | 1,959       | 7,269            | 4,749     |
| + Appreciation               | 10,606***   | 2,802            | 11,022    |
| Value end of year            | \$315,785   | \$123,651        | \$149,735 |

\*\$3,417 land and \$12,893 buildings and/or depreciable improvements.

\*\*Gifts and inheritances of property transferred into the farm business from outside.

\*\*\*Excludes \$510 of appreciation on assets sold during the year.

### Cash Flow Summary and Analysis

Completing an annual cash flow summary and analysis is important to determine how well the cash generated by the business, plus that brought in from outside, met the annual cash needs of the business and the farm family. 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. Cash inflows include all the cash farm receipts, receipts from the sale of farm assets, additional funds borrowed, cash used in the business from the sale of nonfarm capital, as well as the amount of cash available at the beginning of the year. Cash outflows include all the cash farm expenses, capital purchases, principal payments, money taken out of the business, and the cash balance left at year's end. When all the cash inflows and outflows are correct, the statement will balance. The positive imbalance of \$1,017 indicates that on average, farms had more inflows than were accounted for by outflows.

Table 13. ANNUAL CASH FLOW STATEMENT  
409 New York Dairy Farms, 1989

| Item                                                                           | Average<br>409 Farms | Average Top<br>10% Farms |
|--------------------------------------------------------------------------------|----------------------|--------------------------|
| <u>Cash Inflows</u>                                                            |                      |                          |
| Beginning farm cash, checking & savings                                        | \$ 6,999             | \$ 16,874                |
| Cash farm receipts                                                             | 288,692              | 894,730                  |
| Sale of assets: Machinery                                                      | 789                  | 1,467                    |
| Real estate                                                                    | 2,389                | 2,148                    |
| Other stock & certificates                                                     | 334                  | 1,073                    |
| Money borrowed (intermediate & long-term)                                      | 29,568               | 81,348                   |
| Money borrowed (short-term)                                                    | 2,395                | 9,123                    |
| Increase in operating debt                                                     | 1,454                | 8,173                    |
| Nonfarm income                                                                 | 4,379                | 4,374                    |
| Cash from nonfarm capital used in business                                     | 2,059                | 417                      |
| Money borrowed - nonfarm                                                       | 704                  | 373                      |
| Total                                                                          | \$339,762            | \$1,020,100              |
| <u>Cash Outflows</u>                                                           |                      |                          |
| Cash farm expenses                                                             | \$225,287            | 682,734                  |
| Capital purchases: Expansion livestock                                         | 2,392                | 17,457                   |
| Machinery                                                                      | 22,939               | 65,782                   |
| Real estate                                                                    | 16,310               | 66,336                   |
| Other stock & certificates                                                     | 185                  | 445                      |
| Principal payments (intermediate & long-term)                                  | 28,704               | 84,769                   |
| Principal payments (short-term)                                                | 2,360                | 8,597                    |
| Decrease in operating debt                                                     | 0                    | 0                        |
| Personal withdrawals & family expenditures,<br>including nonfarm debt payments | 32,137               | 72,507                   |
| Ending farm cash, checking & savings                                           | 8,431                | 20,763                   |
| Total                                                                          | \$338,745            | \$1,019,389              |
| Imbalance (error)                                                              | \$ 1,017             | \$ 711                   |

CASH FLOW BUDGETING DATA  
409 New York Dairy Farms, 1989

| Item                                                     | Average 409 Farms |         | Average Top 10% Farms |         |
|----------------------------------------------------------|-------------------|---------|-----------------------|---------|
|                                                          | Total             | Per Cow | Total                 | Per Cow |
| Average number of cows                                   | 104               |         | 296                   |         |
| <u>Accrual Operating Receipts</u>                        |                   |         |                       |         |
| Milk                                                     | \$261,144         | \$2,507 | \$813,825             | \$2,747 |
| Dairy cattle                                             | 22,099            | 212     | 81,651                | 276     |
| Dairy calves                                             | 4,553             | 44      | 13,548                | 46      |
| Other livestock                                          | 553               | 5       | 1,928                 | 6       |
| Crops                                                    | 2,421             | 23      | 1,295                 | 4       |
| Miscellaneous receipts                                   | 6,933             | 67      | 20,655                | 70      |
| Total                                                    | \$297,702         | \$2,858 | \$932,902             | \$3,149 |
| <u>Accrual Operating Expenses</u>                        |                   |         |                       |         |
| Hired labor                                              | \$ 29,077         | \$ 279  | \$125,731             | \$ 424  |
| Dairy grain & concentrate                                | 69,409            | 666     | 211,061               | 712     |
| Dairy roughage                                           | 2,310             | 22      | 6,098                 | 21      |
| Nondairy feed                                            | 472               | 5       | 273                   | 1       |
| Machinery hire/rent/lease                                | 2,730             | 26      | 8,921                 | 30      |
| Machinery repairs/parts & auto                           | 14,641            | 141     | 37,601                | 127     |
| Fuel, oil & grease                                       | 5,981             | 57      | 14,655                | 49      |
| Replacement livestock                                    | 2,969             | 29      | 7,504                 | 25      |
| Breeding                                                 | 3,309             | 32      | 8,618                 | 29      |
| Vet & medicine                                           | 5,469             | 53      | 19,138                | 65      |
| Milk marketing                                           | 8,761             | 84      | 19,402                | 65      |
| Cattle lease                                             | 504               | 5       | 2,476                 | 8       |
| Other livestock expense                                  | 10,361            | 99      | 27,127                | 91      |
| Fertilizer & lime                                        | 9,066             | 87      | 25,245                | 85      |
| Seeds & plants                                           | 3,985             | 38      | 12,078                | 41      |
| Spray/other crop expense                                 | 3,709             | 36      | 11,866                | 40      |
| Land, building, fence repair                             | 4,869             | 47      | 14,364                | 48      |
| Taxes                                                    | 6,397             | 61      | 13,687                | 46      |
| Real estate rent/lease                                   | 4,447             | 43      | 14,461                | 49      |
| Insurance                                                | 4,081             | 39      | 8,820                 | 30      |
| Utilities                                                | 6,982             | 67      | 16,672                | 56      |
| Miscellaneous                                            | 3,340             | 32      | 10,037                | 34      |
| Total Less Interest Paid                                 | \$202,868         | \$1,948 | \$615,837             | \$2,078 |
| <u>Net Accrual Operating Income</u>                      |                   |         |                       |         |
| (without interest paid)                                  | \$94,834          | \$910   | \$317,065             | \$1,070 |
| - Change in livestock/crop inv.                          | 4,912             | 47      | 23,241                | 78      |
| - Change in accounts rec.                                | 3,870             | 37      | 14,930                | 50      |
| + Change in feed/supply inv.                             | -3,044            | -29     | -18,840               | -64     |
| + Change in accounts payable*                            | -429              | -4      | -1,184                | -4      |
| NET CASH FLOW                                            | \$82,579          | \$793   | \$258,870             | \$ 874  |
| - Net personal withdrawals<br>& family expenditures      | 27,054            | 260     | 67,760                | 229     |
| Available for Farm Debt                                  |                   |         |                       |         |
| Payments & Investments                                   | \$55,525          | \$533   | \$191,110             | \$ 645  |
| - Farm Debt Payments                                     | 49,628            | 476     | 137,310               | 463     |
| Avail. for Farm Investments                              | \$ 5,897          | \$ 57   | \$ 53,800             | \$ 182  |
| - Capital Purchases: cattle,<br>machinery & improvements | 41,826            | 402     | 150,020               | 506     |
| Capital Deficit                                          | \$-35,929         | \$-345  | \$-96,220             | \$ -324 |

\*Excludes change in interest account payable.

# Repayment Analysis

The second step in cash flow planning is to compare and evaluate debt payments planned and made last year, and estimate the payments required in the current year. It is helpful to compare and evaluate a farm's repayment position by using debt payments per unit of production and receipt/debt payment ratios. The data presented below are for the 332 farms, and the top 10 percent of these farms, that completed Dairy Farm Business Summaries for both 1988 and 1989.

Table 15. FARM DEBT PAYMENTS PLANNED  
New York Dairy Farms, 1989

| Debt Payments                    | Same 332 Dairy Farms |          |          | Average Top 10% Farms |           |           |
|----------------------------------|----------------------|----------|----------|-----------------------|-----------|-----------|
|                                  | 1989 Payments        |          | Planned  | 1989 Payments         |           | Planned   |
|                                  | Planned              | Made     | 1990     | Planned               | Made      | 1990      |
| Long-term                        | \$15,832             | \$17,561 | \$15,721 | \$ 31,972             | \$ 38,320 | \$ 28,457 |
| Intermediate-term                | 24,104               | 30,584   | 26,982   | 65,072                | 97,142    | 82,660    |
| Short-term                       | 2,657                | 2,626    | 1,792    | 9,812                 | 7,758     | 6,332     |
| Operating (net reduction)        | 2,489                | 0        | 1,882    | 17,075                | 0         | 7,907     |
| Accounts payable (net reduction) | 761                  | 683      | 897      | 1,155                 | 0         | 2,277     |
| Total                            | \$45,843             | \$51,453 | \$47,275 | \$125,086             | \$143,220 | \$127,633 |
| Per cow                          | \$427                | \$479    |          | \$411                 | \$471     |           |
| Per cwt. 1989 milk               | \$2.45               | \$2.75   |          | \$2.17                | \$2.48    |           |
| Percent of total 1989 receipts   | 15%                  | 17%      |          | 13%                   | 15%       |           |
| Percent of 1989 milk receipts    | 17%                  | 19%      |          | 15%                   | 17%       |           |

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 last year's planned payments that could have been made with last year's available cash flow.

Table 16. CASH FLOW COVERAGE RATIO  
New York Dairy Farms, 1989

| Item                                        | Same 332 Dairy Farms | Average Top 10% Farms |
|---------------------------------------------|----------------------|-----------------------|
| Cash farm receipts                          | \$303,002            | \$924,560             |
| - Cash farm expenses                        | 234,438              | 700,658               |
| + Interest paid                             | 19,351               | 49,969                |
| - Net personal withdrawals from farm**      | 28,697               | 69,575                |
| (A) = Amount Available for Debt Service     | \$ 59,218            | \$204,296             |
| (B) = Debt Payments Planned for 1989        | \$ 45,843            | \$125,086             |
| (A ÷ B) = Cash Flow Coverage Ratio for 1989 | 1.29                 | 1.63                  |

\*\*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.

### Cropping Program Analysis

The cropping program is an important part of the dairy farm business that sometimes 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 purchase choices.

Table 17. LAND RESOURCES AND CROP PRODUCTION  
409 New York Dairy Farms, 1989

| Item                 | Average<br>409 Farms |              |                      | Average Top 10% Farms |              |                      |
|----------------------|----------------------|--------------|----------------------|-----------------------|--------------|----------------------|
|                      | Owned                | Rented       | Total                | Owned                 | Rented       | Total                |
| <u>Land</u>          |                      |              |                      |                       |              |                      |
| Tillable             | 199                  | 117          | 316                  | 445                   | 253          | 698                  |
| Nontillable          | 52                   | 10           | 62                   | 64                    | 7            | 71                   |
| Other nontillable    | 104                  | 8            | 112                  | 196                   | 11           | 207                  |
| Total                | 355                  | 135          | 490                  | 705                   | 271          | 976                  |
| <u>Crop Yields</u>   | <u>Farms</u>         | <u>Acres</u> | <u>Prod/Acre</u>     | <u>Farms</u>          | <u>Acres</u> | <u>Prod/Acre</u>     |
| Hay crop             | 406                  | 165          | 2.7 tn DM            | 41                    | 276          | 3.0 tn DM            |
| Corn silage          | 375                  | 88           | 13.4 tn<br>4.5 tn DM | 40                    | 264          | 13.2 tn<br>4.4 tn DM |
| Other forage         | 45                   | 23           | 1.8 tn DM            | 7                     | 38           | 2.5 tn DM            |
| Total forage         | 409                  | 247          | 3.2 tn DM            | 41                    | 540          | 3.7 tn DM            |
| Corn grain           | 188                  | 69           | 100.9 bu             | 28                    | 134          | 107.0 bu             |
| Oats                 | 80                   | 32           | 54.2 bu              | 7                     | 41           | 59.5 bu              |
| Wheat                | 30                   | 39           | 42.6 bu              | 9                     | 57           | 50.3 bu              |
| Other crops          | 51                   | 27           |                      | 10                    | 33           |                      |
| Tillable pasture     | 117                  | 30           |                      | 10                    | 45           |                      |
| Idle                 | 166                  | 38           |                      | 24                    | 49           |                      |
| Total Tillable Acres | 409                  | 316          |                      | 41                    | 698          |                      |

Crop acres and yields compiled for the average represent only the number of farms reporting each crop. All but three of the 409 farms produced hay or hay crop silage in 1989. Ninety-two percent produced corn silage, 46 percent grew and harvested corn grain, and 20 percent grew oats for grain. 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.

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

Table 18. CROP MANAGEMENT FACTORS  
409 New York Dairy Farms, 1989

| Item                                      | Average<br>409 Farms | Average Top<br>10% Farms |
|-------------------------------------------|----------------------|--------------------------|
| Total tillable acres per cow              | 3.03                 | 2.36                     |
| Total forage acres per cow                | 2.37                 | 1.82                     |
| Harvested forage dry matter, tons per cow | 7.68                 | 6.67                     |

In the fifth year of collecting information on individual crop production costs, 187 cooperators allocated direct crop related expenses to hay crop, corn, and other crop production. The data in Table 19 has been compiled to show the average crop related production expenses per acre and per unit for these crops. Note that labor and machinery costs have not been included. Total corn expenses are allocated to corn silage and corn grain based on the proportion of acres in each crop. In Table 19, the total per tillable acre represents all 409 farms and the expenses for individual crops are for the 187 farms which submitted data.

Table 19. CROP RELATED ACCRUAL EXPENSES  
New York Dairy Farms, 1989

| Expense                                              | Average<br>409 Farms     | Average 187 Farms Reporting Individual Crop Costs |               |              |                |                      |
|------------------------------------------------------|--------------------------|---------------------------------------------------|---------------|--------------|----------------|----------------------|
|                                                      | Total<br>Per<br>Tillable | Hay Crop                                          |               | All<br>Corn  | Corn<br>Silage | Corn<br>Grain        |
|                                                      | Acre                     | Per<br>Acre                                       | Per<br>Ton DM | Per<br>Acre  | Per Ton<br>DM  | Per Dry<br>Shell Bu. |
| Fertilizer & lime                                    | \$28.72                  | \$20.14                                           | \$ 7.64       | \$47.86      | \$10.73        | \$0.47               |
| Seeds & plants                                       | 12.62                    | 7.64                                              | 2.90          | 23.09        | 5.18           | 0.23                 |
| Spray & other crop<br>expense                        | <u>11.75</u>             | <u>4.88</u>                                       | <u>1.85</u>   | <u>25.47</u> | <u>5.71</u>    | <u>0.25</u>          |
| Total                                                | \$53.09                  | \$32.66                                           | \$12.39       | \$96.42      | \$21.62        | \$0.95               |
| Average Top 10% Farms:                               |                          |                                                   |               |              |                |                      |
| Average Top 16 Farms Reporting Individual Crop Costs |                          |                                                   |               |              |                |                      |
| Fertilizer & lime                                    | \$36.12                  | \$23.54                                           | \$ 7.75       | \$44.01      | \$10.22        | \$0.40               |
| Seeds & plants                                       | 17.28                    | 12.09                                             | 3.98          | 24.01        | 5.58           | 0.22                 |
| Spray & other crop<br>expense                        | <u>16.98</u>             | <u>9.98</u>                                       | <u>3.29</u>   | <u>28.53</u> | <u>6.62</u>    | <u>0.26</u>          |
| Total                                                | \$70.38                  | \$45.61                                           | \$15.02       | \$96.55      | \$22.42        | \$0.88               |

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. Machinery costs have not been allocated to individual crops, but they are calculated per total tillable acre.

Table 20. ACCRUAL MACHINERY EXPENSES  
409 New York Dairy Farms, 1989

| Machinery<br>Expense Item  | Average 409 Farms |                  | Average Top 10% Farms |                  |
|----------------------------|-------------------|------------------|-----------------------|------------------|
|                            | Total<br>Expenses | Per Til.<br>Acre | Total<br>Expenses     | Per Til.<br>Acre |
| Fuel, oil & grease         | \$ 5,982          | \$ 18.95         | \$ 14,656             | \$ 20.97         |
| Machinery repairs & parts  | 13,835            | 43.83            | 36,186                | 51.77            |
| Machine hire, rent & lease | 2,731             | 8.65             | 8,921                 | 12.76            |
| Auto expense (farm share)  | 806               | 2.55             | 1,415                 | 2.02             |
| Interest (5%)              | 5,931             | 18.79            | 12,216                | 17.48            |
| Depreciation               | <u>14,934</u>     | <u>47.31</u>     | <u>36,442</u>         | <u>52.13</u>     |
| Total                      | \$44,219          | \$140.07         | \$109,836             | \$157.13         |

Table 21. CROP RELATED ACCRUAL EXPENSES BY HAY CROP PRODUCTION PER ACRE  
187 New York Dairy Farms, 1989

| Item                                              | Tons of Hay Crop Dry Matter Per Acre |             |             |             |             |
|---------------------------------------------------|--------------------------------------|-------------|-------------|-------------|-------------|
|                                                   | <2.0                                 | 2.0-2.4     | 2.5-2.9     | 3.0-3.4     | ≥3.5        |
| Hay crop, tons DM/acre                            | 1.6                                  | 2.2         | 2.7         | 3.2         | 4.1         |
| Farms reporting crop expense breakdowns           | 38                                   | 48          | 39          | 32          | 30          |
| Average number hay crop acres for farms reporting | 162                                  | 165         | 146         | 131         | 160         |
| <u>Accrual Crop Expense</u>                       |                                      |             |             |             |             |
| <u>Per Acre of Hay Crop:</u>                      |                                      |             |             |             |             |
| Fertilizer & lime                                 | \$14.76                              | \$21.50     | \$18.33     | \$25.08     | \$22.65     |
| Seeds & plants                                    | 6.41                                 | 7.34        | 8.33        | 8.25        | 8.36        |
| Spray & other crop expense                        | <u>2.14</u>                          | <u>3.20</u> | <u>7.08</u> | <u>7.27</u> | <u>6.48</u> |
| Total                                             | \$23.31                              | \$32.04     | \$33.74     | \$40.60     | \$37.49     |
| <u>Accrual Crop Expense</u>                       |                                      |             |             |             |             |
| <u>Per Ton DM of Hay Crop:</u>                    |                                      |             |             |             |             |
| Fertilizer & lime                                 | \$ 8.56                              | \$ 9.75     | \$ 6.74     | \$ 7.88     | \$5.74      |
| Seeds & plants                                    | 3.72                                 | 3.33        | 3.06        | 2.59        | 2.12        |
| Spray & other crop expense                        | <u>1.24</u>                          | <u>1.45</u> | <u>2.60</u> | <u>2.29</u> | <u>1.64</u> |
| Total                                             | \$13.52                              | \$14.53     | \$12.40     | \$12.76     | \$9.50      |

Table 22. CROP RELATED ACCRUAL EXPENSES BY CORN PRODUCTION PER ACRE  
182 New York Dairy Farms, 1989

| Item                                          | Tons Corn Silage/Acre        |              |              | Dry Shell Bushels of Corn Grain Per Acre |              |              |
|-----------------------------------------------|------------------------------|--------------|--------------|------------------------------------------|--------------|--------------|
|                                               | 0-12                         | 13-17        | ≥18          | 0-87                                     | 88-112       | ≥113         |
| Corn yield per acre                           | 9.9                          | 14.9         | 19.5         | 73.4                                     | 99.9         | 130.7        |
| Farms reporting crop expense breakdowns       | 82                           | 70           | 23           | 33                                       | 33           | 28           |
| Average number corn acres for farms reporting | 115                          | 117          | 125          | 121                                      | 138          | 160          |
| <u>Accrual Crop Exp./Acre of Corn</u>         |                              |              |              |                                          |              |              |
| Fertilizer & lime                             | \$46.42                      | \$ 50.28     | \$ 46.15     | \$47.10                                  | \$42.55      | \$ 48.18     |
| Seeds & plants                                | 22.70                        | 22.82        | 24.98        | 25.42                                    | 22.66        | 24.86        |
| Spray & other crop expense                    | <u>22.44</u>                 | <u>27.25</u> | <u>30.49</u> | <u>26.40</u>                             | <u>24.07</u> | <u>28.32</u> |
| Total                                         | \$91.56                      | \$100.35     | \$101.62     | \$98.92                                  | \$89.28      | \$101.36     |
| <u>Accrual Crop Expense Per:*</u>             |                              |              |              |                                          |              |              |
|                                               | <u>Ton DM of Corn Silage</u> |              |              | <u>Dry Shell Bushel of Corn Grain</u>    |              |              |
| Fertilizer & lime                             | \$13.81                      | \$ 9.55      | \$ 7.17      | \$0.63                                   | \$0.43       | \$0.37       |
| Seeds & plants                                | 6.76                         | 4.33         | 3.88         | 0.34                                     | 0.23         | 0.19         |
| Spray & other crop expense                    | <u>6.68</u>                  | <u>5.17</u>  | <u>4.74</u>  | <u>0.35</u>                              | <u>0.24</u>  | <u>0.22</u>  |
| Total                                         | \$27.25                      | \$19.05      | \$15.79      | \$1.32                                   | \$0.90       | \$0.78       |

\*Total corn expenses are allocated to corn silage and corn grain based on the proportion of acres in each crop.

From the above two tables, it is important to observe that as forage yields per acre increase, crop related expenses per acre also increase. For corn silage and corn grain, crop expense per ton of dry matter and per bushel decreased as yield per acre increased. Hay crop expenses per ton of dry matter remained fairly constant except for farms reporting yields greater than 3.5 tons of dry matter per acre. The lower dry matter costs on this group of 30 farms can be attributed to significantly higher yields with controlled expenses per acre.



### Dairy Program Analysis

An analysis of the dairy enterprise can be the most important step in evaluating the strengths and weaknesses of the dairy farm business. Changes in dairy herd size and market values 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 with and without appreciation.

Table 23. DAIRY HERD INVENTORY  
409 New York Dairy Farms, 1989

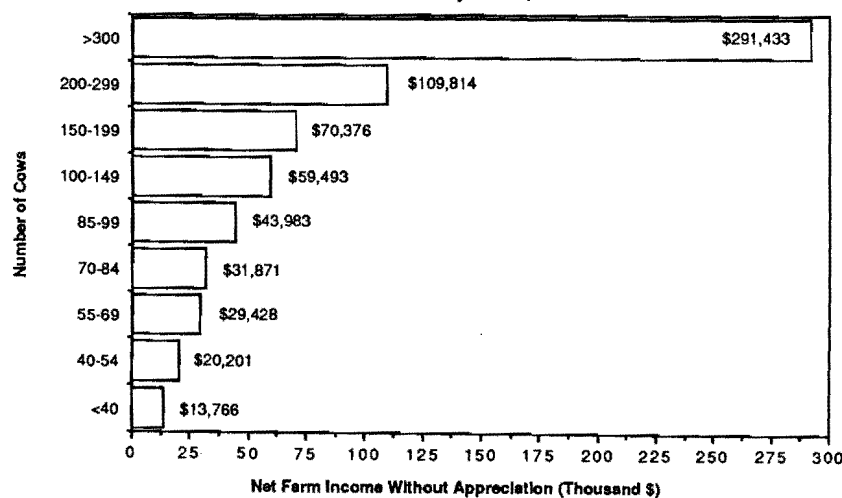
| Item                 | <u>Dairy Cows</u> |              | <u>Bred</u> |                  | <u>Heifers</u> |              | <u>Calves</u> |            |
|----------------------|-------------------|--------------|-------------|------------------|----------------|--------------|---------------|------------|
|                      | No.               | Value        | No.         | Value            | No.            | Value        | No.           | Value      |
| Beg. year (owned)    | 103               | \$ 93,574    | 31          | \$22,114         | 27             | \$11,703     | 24            | \$5,394    |
| + Change w/o apprec. |                   | 3,549        |             | 536              |                | 393          |               | 251        |
| + Appreciation       |                   | <u>7,658</u> |             | <u>1,692</u>     |                | <u>1,046</u> |               | <u>553</u> |
| End year (owned)     | 106               | \$104,781    | 32          | \$24,342         | 27             | \$13,142     | 25            | \$6,198    |
| End incl. leased     | 108               |              |             |                  |                |              |               |            |
| Average number       | 104               |              | 83          | (all age groups) |                |              |               |            |

#### Average Top 10% Farms:

|                      |     |               |     |                  |    |              |    |            |
|----------------------|-----|---------------|-----|------------------|----|--------------|----|------------|
| Beg. year (owned)    | 279 | \$240,960     | 93  | \$58,807         | 65 | \$26,344     | 59 | \$13,344   |
| + Change w/o apprec. |     | 23,461        |     | 6,096            |    | -1,946       |    | 1,457      |
| + Appreciation       |     | <u>11,464</u> |     | <u>3,031</u>     |    | <u>1,323</u> |    | <u>988</u> |
| End year (owned)     | 306 | \$275,885     | 107 | \$67,934         | 56 | \$25,721     | 65 | \$15,789   |
| End incl. leased     | 313 |               |     |                  |    |              |    |            |
| Average number       | 296 |               | 226 | (all age groups) |    |              |    |            |

There is a strong relationship between farm size and farm income on well managed dairy farms. When data is sorted by herd size categories this relationship becomes apparent as shown in Chart 2. Net farm income increased 2,017 percent while labor and management income per operator jumped \$147,657 as herd size increased from less than 40 to over 300 cows per farm.

Chart 2. NET FARM INCOME (WITHOUT APPRECIATION) BY HERD SIZE  
409 New York Dairy Farms, 1989



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.

Table 24. MILK PRODUCTION  
409 New York Dairy Farms, 1989

| Item                                       | Average<br>409 Farms | Average Top<br>10% Farms |
|--------------------------------------------|----------------------|--------------------------|
| Total milk sold, lbs.                      | 1,797,462            | 5,579,216                |
| Milk sold per cow, lbs.                    | 17,259               | 18,832                   |
| Average milk plant test, percent butterfat | 3.67                 | 3.71                     |

Farms with higher rates of production tend to have higher profits. In 1989, the farms that sold more than 17,000 pounds of milk per cow had above average profit margins.

Table 25. MILK SOLD PER COW AND FARM INCOME MEASURES  
409 New York Dairy Farms, 1989

| Pounds of Milk<br>Sold Per Cow | Number<br>of Farms | Average<br>Number<br>of Cows | Net Farm<br>Income<br>w/o Apprec. | Net Farm<br>Income<br>Per Cow | Labor &<br>Management<br>Income/Oper. |
|--------------------------------|--------------------|------------------------------|-----------------------------------|-------------------------------|---------------------------------------|
| Under 12,000                   | 21                 | 71                           | \$9,209                           | \$130                         | \$-6,909                              |
| 12,000 to 13,999               | 35                 | 71                           | 21,341                            | 301                           | 1,740                                 |
| 14,000 to 14,999               | 34                 | 81                           | 24,849                            | 307                           | 4,722                                 |
| 15,000 to 15,999               | 52                 | 88                           | 35,696                            | 406                           | 11,838                                |
| 16,000 to 16,999               | 77                 | 100                          | 42,021                            | 420                           | 14,186                                |
| 17,000 to 17,999               | 71                 | 116                          | 59,139                            | 510                           | 23,354                                |
| 18,000 to 19,999               | 81                 | 105                          | 54,282                            | 517                           | 18,993                                |
| 20,000 & over                  | 38                 | 181                          | 126,421                           | 698                           | 60,261                                |

The cost of producing milk has been compiled using the whole farm method, and is presented in the following tables and on the next two pages.

Table 26. ACCRUAL RECEIPTS FROM DAIRY AND COST OF PRODUCING MILK  
409 New York Dairy Farms, 1989

| Item                                                      | Average 409 Farms |         |          | Average Top 10% Farms |         |          |
|-----------------------------------------------------------|-------------------|---------|----------|-----------------------|---------|----------|
|                                                           | Total             | Per Cow | Per Cwt. | Total                 | Per Cow | Per Cwt. |
| <u>Accrual Costs of Producing Milk</u>                    |                   |         |          |                       |         |          |
| Operating costs                                           | \$187,959         | \$1,805 | \$10.46  | \$561,620             | \$1,895 | \$10.07  |
| Total costs with-<br>out op(s') labor,<br>mgmt. & capital | \$213,808         | \$2,053 | \$11.89  | \$628,294             | \$2,120 | \$11.26  |
| Total Costs                                               | \$264,960         | \$2,544 | \$14.74  | \$729,398             | \$2,462 | \$13.07  |
| <u>Accrual Receipts from Milk</u>                         |                   |         |          |                       |         |          |
|                                                           | \$261,144         | \$2,507 | \$14.53  | \$813,825             | \$2,747 | \$14.59  |

Accrual receipts from milk sales are compared with the accrual costs of producing milk per cow and per hundredweight of milk in the preceding table. Using the whole farm method, operating costs of producing milk are estimated by deducting non-milk accrual receipts from total accrual operating expenses including expansion livestock. Total costs of producing milk include accrual operating costs plus expansion livestock purchased, depreciation on machinery and buildings, the value of operator's labor and management, and an interest charge for using equity capital. Note that the cost of operator's labor, management, and equity capital has been excluded in the intermediate calculation.

The total cost of producing milk on all 409 dairy farms averaged \$14.74 per hundredweight, \$0.21 more than the average price received for milk sold from these farms during 1989. In 1988 the total cost of producing milk averaged \$13.67 on 406 New York dairy farms, \$0.64 per hundredweight more than the average price received. This implies dairy farmers are willing to receive less than the stated returns on their labor and equity capital to remain in farming. The imputed costs or return to the operator's labor, management, and equity capital averaged \$2.85 per hundredweight in 1989. The actual estimated returns averaged \$2.64 per hundredweight.

Size of herd and level of milk production are directly related to the cost of producing milk. The cost of production for nine herd size categories and eight production levels is shown in the following table. The average total cost of production was \$16.38 for herds with less than 85 cows, and \$14.32 for those with 85 cows or more, for a difference of \$2.06 per hundredweight. Farms selling less than 17,000 pounds of milk per cow had an average total cost of production of \$16.67 while those selling 17,000 pounds and over averaged approximately \$14.12 for a difference of \$2.55 per hundredweight.

Table 27. FARM COST OF PRODUCING MILK BY HERD SIZE AND MILK SOLD PER COW  
409 New York Dairy Farms, 1989

| Number<br>of Cows | By Herd Size           |                                         |         |                                | By Milk Sold Per Cow   |                                         |         |  |
|-------------------|------------------------|-----------------------------------------|---------|--------------------------------|------------------------|-----------------------------------------|---------|--|
|                   | Cost per Hundredweight |                                         |         |                                | Cost per Hundredweight |                                         |         |  |
|                   | Oper-<br>ating         | Excluding<br>Op.s Labor,<br>Mgt. & Cap. | Total   | Pounds<br>Milk Sold<br>Per Cow | Oper-<br>ating         | Excluding<br>Op.s Labor,<br>Mgt. & Cap. | Total   |  |
| Under 40          | \$10.18                | \$12.17                                 | \$17.64 | Under 12,000                   | \$12.77                | \$14.78                                 | \$20.14 |  |
| 40 to 54          | 10.23                  | 12.04                                   | 16.30   | 12,000 to 13,999               | 10.76                  | 12.67                                   | 16.86   |  |
| 55 to 69          | 10.12                  | 11.89                                   | 16.04   | 14,000 to 14,999               | 11.16                  | 12.78                                   | 16.26   |  |
| 70 to 84          | 10.39                  | 12.03                                   | 15.52   | 15,000 to 15,999               | 10.40                  | 11.86                                   | 15.15   |  |
| 85 to 99          | 10.35                  | 12.01                                   | 15.25   | 16,000 to 16,999               | 10.59                  | 12.05                                   | 14.96   |  |
| 100 to 149        | 10.32                  | 11.67                                   | 14.61   | 17,000 to 17,999               | 10.37                  | 11.75                                   | 14.42   |  |
| 150 to 199        | 10.94                  | 12.32                                   | 14.90   | 18,000 to 19,999               | 10.45                  | 11.85                                   | 14.75   |  |
| 200 to 299        | 10.70                  | 11.88                                   | 13.81   | 20,000 & over                  | 9.94                   | 11.24                                   | 13.18   |  |
| 300 & over        | 10.56                  | 11.69                                   | 13.03   |                                |                        |                                         |         |  |

Costs of production are divided into 10 categories and presented for the 409 New York dairy farms and the top 10 percent farms (by net farm income, without appreciation) in Table 28 on page 23. Accrual non-milk receipts are deducted from accrual expenses on the assumption they were produced at cost. A \$406 increase in crop inventories and government receipts averaging \$3,236 per farm are included as a credit or negative cost of production under feed and crop expenses. Government receipts were primarily crop related in 1989.

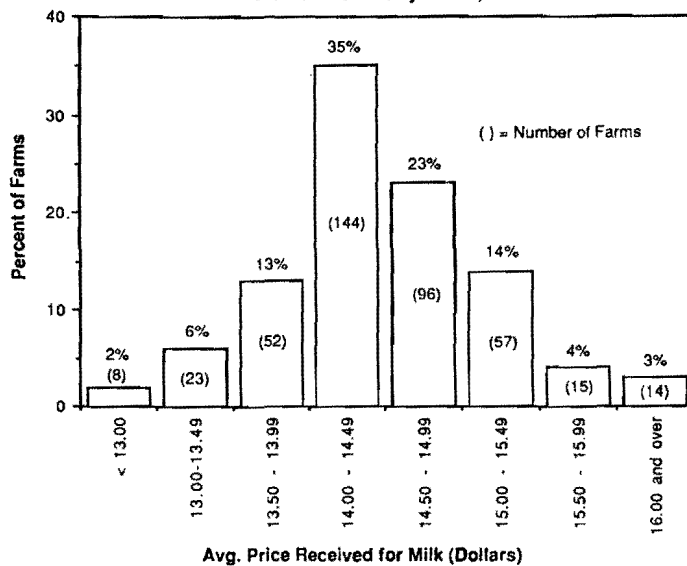
Table 28. TOTAL COST OF PRODUCING MILK BASED ON WHOLE FARM DATA  
409 New York Dairy Farms and Top 10 Percent of Farms, 1989

| Cost Item                                                   | Average of 409<br>New York Dairy Farms |               | Average of<br>Top 10% Farms |               |
|-------------------------------------------------------------|----------------------------------------|---------------|-----------------------------|---------------|
|                                                             | Total                                  | Cost/Cwt.     | Total                       | Cost/Cwt.     |
|                                                             |                                        | (17,975 cwt.) |                             | (55,792 cwt.) |
| <u>Feed &amp; Crop Expense</u>                              |                                        |               |                             |               |
| Dairy grain & concentrate                                   | \$ 69,409                              |               | \$211,061                   |               |
| Dairy roughage                                              | 2,310                                  |               | 6,098                       |               |
| Nondairy feed                                               | 472                                    |               | 273                         |               |
| Fertilizer & lime                                           | 9,066                                  |               | 25,245                      |               |
| All other crop expenses                                     | 7,694                                  |               | 23,944                      |               |
| - Crop sales & gov't receipts                               | 5,657                                  |               | 9,711                       |               |
| TOTAL                                                       | \$ 83,294                              | \$ 4.63       | \$256,910                   | \$ 4.61       |
| <u>Labor Costs</u>                                          |                                        |               |                             |               |
| Value of operator's labor & management & family labor       | \$ 31,080                              |               | \$ 47,461                   |               |
| Hired labor                                                 | 29,077                                 |               | 125,731                     |               |
| TOTAL                                                       | \$ 60,157                              | \$ 3.35       | \$173,192                   | \$ 3.10       |
| <u>Machinery Costs</u>                                      |                                        |               |                             |               |
| Depreciation                                                | \$ 14,934                              |               | \$ 36,442                   |               |
| Machine repairs, hire & auto                                | 17,370                                 |               | 46,523                      |               |
| Fuel, oil & grease                                          | 5,981                                  |               | 14,655                      |               |
| - Gas tax ref & custom work                                 | 550                                    |               | 1,078                       |               |
| TOTAL                                                       | \$ 37,735                              | \$ 2.10       | \$ 96,542                   | \$ 1.73       |
| <u>Livestock Expenses</u>                                   |                                        |               |                             |               |
| Breeding fees, vet & medicine                               | \$ 8,778                               |               | \$ 27,756                   |               |
| Other livestock expense                                     | 10,361                                 |               | 27,127                      |               |
| TOTAL                                                       | \$ 19,139                              | \$ 1.06       | \$ 54,883                   | \$ 0.98       |
| <u>Milk Marketing</u>                                       | \$ 8,761                               | \$ 0.49       | \$ 19,402                   | \$ 0.35       |
| <u>Livestock Ownership</u>                                  |                                        |               |                             |               |
| Purchased livestock                                         | \$ 5,361                               |               | \$ 24,961                   |               |
| Cattle lease                                                | 504                                    |               | 2,476                       |               |
| - Dairy cattle & lvstk. sales                               | 27,204*                                |               | 97,127                      |               |
| TOTAL                                                       | \$-21,339                              | \$-1.19       | \$-69,690                   | \$-1.25       |
| <u>Real Estate Costs</u>                                    |                                        |               |                             |               |
| Land, building & fence repair                               | \$ 4,869                               |               | \$ 14,364                   |               |
| Taxes                                                       | 6,397                                  |               | 13,687                      |               |
| Rent/lease                                                  | 4,447                                  |               | 14,461                      |               |
| Building depreciation                                       | 8,676                                  |               | 29,482                      |               |
| TOTAL                                                       | \$ 24,389                              | \$ 1.36       | \$ 71,994                   | \$ 1.29       |
| <u>Interest Expense</u>                                     |                                        |               |                             |               |
| Interest paid                                               | \$ 19,029                              |               | \$ 47,405                   |               |
| Interest on equity @ 5%                                     | 22,311                                 |               | 54,393                      |               |
| TOTAL                                                       | \$ 41,340                              | \$ 2.30       | \$101,798                   | \$ 1.82       |
| <u>Miscellaneous</u>                                        |                                        |               |                             |               |
| Telephone & electricity                                     | \$ 6,982                               |               | \$ 16,671                   |               |
| Miscellaneous (incl. insurance)                             | 7,421                                  |               | 18,857                      |               |
| - Miscellaneous income                                      | 2,919                                  |               | 11,161                      |               |
| TOTAL                                                       | \$ 11,484                              | \$ 0.64       | \$ 24,367                   | \$ 0.44       |
| TOTAL COST OF PRODUCING MILK                                | \$264,960                              | \$14.74       | \$729,398                   | \$13.07       |
| - Operator's labor, management & capital                    | 51,152                                 | 2.85          | 101,104                     | 1.81          |
| TOTAL COST EXCLUDING OPERATOR'S LABOR, MANAGEMENT & CAPITAL | \$213,808                              | \$11.89       | \$628,294                   | \$11.26       |

\*Includes \$228 of nonfarm noncash capital for cattle and crops.

The average or mean price per hundredweight of milk sold is calculated by dividing the gross milk receipts for the year by the total pounds of milk sold. The average price for the 409 farms was \$14.53 but there was considerable variation among the individual farms. The variation in average price received and the distribution of farms around the mean is shown below.

**Chart 3. VARIATION IN AVERAGE MILK PRICE**  
409 New York Dairy Farms, 1989



Fifty-eight percent of the farms received from \$14.00 to \$14.99 per hundredweight of milk sold. Twenty-one percent of the farms received \$15.00 or more per hundredweight and 21 percent received less than \$14.00 per hundredweight. Location and organization of markets are factors contributing to the variability of milk prices on these dairy farms. Management practices on farms as well as in milk companies also affect farm milk prices. Seasonality of production and butterfat test are two variables under the direct control of the farm manager.

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 the comparison of different size dairy farms for strengths and areas for improvement.

Table 29. **DAIRY RELATED ACCRUAL EXPENSES**  
409 New York Dairy Farms, 1989

| Item                                                | Average 409 Farms |          | Average Top 10% Farms |          |
|-----------------------------------------------------|-------------------|----------|-----------------------|----------|
|                                                     | Per Cow           | Per Cwt. | Per Cow               | Per Cwt. |
| Purc. dairy grain & conc.                           | \$666             | \$3.86   | \$712                 | \$3.78   |
| Purchased dairy roughage                            | 22                | 0.13     | 21                    | 0.11     |
| Total Purchased Dairy Feed                          | \$688             | \$3.99   | \$733                 | \$3.89   |
| Purchased grain & conc.<br>as % of milk receipts    |                   | 27%      |                       | 26%      |
| Purchased feed & crop exp.                          | \$850             | \$4.92   | \$899                 | \$4.77   |
| Purchased feed & crop exp.<br>as % of milk receipts |                   | 34%      |                       | 33%      |
| Breeding                                            | \$32              | \$0.18   | \$29                  | \$0.15   |
| Veterinary & medicine                               | 53                | 0.30     | 65                    | 0.34     |
| Milk marketing                                      | 84                | 0.49     | 65                    | 0.35     |
| Cattle lease                                        | 5                 | 0.03     | 8                     | 0.04     |
| Other livestock expense                             | 99                | 0.58     | 92                    | 0.49     |

Feed costs per cow and per hundredweight of milk sold are influenced by a number of factors. These cost measures are affected by the amount of homegrown grains fed, quality and quantity of the roughage harvested, and the number of youngstock. Feed costs are also influenced by the farmer's ability to purchase grains and concentrates at reasonable prices and to balance nutrients fed with energy and protein requirements.

Purchased dairy grain and concentrates per cow is calculated by dividing the total accrual expenses for dairy grains and concentrates purchased by the average number of cows. Because this also includes the amount spent for calf and heifer feed, it actually represents the feed cost for one cow and 0.80 replacement being raised.

Purchased feed and crop expense per hundredweight of milk is one of the most useful feed cost measures because it accounts for some of the variations in feeding and cropping programs, and milk production between herds. It includes all purchased feeds used on the farm, and it includes crop expenses that are associated with feed production.

Purchased grain and concentrates as percent of milk sales is calculated by dividing feed purchased by milk receipts. This is another useful measure of feed efficiency although variations in homegrown grains fed and milk prices can have an adverse effect. Purchased feed and crop expense as percent of milk sales removes much of the variation caused by the feeding of home grown grains.

Cost control has an important affect on farm profitability. The relationship purchased dairy grain and concentrates as percent of milk receipts has with farm profitability is shown in the following table.

Table 30. PURCHASED FEED AND CROP EXPENSE PER HUNDREDWEIGHT  
OF MILK AND FARM INCOME MEASURES  
409 New York Dairy Farms, 1989

| Feed & Crop<br>Exp. Per Cwt.<br>of Milk | Number<br>of<br>Farms | Number<br>of<br>Cows | Forage<br>Dry Matter<br>Harvested<br>Per Cow | Pounds<br>Milk<br>Per Cow | Net Farm<br>Income<br>Without<br>Apprec. | Labor &<br>Management<br>Income Per<br>Operator |
|-----------------------------------------|-----------------------|----------------------|----------------------------------------------|---------------------------|------------------------------------------|-------------------------------------------------|
| \$6.50 or more                          | 34                    | 76                   | 7.5                                          | 14,870                    | \$17,867                                 | \$-1,151                                        |
| 6.00 to 6.49                            | 28                    | 105                  | 7.2                                          | 16,010                    | 31,875                                   | 5,934                                           |
| 5.50 to 5.99                            | 49                    | 123                  | 8.0                                          | 17,222                    | 51,384                                   | 17,383                                          |
| 5.00 to 5.49                            | 69                    | 108                  | 7.6                                          | 17,182                    | 54,851                                   | 22,947                                          |
| 4.50 to 4.99                            | 89                    | 123                  | 7.4                                          | 18,262                    | 62,373                                   | 26,162                                          |
| 4.00 to 4.49                            | 62                    | 102                  | 8.2                                          | 17,649                    | 51,334                                   | 18,123                                          |
| 3.50 to 3.99                            | 46                    | 77                   | 7.6                                          | 16,506                    | 40,936                                   | 14,014                                          |
| Less than 3.50                          | 32                    | 89                   | 8.2                                          | 17,216                    | 58,040                                   | 22,531                                          |

On the average, farms with purchased feed and crop expenses exceeding \$6.00 per hundredweight of milk sold reported well below average farm profits. Milk output per cow was also well below average on these two groups of farms. Reducing feed and crop expenses does not necessarily lead to higher profits particularly when milk output per cow falls below average.

### 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 the amount of work each worker has accomplished.

Table 31. CAPITAL EFFICIENCY  
409 New York Dairy Farms, 1989

| Item (Average for Year)       | Per Worker | Per Cow | Per Tillable Acre | Per Tillable Acre Owned |
|-------------------------------|------------|---------|-------------------|-------------------------|
| Farm capital                  | \$202,159  | \$6,407 | \$2,114           | \$3,353                 |
| Real estate                   |            | \$2,977 |                   | \$1,558                 |
| Machinery & equipment         | \$36,419   | \$1,154 | \$381             |                         |
| Capital turnover, years       | 2.07       |         |                   |                         |
| <u>Average Top 10% Farms:</u> |            |         |                   |                         |
| Farm capital                  | \$221,830  | \$5,464 | \$2,316           | \$3,638                 |
| Real estate                   |            | \$2,377 |                   | \$1,583                 |
| Machinery & equipment         | \$34,560   | \$851   | \$361             |                         |
| Capital turnover, years       | 1.65       |         |                   |                         |

Capital turnover measures the number of years of farm receipts required to equal or "turnover" capital investment. It is computed by dividing the average farm assets by the year's total farm accrual receipts including appreciation. The relationship capital turnover has to farm profitability and other factors is shown in the following table. As a general rule, dairy farmers should aim for a capital turnover rate of 2.5 years or less.

Table 32. CAPITAL TURNOVER AND LABOR AND MANAGEMENT INCOME  
409 New York Dairy Farms, 1989

| Capital Turnover Rate - Years | No. of Farms | No. of Cows | Farm Capital<br>(average for year)<br>Per Cow Per Worker |           | Labor & Mgt. Inc. Per Operator | Net Farm Income<br>(w/o apprec.) |
|-------------------------------|--------------|-------------|----------------------------------------------------------|-----------|--------------------------------|----------------------------------|
| Less than 1.5                 | 28           | 243         | \$ 4,457                                                 | \$175,825 | \$79,078                       | \$149,645                        |
| 1.5 to 1.99                   | 122          | 118         | 5,562                                                    | 183,087   | 22,969                         | 55,643                           |
| 2.0 to 2.49                   | 140          | 90          | 7,008                                                    | 210,338   | 14,990                         | 44,240                           |
| 2.5 to 2.99                   | 70           | 79          | 7,946                                                    | 220,443   | 8,178                          | 36,474                           |
| 3.0 to 3.49                   | 20           | 77          | 8,278                                                    | 236,187   | -3,583                         | 19,062                           |
| 3.5 & over                    | 29           | 58          | 10,292                                                   | 263,841   | -15,148                        | 5,854                            |

The 41 farms with the highest net farm incomes (without appreciation) were considerably above the average of all 409 farms in two measures of labor efficiency. The top 10 percent sold 40 percent more milk per worker than the average of all farms.

Table 33. LABOR EFFICIENCY  
409 New York Dairy Farms, 1989

| Labor Efficiency     | Average 409 Farms |            | Average Top 10% Farms |            |
|----------------------|-------------------|------------|-----------------------|------------|
|                      | Total             | Per Worker | Total                 | Per Worker |
| Cows, average number | 104               | 32         | 296                   | 41         |
| Milk sold, pounds    | 1,797,462         | 544,598    | 5,579,216             | 764,389    |
| Tillable acres       | 316               | 96         | 699                   | 96         |

The labor force averaged 3.30 full-time worker equivalents per farm. Forty-two percent of the labor was supplied by the farm operator/managers. There were two operators on 161 farms, three on 32 farms, and five farms reported four operators.

Labor costs, labor efficiency, and farm profitability are closely related. Farms with high net farm incomes can attribute some of their success to the control of labor and machinery costs. Labor and machinery costs averaged \$24 per cow less on the 41 farms in the top decile.

Table 34. LABOR FORCE INVENTORY AND COST ANALYSIS  
409 New York Dairy Farms, 1989

| Labor Force       | Months | Age                           | Years<br>of Educ. | Value of<br>Labor & Mgmt. |
|-------------------|--------|-------------------------------|-------------------|---------------------------|
| Operator number 1 | 11.66  | 46                            | 13                | \$20,782                  |
| Operator number 2 | 4.11   | 39                            | 13                | 6,616                     |
| Operator number 3 | 0.82   | 37                            | 13                | 1,272                     |
| Operator number 4 | 0.12   | 37                            | 13                | 171                       |
| Family paid       | 4.77   |                               |                   | Total \$28,841            |
| Family unpaid     | 2.99   |                               |                   |                           |
| Hired             | 15.14  |                               |                   |                           |
| Total             | 39.61  | + 12 = 3.30 Worker Equivalent |                   |                           |
|                   |        | 1.39 Operator/Manager Equiv.  |                   |                           |

Average Top 10% Farms:

|            |       |                                     |  |  |
|------------|-------|-------------------------------------|--|--|
| Total      | 87.59 | + 12 = 7.30 Worker Equivalent       |  |  |
| Operators' | 20.37 | + 12 = 1.70 Operator/Manager Equiv. |  |  |

| Labor Costs                   | Average 409 Farms |            |                  | Average Top 10% Farms |            |                  |
|-------------------------------|-------------------|------------|------------------|-----------------------|------------|------------------|
|                               | Total             | Per<br>Cow | Per<br>Til. Acre | Total                 | Per<br>Cow | Per<br>Til. Acre |
| Value op.s' lab. (\$1,050/mo) | \$17,539          | \$168      | \$ 55.56         | \$ 21,389             | \$ 72      | \$ 30.60         |
| Family unpd. (\$750/mo.)      | 2,239             | 21         | 7.09             | 750                   | 3          | 1.07             |
| Hired                         | 29,078            | 279        | 92.11            | 125,731               | 424        | 179.87           |
| Total Labor                   | \$48,856          | \$469      | \$154.76         | \$147,870             | \$499      | \$211.54         |
| Machinery Cost                | 44,219            | 425        | 140.07           | 109,836               | 371        | 157.13           |
| Total Labor & Mach.           | \$93,075          | \$894      | \$294.84         | \$257,706             | \$870      | \$368.67         |

The relationship of labor efficiency to net farm income is very positive on the 409 farms. The higher outputs of milk sold per worker are partially attributable to more and higher producing cows.

Table 35. MILK SOLD PER WORKER AND NET FARM INCOME  
409 New York Dairy Farms, 1989

| Pounds of Milk<br>Sold Per Worker | No.<br>of<br>Farms | No.<br>of<br>Cows | Pounds<br>Milk<br>Per Cow | Net Farm<br>Income<br>(w/o apprec.) | Labor & Mgmt.<br>Income<br>Per Operator |
|-----------------------------------|--------------------|-------------------|---------------------------|-------------------------------------|-----------------------------------------|
| Under 300,000                     | 42                 | 47                | 13,858                    | \$ 13,907                           | \$-1,611                                |
| 300,000 to 399,999                | 74                 | 64                | 15,376                    | 27,541                              | 6,655                                   |
| 400,000 to 499,999                | 98                 | 78                | 16,460                    | 32,038                              | 7,157                                   |
| 500,000 to 599,999                | 87                 | 98                | 17,411                    | 49,741                              | 18,622                                  |
| 600,000 to 699,999                | 58                 | 141               | 17,702                    | 66,526                              | 27,237                                  |
| 700,000 & over                    | 50                 | 231               | 18,717                    | 126,573                             | 61,780                                  |



Miscellaneous Costs

Costs in addition to feed, machinery, and labor make a sizable impact on total dairy farm expenditures and profits. The "cost conscious" manager checks on all cost items both large and small. Good cost management requires careful planning and priority spending on farm inputs. A number of miscellaneous cost items and cost control measures are reported in the following table to help in a detailed checkup on all farm costs.

Table 36. MISCELLANEOUS COST CONTROL MEASURES  
409 New York Dairy Farms, 1989

| Item                                                                       | Average<br>409 Farms | Average Top<br>10% Farms |
|----------------------------------------------------------------------------|----------------------|--------------------------|
| <u>Livestock</u>                                                           |                      |                          |
| Breeding fees per cow                                                      | \$32                 | \$29                     |
| Veterinary & medicine per cow                                              | \$53                 | \$65                     |
| Other livestock expense per cow                                            | \$99                 | \$92                     |
| Milk marketing per cow                                                     | \$84                 | \$65                     |
| Milk marketing per hundredweight milk                                      | \$0.49               | \$0.35                   |
| <u>Real Estate</u>                                                         |                      |                          |
| Land, building, & fence repair per cow                                     | \$47                 | \$48                     |
| Taxes per cow                                                              | \$61                 | \$46                     |
| Taxes per \$1,000 year-end real estate value                               | \$20                 | \$19                     |
| Rent paid per cow                                                          | \$43                 | \$49                     |
| Rent paid per acre rented                                                  | \$33                 | \$53                     |
| Total real estate expense per cow                                          | \$151                | \$143                    |
| <u>Capital Cost</u>                                                        |                      |                          |
| Interest paid per cow                                                      | \$183                | \$160                    |
| Interest on equity per cow                                                 | \$215                | \$184                    |
| Interest paid as percent of average debt                                   | 8.6%                 | 8.9%                     |
| Machinery depreciation as percent of<br>beginning inventory plus purchases | 11%                  | 12%                      |
| Total depreciation per cow                                                 | \$227                | \$222                    |
| <u>Fixed &amp; Variable Costs*</u>                                         |                      |                          |
| Total fixed costs per cow                                                  | \$836                | \$742                    |
| Total variable costs per cow                                               | \$1,783              | \$1,964                  |
| Variable costs per hundredweight milk sold                                 | \$10.32              | \$10.43                  |

\*Fixed costs include real estate repairs, taxes, insurance, rent, interest paid, depreciation, unpaid family labor, and interest on equity capital. All other costs were classified as variable.

Fixed costs per cow on the top decile farms were 11 percent below the 409 farm average. This results from more intensive use and better management of the resources associated with fixed costs. Variable costs were 11 cents higher per hundredweight of milk sold on the top farms.

### Farm Business Charts

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 409 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.

Table 37. FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS  
409 New York Dairy Farms, 1989

| Size of Business |            |           | Rates of Production |             |              | Labor Efficiency |            |
|------------------|------------|-----------|---------------------|-------------|--------------|------------------|------------|
| Worker           | No.        | Pounds    | Pounds              | Tons        | Tons Corn    | Cows             | Pounds     |
| Equiv-           | of         | Milk      | Milk Sold           | Hay Crop    | Silage       | Per              | Milk Sold  |
| alent            | Cows       | Sold      | Per Cow             | DM/Acre     | Per Acre     | Worker           | Per Worker |
| 8.1              | 319        | 5,936,217 | 20,998              | 4.4         | 21           | 48               | 837,710    |
| 4.6              | 151        | 2,631,025 | 19,213              | 3.5         | 17           | 39               | 673,111    |
| 3.8              | 120        | 2,039,688 | 18,261              | 3.1         | 16           | 36               | 607,303    |
| 3.3              | 99         | 1,686,207 | 17,610              | 2.9         | 15           | 33               | 558,972    |
| 2.9              | 83         | 1,385,769 | 17,083              | 2.7         | 14           | 30               | 511,780    |
| -----            |            |           |                     |             |              |                  |            |
| 2.6              | 71         | 1,178,752 | 16,564              | 2.5         | 13           | 28               | 460,467    |
| 2.3              | 62         | 999,365   | 16,031              | 2.2         | 12           | 26               | 421,664    |
| 2.1              | 55         | 867,115   | 15,228              | 2.0         | 11           | 24               | 385,456    |
| 1.9              | 46         | 720,368   | 14,128              | 1.8         | 9            | 21               | 335,529    |
| 1.4              | 34         | 498,429   | 11,572              | 1.3         | 6            | 16               | 235,225    |
| -----            |            |           |                     |             |              |                  |            |
| Cost Control     |            |           |                     |             |              |                  |            |
| Grain            | % Grain is | Machinery | Labor &             | Feed & Crop | Feed & Crop  |                  |            |
| Bought           | of Milk    | Costs     | Machinery           | Expenses    | Expenses Per |                  |            |
| Per Cow          | Receipts   | Per Cow   | Costs Per Cow       | Per Cow     | Cwt. Milk    |                  |            |
| \$306            | 14%        | \$240     | \$ 609              | \$ 467      | \$3.16       |                  |            |
| 434              | 19         | 310       | 720                 | 601         | 3.81         |                  |            |
| 509              | 22         | 353       | 781                 | 675         | 4.25         |                  |            |
| 566              | 24         | 386       | 828                 | 745         | 4.52         |                  |            |
| 621              | 26         | 420       | 871                 | 796         | 4.74         |                  |            |
| -----            |            |           |                     |             |              |                  |            |
| 678              | 28         | 453       | 921                 | 849         | 4.98         |                  |            |
| 721              | 30         | 480       | 972                 | 907         | 5.24         |                  |            |
| 771              | 31         | 519       | 1,047               | 965         | 5.58         |                  |            |
| 840              | 34         | 579       | 1,125               | 1,030       | 6.01         |                  |            |
| 975              | 40         | 693       | 1,299               | 1,177       | 7.18         |                  |            |

The next section of the Farm Business Chart provides for comparative analysis of the value and costs of dairy production.

The 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.

Table 37 (continued) FARM BUSINESS CHART FOR FARM  
MANAGEMENT COOPERATORS  
409 New York Dairy Farms, 1989

| Milk<br>Receipts<br>Per Cow | Milk<br>Receipts<br>Per Cwt. | Oper. Cost<br>Milk<br>Per Cow | Oper. Cost<br>Milk<br>Per Cwt. | Total Cost<br>Production<br>Per Cow | Total Cost<br>Production<br>Per Cwt. |
|-----------------------------|------------------------------|-------------------------------|--------------------------------|-------------------------------------|--------------------------------------|
| \$3,073                     | \$15.99                      | \$1,044                       | \$ 6.90                        | \$1,898                             | \$12.35                              |
| 2,805                       | 15.13                        | 1,329                         | 8.42                           | 2,153                               | 13.49                                |
| 2,662                       | 14.86                        | 1,453                         | 9.10                           | 2,287                               | 14.01                                |
| 2,560                       | 14.65                        | 1,590                         | 9.67                           | 2,411                               | 14.46                                |
| 2,463                       | 14.49                        | 1,688                         | 10.11                          | 2,518                               | 14.92                                |
| 2,376                       | 14.35                        | 1,768                         | 10.58                          | 2,633                               | 15.41                                |
| 2,289                       | 14.21                        | 1,868                         | 11.05                          | 2,727                               | 15.88                                |
| 2,172                       | 14.07                        | 1,977                         | 11.55                          | 2,838                               | 16.81                                |
| 2,041                       | 13.87                        | 2,105                         | 12.24                          | 2,978                               | 18.05                                |
| 1,696                       | 13.27                        | 2,364                         | 13.98                          | 3,378                               | 21.26                                |

| Profitability        |                         |                                                             |                         |                              |                 |
|----------------------|-------------------------|-------------------------------------------------------------|-------------------------|------------------------------|-----------------|
| Net Farm Income      |                         | Return to Operator's Labor,<br>Management, & Equity Capital |                         | Labor &<br>Management Income |                 |
| With<br>Appreciation | Without<br>Appreciation | With<br>Appreciation                                        | Without<br>Appreciation | Per<br>Farm                  | Per<br>Operator |
| \$248,067            | \$186,279               | \$246,604                                                   | \$185,529               | \$133,487                    | \$105,965       |
| 116,937              | 81,652                  | 115,693                                                     | 79,586                  | 51,295                       | 35,165          |
| 91,414               | 60,780                  | 88,765                                                      | 58,912                  | 34,622                       | 25,238          |
| 73,523               | 48,987                  | 71,909                                                      | 46,653                  | 26,501                       | 19,038          |
| 61,475               | 39,152                  | 58,789                                                      | 36,992                  | 19,566                       | 15,093          |
| 51,477               | 31,888                  | 49,557                                                      | 29,804                  | 14,172                       | 11,283          |
| 42,996               | 25,477                  | 40,684                                                      | 23,070                  | 8,840                        | 7,232           |
| 33,929               | 18,881                  | 31,331                                                      | 16,245                  | 3,043                        | 2,279           |
| 24,761               | 11,170                  | 22,618                                                      | 8,857                   | -6,749                       | -5,599          |
| 3,831                | -7,633                  | 31                                                          | -11,442                 | -33,477                      | -27,966         |

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 supplemental section on pages 45-48.

### Financial Analysis and Management

Analysis and astute management of farm financial affairs must receive high priority if the farm business is to be successful and if the farm family is to achieve a reasonable living standard.

The Farm Finance Checklist and the Financial Analysis Chart are provided to serve as guidelines. Dairy farmers can determine how their financial management measures up by comparing with average data from other farms.

Table 38.

#### A FARM FINANCE CHECKLIST 409 New York Dairy Farms, 1989

|                                                                  | Average 409<br>New York Farms | Average Top<br>10% Farms* |               |                |
|------------------------------------------------------------------|-------------------------------|---------------------------|---------------|----------------|
| <u>How farm assets are being used</u><br>(average for the year): |                               |                           |               |                |
| Total assets (capital) per cow                                   | \$6,407                       | \$5,464                   |               |                |
| Farm assets in livestock                                         | 21%                           | 23%                       |               |                |
| Farm assets in farm real estate                                  | 46%                           | 43%                       |               |                |
| Farm assets in machinery                                         | 18%                           | 16%                       |               |                |
| <u>Measures of debt capacity &amp; debt structure:</u>           |                               |                           |               |                |
| Equity in the business                                           | 68%                           | 69%                       |               |                |
| Farm debt per cow                                                | \$2,048                       | \$1,697                   |               |                |
| Long term debt/asset ratio**                                     | 0.36                          | 0.29                      |               |                |
| Intermediate & current term<br>debt/asset ratio**                | 0.29                          | 0.33                      |               |                |
| Intermediate & current term<br>debt as % of total                | 48%                           | 60%                       |               |                |
| <u>Debt repayment ability:***</u>                                |                               |                           |               |                |
| Cash flow coverage ratio                                         | 1.29                          | 1.63                      |               |                |
| Debt payments made per cow                                       | \$479                         | \$471                     |               |                |
| Debt payments made as % of milk receipts                         | 19%                           | 17%                       |               |                |
| <u>Indicators of annual financial progress:</u>                  |                               |                           |               |                |
|                                                                  | <u>Amount</u>                 | <u>Percent</u>            | <u>Amount</u> | <u>Percent</u> |
| Annual change in farm assets                                     | +\$45,606                     | +7.1%                     | +\$151,134    | +9.8%          |
| Annual change in farm debts                                      | +\$345                        | +0.2%                     | -\$336        | -0.06%         |
| Annual change in farm net worth                                  | +\$45,260                     | +10.7%                    | +\$151,470    | +15.0%         |

\*Forty-one farms with highest net farm incomes (without appreciation).

\*\*Long or intermediate and current term debt divided by long or intermediate and current term assets.

\*\*\*Average of 332 farms (35 farms for top 10 percent) that participated in Summary Program both in 1988 and 1989.

The most profitable farms carried \$351 less debt per cow, had a greater ability to make 1989 debt payments, and equity in their business was one percent more than that of the average.

Average farm assets grew faster than inflation during 1989 and although there was a small increase in farm debts, average net farm worth increased more than 10 percent.

Financial Analysis Chart

The farm financial analysis chart is designed just like the Farm Business Chart on pages 29-30 and may be used to measure the financial health of the farm business. Most of the financial measures used are defined on pages 11, 13, 16, and 26 in this publication.

Table 39.

FINANCIAL ANALYSIS CHART  
409 New York Dairy Farms, 1989

| Liquidity (repayment)    |                                          |                                  |                                              |                 |
|--------------------------|------------------------------------------|----------------------------------|----------------------------------------------|-----------------|
| Debt Payments<br>Per Cow | Available for<br>Debt Service<br>Per Cow | Cash Flow .<br>Coverage<br>Ratio | Debt Payments<br>as Percent<br>of Milk Sales | Debt<br>Per Cow |
| \$ 53                    | \$942                                    | 7.00                             | 2%                                           | \$ 129          |
| 180                      | 762                                      | 2.25                             | 7                                            | 682             |
| 254                      | 663                                      | 1.75                             | 10                                           | 1,156           |
| 333                      | 580                                      | 1.49                             | 13                                           | 1,542           |
| 389                      | 514                                      | 1.21                             | 16                                           | 1,863           |
| 440                      | 460                                      | 1.07                             | 18                                           | 2,212           |
| 487                      | 399                                      | 0.93                             | 20                                           | 2,643           |
| 549                      | 327                                      | 0.77                             | 23                                           | 3,051           |
| 631                      | 244                                      | 0.55                             | 28                                           | 3,541           |
| 889                      | -50                                      | -0.27                            | 39                                           | 4,655           |

| Solvency           |                   |                           |              | Profitability                                   |              |
|--------------------|-------------------|---------------------------|--------------|-------------------------------------------------|--------------|
| Leverage<br>Ratio* | Percent<br>Equity | Debt/Asset Ratio          |              | Percent Rate of Return with<br>appreciation on: |              |
|                    |                   | Current &<br>Intermediate | Long<br>Term | Equity                                          | Investment** |
| 0.02               | 98                | 0.01                      | 0.00         | 30                                              | 19           |
| 0.12               | 89                | 0.05                      | 0.00         | 17                                              | 14           |
| 0.22               | 83                | 0.10                      | 0.08         | 13                                              | 12           |
| 0.32               | 77                | 0.17                      | 0.20         | 11                                              | 10           |
| 0.43               | 71                | 0.22                      | 0.29         | 9                                               | 9            |
| 0.54               | 66                | 0.27                      | 0.39         | 7                                               | 7            |
| 0.67               | 61                | 0.33                      | 0.51         | 5                                               | 6            |
| 0.86               | 54                | 0.39                      | 0.60         | 3                                               | 5            |
| 1.25               | 46                | 0.49                      | 0.73         | 0                                               | 3            |
| 2.79               | 32                | 0.74                      | 1.05         | -14                                             | -2           |

| Efficiency (Capital)           |                                      |                                    |                                 |                                          |
|--------------------------------|--------------------------------------|------------------------------------|---------------------------------|------------------------------------------|
| Capital<br>Turnover<br>(years) | Real Estate<br>Investment<br>Per Cow | Machinery<br>Investment<br>Per Cow | Total Farm<br>Assets<br>Per Cow | Change in<br>Net Worth<br>w/Appreciation |
| 1.40                           | \$1,420                              | \$ 563                             | \$ 4,248                        | \$184,415                                |
| 1.69                           | 1,973                                | 759                                | 5,080                           | 77,982                                   |
| 1.83                           | 2,297                                | 906                                | 5,571                           | 55,765                                   |
| 1.96                           | 2,570                                | 1,029                              | 5,916                           | 44,425                                   |
| 2.10                           | 2,837                                | 1,138                              | 6,287                           | 36,412                                   |
| 2.26                           | 3,081                                | 1,255                              | 6,653                           | 28,486                                   |
| 2.41                           | 3,445                                | 1,391                              | 7,224                           | 21,656                                   |
| 2.59                           | 3,940                                | 1,567                              | 7,810                           | 15,973                                   |
| 2.90                           | 4,646                                | 1,786                              | 8,820                           | 9,520                                    |
| 4.19                           | 7,175                                | 2,505                              | 11,461                          | -14,836                                  |

\*Dollars of debt per dollar of equity, computed by dividing total liabilities by total equity.

\*\*Return on all farm capital (no deduction for interest paid) divided by total farm assets.

## SUPPLEMENTAL INFORMATION

Introduction

Comparisons of business performance by milking frequency, herd size and housing, business organization and milking technology, and numerous other factors are contained in this section. Summary data is also presented for dairy-renters in this section. The tables on the following pages are provided for use as a reference, thus, the discussion of each table is at a minimum.

Comparison of Farms by Milking Frequency: Selected business and cost of milk production factors from farms milking three times per day (3X) in 1988 and 1989 are compared with farms milking twice per day (2X). Farmers milking 3X were milking three times as many cows and selling 3.7 times as much milk as the 2X dairy farmers in 1989. The operating costs of producing milk were somewhat higher on the 3X farms in 1988 and 4 cents per hundredweight lower in 1989. Total costs per hundredweight were substantially lower on 3X farms because the costs of using the operator's labor, management, and capital were spread out over much larger production. The higher returns and profits achieved by the 3X dairy farmers cannot all be attributed to milking frequency. Comparisons of herd size, crop production, cows per worker, capital per cow, and machinery costs per cow indicate there are other important management differences contributing to higher profits.

Herd Size Comparisons: A detailed comparison of profitability, financial situation, and business analysis factors across herd sizes is contained in Tables 41 through 43. As herd size increases, the average profitability also increases (Table 41). Net farm income without appreciation was \$291,433 per farm for the 300 or more herd size group and \$13,766 per farm for those with less than 40 cows. This relationship generally holds for all measures of profitability including rate of return on equity capital.

As herd size increases, percent equity generally decreases (Table 42). However, farm net worth increases substantially as herd size increases. The average net worth for all size farms increased during 1989.

Crop yields generally increased as herd size increased, but fertilizer and lime expenses, and machinery cost per tillable acre also increased (Table 43). Milk sold per cow generally increased as herd size increased, ranging from 15,507 pounds on the farms with less than 40 cows to 19,250 pounds on farms with 300 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 18 at the lowest herd size category up to 44 at the largest size category.

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 summary 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.

Table 44 on page 44 shows the average values for the resulting four groups of dairy farms. Within each housing type, the larger herd size generally has the higher crop yields and pounds of milk sold per cow. The total 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 45-48 (Tables 45-48) 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.

Comparison by Milking System: Farms with herringbone parlors had the highest farm capital per worker and the highest cows per worker (Table 49). Farms with other parlors were larger and had the greatest profitability.

Comparison of Dairy Farm Business Data by Region: Average farm business summary data from four areas or regions of the State are compared in Tables 50 and 51. The largest average farm size, highest average rates of production, and highest average farm profits came from Region 2.

Ten Year Comparisons: Average Cost of Producing Milk: Selected business factors and average data on the cost of producing milk from all specialized dairy farms included in each annual summary from 1980 through 1989 are presented in Tables 52 and 53. This 10 year comparison identifies steady growth in productivity and remarkable cost management as outstanding characteristics on these New York dairy farms.

The whole farm method of calculating the costs of producing milk described on pages 21 and 22 is used in compiling Table 53. The return per hundredweight to operator labor, capital, and management is the average farm price of milk minus the operating cost of milk production, depreciation, and unpaid family labor.

Receipts and Expenses per Hundredweight of Milk and Per Cow: Average itemized accrual receipts and expenses per cow and per hundredweight of milk sold are listed for all 409 dairy farms, 238 dairy farms selling less than 17,259 pounds of milk per cow, and 171 dairy farms selling 17,259 pounds per cow and more in Table 54 on page 54. Total operating expenses averaged 20 percent higher per cow but 54 cents per hundredweight lower on the more productive farms.

Table 55 on page 55 provides the same list of average accrual receipts and expenses for all 409 dairy farms plus a two group herd size comparison. Farms with 100 cows or more had total operating expenses that averaged nine percent higher per cow and 23 cents more per hundredweight of milk than the farms with less than 100 cows. However, accrual receipts averaged 12 cents higher per hundredweight on the larger farms.

Comparisons by Business Organization: A comparison of profitability, business analysis factors, and financial situation by business organization is contained in Table 56. Farms organized as a corporation are larger than partnership-operated farms and more than twice as large as proprietorship-operated farms. Profitability is also greater on corporation organized farms, followed by partnerships and then proprietorships.

Other Comparisons: Dairy-renter farms were smaller than the 409 owner-operated farms, and were less profitable than the average specialized dairy farm (Table 57). A.E. Ext. 90-19 contains detailed information on dairy-renters.

Data for the top 10 percent of farms by net farm income without appreciation is presented in Table 58. Summary data for the 409 specialized dairy farms is presented for the farm in Table 59.

Table 40. SELECTED BUSINESS FACTORS BY MILKING FREQUENCY  
1988 and 1989

| Item                                                | 2x/Day Milking |           | 3x/Day Milking |           |
|-----------------------------------------------------|----------------|-----------|----------------|-----------|
|                                                     | 1988           | 1989      | 1988           | 1989      |
| Number of farms                                     | 389            | 375       | 22             | 29        |
| <u>Business Size &amp; Production</u>               |                |           |                |           |
| Number of cows                                      | 93             | 91        | 253            | 285       |
| Number of heifers                                   | 74             | 73        | 199            | 220       |
| Milk sold, lbs.                                     | 1,521,524      | 1,506,933 | 4,927,133      | 5,629,524 |
| Milk sold/cow, lbs.                                 | 16,409         | 16,634    | 19,478         | 19,743    |
| Milk plant test, % BF                               | 3.75%          | 3.67%     | 3.62%          | 3.67%     |
| Tillable acres, total                               | 287            | 293       | 546            | 628       |
| Hay crop, tons DM/acre                              | 2.6            | 2.6       | 3.0            | 3.0       |
| Corn silage, tons/acre                              | 13.9           | 13.5      | 14.8           | 13.1      |
| Forage DM/cow, tons                                 | 7.5            | 8.0       | 6.6            | 6.5       |
| <u>Labor &amp; Capital Efficiency</u>               |                |           |                |           |
| Worker equivalent                                   | 2.94           | 2.99      | 6.83           | 7.53      |
| Milk sold/worker, lbs.                              | 517,415        | 504,456   | 721,068        | 747,504   |
| Cows/worker                                         | 32             | 30        | 37             | 38        |
| Farm capital/worker                                 | \$195,508      | \$199,248 | \$207,254      | \$217,109 |
| Farm capital/cow                                    | \$6,202        | \$6,570   | \$5,598        | \$5,735   |
| Farm capital/cwt. milk                              | \$37.80        | \$39.50   | \$28.74        | \$29.05   |
| <u>Milk Production Costs &amp; Returns</u>          |                |           |                |           |
| Selected costs/cwt.:                                |                |           |                |           |
| Hired labor                                         | \$1.33         | \$1.40    | \$2.08         | \$2.37    |
| Grain & concentrate                                 | \$3.58         | \$3.87    | \$3.82         | \$3.80    |
| Purchased roughage                                  | \$0.10         | \$0.14    | \$0.17         | \$0.11    |
| Replacements purchased                              | \$0.12         | \$0.18    | \$0.06         | \$0.11    |
| Vet & medicine                                      | \$0.27         | \$0.29    | \$0.33         | \$0.35    |
| Milk marketing                                      | \$0.56         | \$0.53    | \$0.33         | \$0.33    |
| Other dairy expenses                                | \$0.55         | \$0.59    | \$0.59         | \$0.52    |
| Operating costs/cwt.                                | \$9.42         | \$10.47   | \$9.85         | \$10.43   |
| Total labor costs/cwt.                              | \$2.53         | \$2.71    | \$2.44         | \$2.77    |
| Operator resources/cwt.                             | \$3.03         | \$3.20    | \$1.45         | \$1.62    |
| Total costs/cwt.                                    | \$13.95        | \$15.18   | \$12.36        | \$13.22   |
| Average farm price/cwt.                             | \$13.02        | \$14.52   | \$13.04        | \$14.57   |
| Return over total costs/cwt.                        | \$-0.93        | \$-0.66   | \$0.68         | \$1.35    |
| <u>Related Cost Factors</u>                         |                |           |                |           |
| Hired labor/cow                                     | \$218          | \$234     | \$404          | \$468     |
| Total labor/cow                                     | \$416          | \$451     | \$476          | \$542     |
| Purchased dairy feed/cow                            | \$604          | \$667     | \$777          | \$771     |
| Purchased grain & concentrate<br>as % milk receipts | 28%            | 27%       | 29%            | 26%       |
| Vet & medicine/cow                                  | \$31           | \$48      | \$65           | \$70      |
| Machinery costs/cow                                 | \$404          | \$434     | \$358          | \$387     |
| <u>Profitability Analysis</u>                       |                |           |                |           |
| Net farm income (w/o apprec.)                       | \$33,855       | \$40,526  | \$106,531      | \$168,787 |
| Labor & mgmt. income/operator                       | \$9,162        | \$12,807  | \$49,594       | \$76,839  |
| Rates of return on:                                 |                |           |                |           |
| Equity capital w/apprec.                            | 6.14%          | 8.25%     | 15.86%         | 18.51%    |
| All capital w/apprec.                               | 6.76%          | 8.32%     | 12.41%         | 14.51%    |



Table 41.

FARM BUSINESS SUMMARY BY HERD SIZE  
409 New York Dairy Farms, 1989

| Item                          | Farm Size: | Less than<br>40 Cows | 40 to<br>54 Cows | 55 to<br>69 Cows | 70 to<br>84 Cows | 85 to<br>99 Cows |
|-------------------------------|------------|----------------------|------------------|------------------|------------------|------------------|
| Number of farms               |            | 30                   | 71               | 76               | 54               | 36               |
| <u>ACCRUAL EXPENSES</u>       |            |                      |                  |                  |                  |                  |
| Hired labor                   |            | \$ 2,395             | \$ 5,539         | \$ 9,109         | \$ 15,465        | \$ 22,322        |
| Dairy grain & concentrate     |            | 20,568               | 30,134           | 36,734           | 49,960           | 60,192           |
| Dairy roughage                |            | 978                  | 1,689            | 812              | 2,099            | 610              |
| Nondairy feed                 |            | 328                  | 465              | 407              | 569              | 351              |
| Machine hire/rent/lease       |            | 583                  | 1,437            | 1,539            | 2,098            | 1,825            |
| Machine repairs/parts         |            | 3,894                | 5,685            | 8,000            | 9,136            | 14,575           |
| Auto expense (farm share)     |            | 651                  | 633              | 629              | 741              | 868              |
| Fuel, oil & grease            |            | 1,977                | 2,520            | 3,768            | 4,439            | 5,814            |
| Replacement livestock         |            | 2,190                | 1,797            | 1,598            | 1,921            | 2,990            |
| Breeding                      |            | 981                  | 1,686            | 2,188            | 2,644            | 3,502            |
| Veterinary & medicine         |            | 1,468                | 2,001            | 3,023            | 3,357            | 4,676            |
| Milk marketing                |            | 3,179                | 4,852            | 5,862            | 6,959            | 9,584            |
| Cattle lease/rent             |            | 695                  | 172              | 250              | 376              | 172              |
| Other livestock expense       |            | 3,501                | 5,198            | 6,492            | 7,439            | 10,961           |
| Fertilizer & lime             |            | 1,756                | 3,597            | 5,177            | 6,899            | 9,512            |
| Seeds & plants                |            | 810                  | 1,476            | 2,356            | 2,997            | 3,283            |
| Spray & other crop expense    |            | 907                  | 1,243            | 1,784            | 2,247            | 3,696            |
| Land/building/fence repair    |            | 1,515                | 1,612            | 3,045            | 2,884            | 5,343            |
| Taxes & rent                  |            | 3,127                | 4,856            | 7,101            | 8,123            | 9,936            |
| Telephone & electricity       |            | 2,749                | 3,676            | 4,860            | 5,251            | 6,905            |
| Interest paid                 |            | 5,053                | 9,735            | 11,524           | 12,863           | 15,730           |
| Misc. (including insurance)   |            | 2,457                | 3,453            | 5,050            | 5,690            | 6,297            |
| Total Operating Expenses      |            | \$61,762             | \$ 93,456        | \$121,308        | \$154,157        | \$199,144        |
| Expansion livestock           |            | 1                    | 444              | 737              | 495              | 781              |
| Machinery depreciation        |            | 4,874                | 7,916            | 10,386           | 12,113           | 15,505           |
| Building depreciation         |            | 1,986                | 3,152            | 5,531            | 5,758            | 9,294            |
| Total Accrual Expenses        |            | \$68,623             | \$104,968        | \$137,962        | \$172,523        | \$224,724        |
| <u>ACCRUAL RECEIPTS</u>       |            |                      |                  |                  |                  |                  |
| Milk sales                    |            | \$71,242             | \$108,664        | \$148,487        | \$180,271        | \$235,827        |
| Dairy cattle                  |            | 6,649                | 8,678            | 11,397           | 13,504           | 19,819           |
| Dairy calves                  |            | 1,561                | 2,108            | 2,604            | 4,225            | 3,750            |
| Other livestock               |            | 121                  | 939              | 422              | 329              | 174              |
| Crops                         |            | 664                  | 1,940            | 1,201            | 684              | 3,590            |
| Misc. receipts                |            | 2,152                | 2,840            | 3,279            | 5,381            | 5,547            |
| Total Accrual Receipts        |            | \$82,389             | \$125,169        | \$167,390        | \$204,394        | \$268,707        |
| <u>PROFITABILITY ANALYSIS</u> |            |                      |                  |                  |                  |                  |
| Net farm income (w/o apprec.) |            | \$13,766             | \$20,201         | \$29,428         | \$31,871         | \$43,983         |
| Net farm income (w/apprec.)   |            | \$24,047             | \$36,347         | \$48,781         | \$51,376         | \$70,303         |
| Labor & mgmt. income          |            | \$2,102              | \$6,606          | \$11,438         | \$11,758         | \$18,041         |
| Number of operators           |            | 1.15                 | 1.17             | 1.42             | 1.39             | 1.42             |
| Labor & mgmt. inc./oper.      |            | \$1,828              | \$5,646          | \$8,055          | \$8,459          | \$12,705         |
| Rates of return on:           |            |                      |                  |                  |                  |                  |
| Equity capital w/o apprec.    |            | -4.6%                | -1.7%            | 0.3%             | 0.8%             | 2.9%             |
| Equity capital w/apprec.      |            | 1.4%                 | 5.7%             | 6.4%             | 6.4%             | 8.4%             |
| All capital w/o apprec.       |            | -1.1%                | 1.8%             | 2.7%             | 3.0%             | 4.6%             |
| All capital w/apprec.         |            | 3.0%                 | 6.5%             | 6.9%             | 6.9%             | 8.7%             |

Table 41 (continued) FARM BUSINESS SUMMARY BY HERD SIZE  
409 New York Dairy Farms, 1988

| Item                          | Farm Size: | 100 to<br>149 Cows | 150 to<br>199 Cows | 200 to<br>299 Cows | 300 or<br>More Cows |
|-------------------------------|------------|--------------------|--------------------|--------------------|---------------------|
| Number of farms               |            | 80                 | 31                 | 17                 | 14                  |
| <u>ACCRUAL EXPENSES</u>       |            |                    |                    |                    |                     |
| Hired labor                   |            | \$ 30,190          | \$ 55,322          | \$ 83,642          | \$ 253,181          |
| Dairy grain & concentrate     |            | 76,521             | 119,199            | 172,054            | 373,816             |
| Dairy roughage                |            | 3,495              | 4,313              | 5,709              | 6,332               |
| Nondairy feed                 |            | 454                | 749                | 967                | 0                   |
| Machine hire/rent/lease       |            | 2,725              | 3,914              | 5,586              | 19,081              |
| Machine repairs/parts         |            | 17,077             | 23,034             | 34,450             | 60,444              |
| Auto expense (farm share)     |            | 901                | 789                | 752                | 2,637               |
| Fuel, oil & grease            |            | 7,190              | 10,677             | 14,698             | 22,618              |
| Replacement livestock         |            | 2,260              | 3,079              | 16,880             | 8,915               |
| Breeding                      |            | 3,604              | 5,568              | 6,418              | 14,190              |
| Veterinary & medicine         |            | 5,842              | 8,792              | 14,636             | 34,474              |
| Milk marketing                |            | 9,982              | 15,135             | 18,727             | 27,913              |
| Cattle lease/rent             |            | 64                 | 272                | 988                | 6,948               |
| Other livestock expense       |            | 12,307             | 16,189             | 20,429             | 45,722              |
| Fertilizer & lime             |            | 11,174             | 15,645             | 23,013             | 37,238              |
| Seeds & plants                |            | 4,629              | 6,865              | 9,554              | 21,154              |
| Spray & other crop expense    |            | 4,851              | 5,425              | 10,219             | 20,085              |
| Land/building/fence repair    |            | 5,306              | 7,937              | 15,079             | 23,226              |
| Taxes & rent                  |            | 13,533             | 17,365             | 27,240             | 41,176              |
| Telephone & electricity       |            | 8,315              | 11,241             | 13,898             | 25,755              |
| Interest paid                 |            | 22,613             | 32,977             | 42,676             | 89,048              |
| Misc. (including insurance)   |            | 9,421              | 11,400             | 19,671             | 25,496              |
| Total Operating Expenses      |            | \$252,454          | \$375,887          | \$557,286          | \$1,159,449         |
| Expansion livestock           |            | 1,012              | 3,114              | 14,821             | 29,024              |
| Machinery depreciation        |            | 16,740             | 25,779             | 30,127             | 53,395              |
| Building depreciation         |            | 8,762              | 12,154             | 20,363             | 55,376              |
| Total Accrual Expenses        |            | \$278,968          | \$416,934          | \$622,597          | \$1,297,244         |
| <u>ACCRUAL RECEIPTS</u>       |            |                    |                    |                    |                     |
| Milk sales                    |            | \$296,217          | \$424,114          | \$624,999          | \$1,426,857         |
| Dairy cattle                  |            | 22,779             | 31,675             | 69,534             | 137,679             |
| Dairy calves                  |            | 4,544              | 7,831              | 10,033             | 23,397              |
| Other livestock               |            | 287                | 2,423              | 353                | -294                |
| Crops                         |            | 6,136              | 9,456              | 3,941              | -19,703             |
| Misc. receipts                |            | 8,498              | 11,811             | 23,551             | 20,741              |
| Total Accrual Receipts        |            | \$338,461          | \$487,310          | \$732,411          | \$1,588,677         |
| <u>PROFITABILITY ANALYSIS</u> |            |                    |                    |                    |                     |
| Net farm income (w/o apprec.) |            | \$59,493           | \$70,376           | \$109,814          | \$291,433           |
| Net farm income (w/apprec.)   |            | \$89,182           | \$106,904          | \$147,102          | \$380,250           |
| Labor & mgmt. income          |            | \$31,767           | \$30,493           | \$65,406           | \$210,774           |
| Number of operators           |            | 1.51               | 1.67               | 1.49               | 1.41                |
| Labor & mgmt. inc./oper.      |            | \$21,038           | \$18,259           | \$43,897           | \$149,485           |
| Rate of return on:            |            |                    |                    |                    |                     |
| Equity capital w/o apprec.    |            | 4.4%               | 4.2%               | 7.9%               | 15.1%               |
| Equity capital w/apprec.      |            | 10.3%              | 9.0%               | 12.2%              | 20.6%               |
| All capital w/o apprec.       |            | 5.9%               | 5.8%               | 8.3%               | 12.8%               |
| All capital w/apprec.         |            | 9.7%               | 9.0%               | 11.0%              | 16.2%               |

Table 42. FARM FAMILY FINANCIAL SITUATION BY HERD SIZE  
409 New York Dairy Farms, 1989

| Item                              | Farms with: Less than 40 Cows |                | 40 to 54 Cows  |                | 55 to 69 Cows  |                |
|-----------------------------------|-------------------------------|----------------|----------------|----------------|----------------|----------------|
|                                   | Jan. 1                        | Dec. 31        | Jan. 1         | Dec. 31        | Jan. 1         | Dec. 31        |
| <b>ASSETS</b>                     |                               |                |                |                |                |                |
| Farm cash/chkg./sav.              | \$ 2,524                      | \$ 4,952       | \$ 3,145       | \$ 3,115       | \$ 3,664       | \$ 7,866       |
| Accounts receivable               | 5,781                         | 6,583          | 8,661          | 9,928          | 12,079         | 14,717         |
| Prepaid expenses                  | 15                            | 16             | 0              | 75             | 49             | 60             |
| Feed & supplies                   | 13,423                        | 13,293         | 18,305         | 20,065         | 29,450         | 30,543         |
| Livestock*                        | 44,604                        | 48,981         | 61,678         | 71,795         | 83,263         | 92,798         |
| Machinery & equipment*            | 50,078                        | 51,956         | 59,262         | 62,317         | 83,363         | 89,969         |
| FLB & PCA stock                   | 593                           | 364            | 1,252          | 819            | 2,242          | 1,683          |
| Other stock & cert.               | 811                           | 822            | 2,344          | 2,420          | 3,784          | 3,700          |
| Land & buildings*                 | <u>129,350</u>                | <u>134,060</u> | <u>176,176</u> | <u>181,000</u> | <u>227,568</u> | <u>234,459</u> |
| Total Farm Assets                 | \$247,179                     | \$261,027      | \$330,823      | \$351,534      | \$445,462      | \$475,795      |
| Pers. cash/chkg./sav.             | \$ 4,567                      | \$ 5,041       | \$ 3,024       | \$ 3,426       | \$ 6,013       | \$ 6,130       |
| Cash value of life ins.           | 1,328                         | 1,902          | 3,108          | 3,460          | 4,387          | 4,314          |
| Nonfarm real estate               | 17,909                        | 18,136         | 20,159         | 19,118         | 16,809         | 18,298         |
| Auto (personal share)             | 3,101                         | 2,405          | 2,382          | 3,310          | 3,709          | 4,729          |
| Stocks & bonds                    | 2,617                         | 3,728          | 2,997          | 3,230          | 2,885          | 3,227          |
| Household furnishings             | 9,173                         | 8,773          | 9,849          | 10,911         | 8,619          | 9,321          |
| All other                         | <u>4,461</u>                  | <u>3,398</u>   | <u>3,543</u>   | <u>3,181</u>   | <u>2,369</u>   | <u>2,056</u>   |
| Tot. Nonfarm Assets**             | \$ 43,157                     | \$ 43,383      | \$ 45,063      | \$ 46,636      | \$ 44,790      | \$ 48,075      |
| Total Farm & Nonfarm Assets       | \$290,336                     | \$304,410      | \$375,886      | \$398,170      | \$490,252      | \$523,870      |
| <b>LIABILITIES</b>                |                               |                |                |                |                |                |
| Accounts payable                  | \$ 2,375                      | \$ 2,208       | \$ 4,264       | \$ 4,239       | \$ 3,106       | \$ 2,386       |
| Operating debt                    | 419                           | 819            | 1,166          | 1,436          | 1,585          | 1,687          |
| Short term                        | 636                           | 1,094          | 1,217          | 911            | 1,343          | 1,620          |
| Advanced gov't. rec.              | 0                             | 0              | 0              | 27             | 0              | 0              |
| Intermediate***                   | 31,656                        | 31,720         | 44,740         | 46,022         | 49,114         | 51,799         |
| Long term*                        | <u>47,283</u>                 | <u>45,499</u>  | <u>70,569</u>  | <u>67,504</u>  | <u>86,602</u>  | <u>86,107</u>  |
| Total Farm Liab.                  | \$ 82,369                     | \$ 81,340      | \$121,956      | \$120,139      | \$141,750      | \$143,599      |
| Tot. Nonfarm Liab.**              | <u>694</u>                    | <u>829</u>     | <u>3,040</u>   | <u>4,591</u>   | <u>2,496</u>   | <u>2,779</u>   |
| Total Farm & Nonfarm Liabilities  | \$ 83,063                     | \$ 82,169      | \$124,996      | \$124,730      | \$144,246      | \$146,378      |
| Farm Net Worth (Equity Capital)   | \$164,810                     | \$179,687      | \$208,867      | \$231,395      | \$303,712      | \$332,196      |
| Farm & Nonfarm Net Worth          | \$207,273                     | \$222,241      | \$250,890      | \$273,440      | \$346,006      | \$377,492      |
| <b>FINANCIAL MEASURES</b>         |                               |                |                |                |                |                |
|                                   | Less than 40 Cows             |                | 40 to 54 Cows  |                | 55 to 69 Cows  |                |
| Percent equity                    | 69%                           |                | 66%            |                | 70%            |                |
| Debt/asset ratio-long term        | 0.34                          |                | 0.37           |                | 0.37           |                |
| Debt/asset ratio-inter. & current | 0.28                          |                | 0.31           |                | 0.24           |                |
| Change in net worth with apprec.  | \$14,877                      |                | \$22,528       |                | \$28,484       |                |
| Total farm debt per cow           | \$2,392                       |                | \$2,503        |                | \$2,279        |                |
| Debt payments made per cow        | \$504                         |                | \$501          |                | \$487          |                |
| Debt payments as % of milk sales  | 21%                           |                | 21%            |                | 20%            |                |
| Amount avail. for debt service    | \$18,764                      |                | \$23,403       |                | \$30,378       |                |
| Cash flow coverage ratio for 1989 | 1.37                          |                | 1.13           |                | 1.16           |                |

\*Includes discounted lease payments.

\*\*Average of farms reporting nonfarm assets and liabilities for 1989.

\*\*\*Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

Table 42 (cont'd) FARM FAMILY FINANCIAL SITUATION BY HERD SIZE  
409 New York Dairy Farms, 1989

| Farms with:                       |    | 70 to 84 Cows  |                | 85 to 99 Cows  |                |
|-----------------------------------|----|----------------|----------------|----------------|----------------|
| Item                              |    | Jan. 1         | Dec. 31        | Jan. 1         | Dec. 31        |
| <b>ASSETS</b>                     |    |                |                |                |                |
| Farm cash/chkg./savings           | \$ | 4,356          | \$ 4,829       | \$ 10,185      | \$ 11,878      |
| Accounts receivable               |    | 15,076         | 17,283         | 19,203         | 22,459         |
| Prepaid expenses                  |    | 96             | 154            | 0              | 42             |
| Feed & supplies                   |    | 36,556         | 36,738         | 50,109         | 51,786         |
| Livestock*                        |    | 101,318        | 109,932        | 128,625        | 143,711        |
| Machinery & equipment*            |    | 96,463         | 100,690        | 121,493        | 129,779        |
| FLB & PCA stock                   |    | 3,565          | 2,233          | 4,033          | 2,683          |
| Other stock & cert.               |    | 5,548          | 5,605          | 6,792          | 7,166          |
| Land & buildings*                 |    | <u>231,804</u> | <u>244,714</u> | <u>282,422</u> | <u>297,409</u> |
| Total Farm Assets                 |    | \$494,782      | \$522,178      | \$622,862      | \$666,913      |
| Pers. cash/chkg./savings          | \$ | 7,819          | \$ 9,562       | \$ 12,444      | \$ 12,771      |
| Cash value of life ins.           |    | 6,444          | 6,915          | 6,313          | 7,589          |
| Nonfarm real estate               |    | 1,297          | 1,297          | 68,940         | 71,340         |
| Auto (personal share)             |    | 3,278          | 3,262          | 3,974          | 4,604          |
| Stocks & bonds                    |    | 2,326          | 2,855          | 9,066          | 10,275         |
| Household furnishings             |    | 7,540          | 7,663          | 12,040         | 12,140         |
| All other                         |    | <u>2,817</u>   | <u>2,738</u>   | <u>6,061</u>   | <u>6,228</u>   |
| Total Nonfarm Assets**            | \$ | 31,521         | \$ 34,291      | \$118,837      | \$124,947      |
| Total Farm & Nonfarm Assets       |    | \$526,303      | \$556,469      | \$741,699      | \$791,860      |
| <b>LIABILITIES</b>                |    |                |                |                |                |
| Accounts payable                  | \$ | 4,658          | \$ 6,543       | \$ 4,023       | \$ 4,139       |
| Operating debt                    |    | 1,821          | 1,719          | 3,098          | 3,563          |
| Short term                        |    | 2,730          | 2,190          | 429            | 458            |
| Advanced gov't. rec.              |    | 0              | 79             | 46             | 0              |
| Intermediate***                   |    | 70,943         | 68,082         | 70,924         | 70,201         |
| Long term*                        |    | <u>81,571</u>  | <u>83,708</u>  | <u>86,553</u>  | <u>84,557</u>  |
| Total Farm Liab.                  |    | \$161,723      | \$162,321      | \$165,073      | \$162,918      |
| Total Nonfarm Liab.**             |    | <u>730</u>     | <u>946</u>     | <u>1,434</u>   | <u>1,396</u>   |
| Total Farm & Nonfarm Liabilities  |    | \$162,453      | \$163,267      | \$166,507      | \$164,314      |
| Farm Net Worth (Equity Capital)   |    | \$333,059      | \$359,857      | \$457,789      | \$503,995      |
| Farm & Nonfarm Net Worth          |    | \$363,850      | \$393,202      | \$575,192      | \$627,546      |
| <b>FINANCIAL MEASURES</b>         |    |                |                |                |                |
|                                   |    | 70 to 84 Cows  |                | 85 to 99 Cows  |                |
| Percent equity                    |    | 69%            |                | 76%            |                |
| Debt/asset ratio-long term        |    | 0.34           |                | 0.28           |                |
| Debt/asset ratio-inter. & current |    | 0.28           |                | 0.21           |                |
| Change in net worth with apprec.  |    | \$26,798       |                | \$46,206       |                |
| Total farm debt per cow           |    | \$2,081        |                | \$1,715        |                |
| Debt payments made per cow        |    | \$436          |                | \$470          |                |
| Debt payments as % of milk sales  |    | 18%            |                | 18%            |                |
| Amount avail. for debt service    |    | \$34,691       |                | \$50,507       |                |
| Cash flow coverage ratio for 1989 |    | 1.21           |                | 1.50           |                |

\*Includes discounted lease payments.

\*\*Average of farms reporting nonfarm assets and liabilities for 1989.

\*\*\*Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

Table 42 (cont'd) FARM FAMILY FINANCIAL SITUATION BY HERD SIZE  
409 New York Dairy Farms, 1989

|                                   | Farms with: |                | 100 to 149 Cows        |                | 150 to 199 Cows        |                |    |                |
|-----------------------------------|-------------|----------------|------------------------|----------------|------------------------|----------------|----|----------------|
| Item                              |             |                | Jan. 1                 | Dec. 31        | Jan. 1                 | Dec. 31        |    |                |
| <b>ASSETS</b>                     |             |                |                        |                |                        |                |    |                |
| Farm cash/chkg./savings           | \$          | 13,511         | \$                     | 14,250         | \$                     | 8,934          | \$ | 5,412          |
| Accounts receivable               |             | 25,047         |                        | 29,370         |                        | 35,526         |    | 41,319         |
| Prepaid expenses                  |             | 124            |                        | 145            |                        | 0              |    | 119            |
| Feed & supplies                   |             | 57,495         |                        | 63,078         |                        | 76,415         |    | 87,952         |
| Livestock*                        |             | 160,348        |                        | 181,423        |                        | 229,484        |    | 243,888        |
| Machinery & equipment*            |             | 141,672        |                        | 151,849        |                        | 192,342        |    | 211,823        |
| FLB & PCA stock                   |             | 6,027          |                        | 3,729          |                        | 11,558         |    | 7,862          |
| Other stock & cert.               |             | 5,705          |                        | 5,736          |                        | 12,425         |    | 12,461         |
| Land & buildings*                 |             | <u>337,200</u> |                        | <u>343,338</u> |                        | <u>526,377</u> |    | <u>549,276</u> |
| Total Farm Assets                 |             | \$747,129      |                        | \$792,918      |                        | \$1,093,061    |    | \$1,160,112    |
|                                   |             |                |                        |                |                        |                |    |                |
| Pers. cash/chkg./savings          | \$          | 4,720          | \$                     | 5,529          | \$                     | 2,219          | \$ | 4,553          |
| Cash value of life ins.           |             | 3,937          |                        | 4,748          |                        | 9,007          |    | 10,411         |
| Nonfarm real estate               |             | 100,995        |                        | 100,995        |                        | 71,588         |    | 72,088         |
| Auto (personal share)             |             | 3,124          |                        | 3,435          |                        | 2,162          |    | 3,094          |
| Stocks & bonds                    |             | 3,053          |                        | 3,888          |                        | 4,256          |    | 6,244          |
| Household furnishings             |             | 7,768          |                        | 7,402          |                        | 5,912          |    | 6,118          |
| All other                         |             | <u>4,608</u>   |                        | <u>8,487</u>   |                        | <u>27,577</u>  |    | <u>26,508</u>  |
| Total Nonfarm Assets**            |             | \$128,206      |                        | \$134,484      |                        | \$ 122,722     |    | \$ 129,017     |
| Total Farm & Nonfarm Assets       |             | \$875,335      |                        | \$927,402      |                        | \$1,215,783    |    | \$1,289,129    |
|                                   |             |                |                        |                |                        |                |    |                |
| <b>LIABILITIES</b>                |             |                |                        |                |                        |                |    |                |
| Accounts payable                  | \$          | 7,374          | \$                     | 5,669          | \$                     | 10,369         | \$ | 9,279          |
| Operating debt                    |             | 5,270          |                        | 7,241          |                        | 6,989          |    | 8,798          |
| Short term                        |             | 3,012          |                        | 3,166          |                        | 3,793          |    | 1,410          |
| Advanced gov't. rec.              |             | 0              |                        | 16             |                        | 0              |    | 12             |
| Intermediate***                   |             | 98,620         |                        | 96,360         |                        | 131,263        |    | 137,994        |
| Long term*                        |             | <u>150,454</u> |                        | <u>145,360</u> |                        | <u>206,439</u> |    | <u>211,119</u> |
| Total Farm Liab.                  |             | \$264,730      |                        | \$257,812      |                        | \$ 358,853     |    | \$ 368,612     |
| Total Nonfarm Liab.**             |             | <u>2,304</u>   |                        | <u>4,184</u>   |                        | <u>12,740</u>  |    | <u>11,684</u>  |
| Total Farm & Nonfarm Liabilities  |             | \$267,034      |                        | \$261,996      |                        | \$ 371,593     |    | \$ 380,296     |
| Farm Net Worth (Equity Capital)   |             | \$482,399      |                        | \$535,106      |                        | \$ 734,208     |    | \$ 791,500     |
| Farm & Nonfarm Net Worth          |             | \$608,301      |                        | \$665,406      |                        | \$ 844,190     |    | \$ 908,833     |
|                                   |             |                |                        |                |                        |                |    |                |
| <b>FINANCIAL MEASURES</b>         |             |                | <b>100 to 149 Cows</b> |                | <b>150 to 199 Cows</b> |                |    |                |
| Percent equity                    |             |                |                        | 67%            |                        |                |    | 68%            |
| Debt/asset ratio-long term        |             |                |                        | 0.42           |                        |                |    | 0.38           |
| Debt/asset ratio-inter. & current |             |                |                        | 0.25           |                        |                |    | 0.26           |
| Change in net worth with apprec.  |             |                |                        | \$52,707       |                        |                |    | \$57,292       |
| Total farm debt per cow           |             |                |                        | \$2,079        |                        |                |    | \$2,168        |
| Debt payments made per cow        |             |                |                        | \$467          |                        |                |    | \$552          |
| Debt payments as % of milk sales  |             |                |                        | 19%            |                        |                |    | 22%            |
| Amount avail. for debt service    |             |                |                        | \$60,506       |                        |                |    | \$89,986       |
| Cash flow coverage ratio for 1989 |             |                |                        | 1.15           |                        |                |    | 1.11           |

\*Includes discounted lease payments.

\*\*Average of farms reporting nonfarm assets and liabilities for 1989.

\*\*\*Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

Table 42 (cont'd) FARM FAMILY FINANCIAL SITUATION BY HERD SIZE  
409 New York Dairy Farms, 1989

| Item                              | Farms with:     |                | More than 300 Cows |                  |
|-----------------------------------|-----------------|----------------|--------------------|------------------|
|                                   | 200 to 299 Cows |                | Jan. 1             |                  |
|                                   | Jan. 1          | Dec. 31        | Jan. 1             | Dec. 31          |
| <b>ASSETS</b>                     |                 |                |                    |                  |
| Farm cash/chkg./savings           | \$ 5,943        | \$ 8,040       | \$ 16,017          | \$ 24,860        |
| Accounts receivable               | 46,621          | 55,131         | 101,657            | 127,502          |
| Prepaid expenses                  | 471             | 324            | 5,068              | 8,214            |
| Feed & supplies                   | 117,606         | 124,257        | 280,374            | 291,873          |
| Livestock*                        | 304,035         | 340,842        | 553,509            | 629,735          |
| Machinery & equipment*            | 230,326         | 246,739        | 324,924            | 385,629          |
| FLB & PCA stock                   | 13,717          | 9,240          | 18,213             | 13,921           |
| Other stock & cert.               | 21,440          | 22,793         | 68,664             | 69,218           |
| Land & buildings*                 | <u>558,197</u>  | <u>591,508</u> | <u>1,082,573</u>   | <u>1,155,431</u> |
| Total Farm Assets                 | \$1,298,356     | \$1,398,874    | \$2,450,999        | \$2,706,383      |
| Pers. cash/chkg./savings          | \$ 7,411        | \$ 8,267       | \$ 2,040           | \$ 2,328         |
| Cash value of life ins.           | 22,877          | 22,846         | 1,505              | 1,632            |
| Nonfarm real estate               | 12,000          | 14,778         | 34,000             | 33,000           |
| Auto (personal share)             | 5,411           | 6,444          | 3,900              | 2,900            |
| Stocks & bonds                    | 32,971          | 35,919         | 16,667             | 22,049           |
| Household furnishings             | 5,778           | 5,889          | 6,800              | 8,060            |
| All other                         | <u>10,887</u>   | <u>8,623</u>   | <u>8,792</u>       | <u>7,942</u>     |
| Total Nonfarm Assets**            | \$ 97,336       | \$ 102,765     | \$ 73,704          | \$ 77,912        |
| Total Farm & Nonfarm Assets       | \$1,395,692     | \$1,501,639    | \$2,524,703        | \$2,784,295      |
| <b>LIABILITIES</b>                |                 |                |                    |                  |
| Accounts payable                  | \$ 19,458       | \$ 13,985      | \$ 13,502          | \$ 19,014        |
| Operating debt                    | 20,588          | 29,323         | 90,589             | 103,588          |
| Short term                        | 10,610          | 20,582         | 14,800             | 9,189            |
| Advanced gov't. rec.              | 0               | 0              | 0                  | 0                |
| Intermediate***                   | 251,316         | 255,598        | 453,813            | 446,311          |
| Long term*                        | <u>165,971</u>  | <u>168,870</u> | <u>417,087</u>     | <u>393,113</u>   |
| Total Farm Liab.                  | \$ 467,943      | \$ 488,358     | \$ 989,791         | \$ 971,215       |
| Total Nonfarm Liab.**             | <u>161</u>      | <u>1,739</u>   | <u>0</u>           | <u>50</u>        |
| Total Farm & Nonfarm Liabilities  | \$ 468,104      | \$ 490,097     | \$ 989,791         | \$ 971,265       |
| Farm Net Worth (Equity Capital)   | \$ 830,413      | \$ 910,516     | \$1,461,208        | \$1,735,168      |
| Farm & Nonfarm Net Worth          | \$ 927,588      | \$1,011,542    | \$1,534,912        | \$1,813,030      |
| <b>FINANCIAL MEASURES</b>         |                 |                |                    |                  |
|                                   | 200 to 299 Cows |                | More than 300 Cows |                  |
| Percent equity                    | 65%             |                | 64%                |                  |
| Debt/asset ratio-long term        | 0.29            |                | 0.34               |                  |
| Debt/asset ratio-inter. & current | 0.40            |                | 0.37               |                  |
| Change in net worth with apprec.  | \$80,103        |                | \$273,960          |                  |
| Total farm debt per cow           | \$1,908         |                | \$1,805            |                  |
| Debt payments made per cow        | \$501           |                | \$473              |                  |
| Debt payments as % of milk sales  | 19%             |                | 17%                |                  |
| Amount avail. for debt service    | \$135,476       |                | \$353,893          |                  |
| Cash flow coverage ratio for 1989 | 1.29            |                | 1.63               |                  |

\*Includes discounted lease payments.

\*\*Average of farms reporting nonfarm assets and liabilities for 1989.

\*\*\*Includes FLB/PCA stock and discounted lease payments for cattle and machinery.

Table 43. SELECTED BUSINESS FACTORS BY HERD SIZE  
409 New York Dairy Farms, 1989

| Item                                             | Farms with: | Less than<br>40 Cows | 40 to<br>54 Cows | 55 to<br>69 Cows | 70 to<br>84 Cows | 85 to<br>99 Cows |
|--------------------------------------------------|-------------|----------------------|------------------|------------------|------------------|------------------|
| Number of farms                                  |             | 30                   | 71               | 76               | 54               | 36               |
| <u>Cropping Program Analysis</u>                 |             |                      |                  |                  |                  |                  |
| Total Tillable acres                             |             | 116                  | 171              | 225              | 275              | 309              |
| Tillable acres rented*                           |             | 33                   | 56               | 70               | 105              | 132              |
| Hay crop acres*                                  |             | 80                   | 108              | 130              | 154              | 172              |
| Corn silage acres*                               |             | 17                   | 29               | 37               | 56               | 61               |
| Hay crop, tons DM/acre                           |             | 2.2                  | 2.2              | 2.5              | 2.5              | 2.8              |
| Corn silage, tons/acre                           |             | 11.7                 | 13.0             | 12.6             | 11.8             | 13.2             |
| Oats, bushels/acre                               |             | 55.0                 | 46.4             | 54.2             | 59.7             | 53.3             |
| Forage DM per cow, tons                          |             | 7.5                  | 7.9              | 7.9              | 7.9              | 8.1              |
| Tillable acres/cow                               |             | 3.6                  | 3.6              | 3.7              | 3.6              | 3.3              |
| Fert. & lime exp./til. acre                      |             | \$15.14              | \$21.04          | \$23.01          | \$25.08          | \$30.78          |
| Total machinery costs                            |             | \$14,489             | \$21,196         | \$28,625         | \$33,422         | \$44,870         |
| Machinery cost/tillable acre                     |             | \$125                | \$124            | \$127            | \$122            | \$145            |
| <u>Dairy Analysis</u>                            |             |                      |                  |                  |                  |                  |
| Number of cows                                   |             | 32                   | 47               | 62               | 76               | 93               |
| Number of heifers                                |             | 25                   | 37               | 51               | 63               | 73               |
| Milk sold, lbs.                                  |             | 497,255              | 756,545          | 1,019,196        | 1,256,591        | 1,613,365        |
| Milk sold/cow, lbs.                              |             | 15,507               | 16,044           | 16,569           | 16,482           | 17,426           |
| Operating cost of prod. milk/cwt.                |             | \$10.18              | \$10.23          | \$10.12          | \$10.39          | \$10.35          |
| Total cost of prod. milk/cwt.                    |             | \$17.64              | \$16.30          | \$16.04          | \$15.52          | \$15.25          |
| Price/cwt. milk sold                             |             | \$14.33              | \$14.36          | \$14.57          | \$14.35          | \$14.62          |
| Purchased dairy feed/cow                         |             | \$671                | \$674            | \$611            | \$683            | \$657            |
| Purchased dairy feed/cwt. milk                   |             | \$4.33               | \$4.21           | \$3.68           | \$4.14           | \$3.77           |
| Purchased grain & conc. as %<br>of milk receipts |             | 29%                  | 28%              | 25%              | 28%              | 26%              |
| Purchased feed & crop<br>expense/cwt. milk       |             | \$5.03               | \$5.04           | \$4.60           | \$5.11           | \$4.79           |
| <u>Capital Efficiency</u>                        |             |                      |                  |                  |                  |                  |
| Farm capital/worker                              |             | \$143,810            | \$170,134        | \$187,911        | \$179,989        | \$208,333        |
| Farm capital/cow                                 |             | \$7,916              | \$7,228          | \$7,490          | \$6,673          | \$6,964          |
| Farm capital/til. acre owned                     |             | \$3,025              | \$2,967          | \$2,991          | \$2,991          | \$3,643          |
| Real estate/cow                                  |             | \$4,103              | \$3,784          | \$3,756          | \$3,127          | \$3,131          |
| Machinery investment/cow                         |             | \$1,589              | \$1,288          | \$1,409          | \$1,294          | \$1,357          |
| Capital turnover, years                          |             | 2.74                 | 2.41             | 2.47             | 2.27             | 2.19             |
| <u>Labor Efficiency</u>                          |             |                      |                  |                  |                  |                  |
| Worker equivalent                                |             | 1.77                 | 2.01             | 2.45             | 2.83             | 3.10             |
| Operator/manager equivalent                      |             | 1.15                 | 1.17             | 1.42             | 1.39             | 1.42             |
| Milk sold/worker, lbs.                           |             | 281,421              | 377,263          | 415,775          | 444,802          | 521,203          |
| Cows/worker                                      |             | 18                   | 23               | 25               | 27               | 30               |
| Work units/worker                                |             | 194                  | 253              | 272              | 290              | 320              |
| Labor cost/cow                                   |             | \$620                | \$486            | \$474            | \$469            | \$455            |
| Labor cost/tillable acre                         |             | \$172                | \$134            | \$129            | \$130            | \$136            |

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

Table 43 (continued) SELECTED BUSINESS FACTORS BY HERD SIZE  
409 New York Dairy Farms, 1989

| Item                                             | Farms with: | 100 to<br>149 Cows | 150 to<br>199 Cows | 200 to<br>299 Cows | 300 or<br>More Cows |
|--------------------------------------------------|-------------|--------------------|--------------------|--------------------|---------------------|
| Number of farms                                  |             | 80                 | 31                 | 17                 | 14                  |
| <u>Cropping Program Analysis</u>                 |             |                    |                    |                    |                     |
| Total tillable acres                             |             | 381                | 525                | 599                | 964                 |
| Tillable acres rented*                           |             | 153                | 211                | 206                | 339                 |
| Hay crop acres*                                  |             | 198                | 260                | 244                | 326                 |
| Corn silage acres*                               |             | 94                 | 146                | 257                | 432                 |
| Hay crop, tons DM/acre                           |             | 2.9                | 2.5                | 3.1                | 3.2                 |
| Corn silage, tons/acre                           |             | 14.4               | 14.0               | 12.6               | 13.7                |
| Oats, bushels/acre                               |             | 54.6               | 57.9               | 33.8               | 62.5                |
| Forage DM per cow, tons                          |             | 8.5                | 8.0                | 7.5                | 5.9                 |
| Tillable acres/cow                               |             | 3.2                | 3.1                | 2.5                | 1.9                 |
| Fert. & lime exp./til. acre                      |             | \$29.33            | \$29.80            | \$38.42            | \$38.63             |
| Total machinery costs                            |             | \$51,786           | \$74,086           | \$97,355           | \$175,380           |
| Machinery cost/tillable acre                     |             | \$136              | \$141              | \$163              | \$182               |
| <u>Dairy Analysis</u>                            |             |                    |                    |                    |                     |
| Number of cows                                   |             | 121                | 170                | 244                | 505                 |
| Number of heifers                                |             | 99                 | 140                | 181                | 381                 |
| Milk sold, lbs.                                  |             | 2,047,224          | 2,885,439          | 4,343,897          | 9,718,642           |
| Milk sold/cow, lbs.                              |             | 16,909             | 17,018             | 17,790             | 19,250              |
| Operating cost of prod. milk/cwt.                |             | \$10.32            | \$10.94            | \$10.70            | \$10.56             |
| Total cost of prod. milk/cwt.                    |             | \$14.61            | \$14.90            | \$13.81            | \$13.03             |
| Price/cwt. milk sold                             |             | \$14.47            | \$14.70            | \$14.39            | \$14.68             |
| Purchased dairy feed/cow                         |             | \$661              | \$729              | \$728              | \$753               |
| Purchased dairy feed/cwt. milk                   |             | \$3.91             | \$4.28             | \$4.09             | \$3.91              |
| Purchased grain & conc. as %<br>of milk receipts |             | 26%                | 28%                | 28%                | 26%                 |
| Purchased feed & crop<br>expense/cwt. milk       |             | \$4.92             | \$5.25             | \$5.08             | \$4.72              |
| <u>Capital Efficiency</u>                        |             |                    |                    |                    |                     |
| Farm capital/worker                              |             | \$214,342          | \$228,974          | \$219,354          | \$225,760           |
| Farm capital/cow                                 |             | \$6,359            | \$6,647            | \$5,523            | \$5,107             |
| Farm capital/til. acre owned                     |             | \$3,377            | \$3,576            | \$3,432            | \$4,126             |
| Real estate/cow                                  |             | \$2,810            | \$3,173            | \$2,354            | \$2,216             |
| Machinery investment/cow                         |             | \$1,212            | \$1,192            | \$977              | \$704               |
| Capital turnover, years                          |             | 2.09               | 2.15               | 1.75               | 1.54                |
| <u>Labor Efficiency</u>                          |             |                    |                    |                    |                     |
| Worker equivalent                                |             | 3.59               | 4.92               | 6.15               | 11.42               |
| Operator/manager equivalent                      |             | 1.51               | 1.67               | 1.49               | 1.41                |
| Milk sold/worker, lbs.                           |             | 569,861            | 586,452            | 706,539            | 850,851             |
| Cows/worker                                      |             | 34                 | 35                 | 40                 | 44                  |
| Work units/worker                                |             | 357                | 367                | 402                | 433                 |
| Labor cost/cow                                   |             | \$425              | \$461              | \$423              | \$538               |
| Labor cost/tillable acre                         |             | \$135              | \$149              | \$172              | \$282               |

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



Table 44. SELECTED BUSINESS FACTORS BY TYPE OF BARN  
AND HERD SIZE  
381 New York Dairy Farms, 1989

| Item                                              | Farms with:  |           | Freestall |           |
|---------------------------------------------------|--------------|-----------|-----------|-----------|
|                                                   | Conventional |           | Freestall |           |
|                                                   | ≤60 Cows     | >60 Cows  | ≤120 Cows | >120 Cows |
| Number of farms                                   | 122          | 109       | 65        | 85        |
| <u>Cropping Program Analysis</u>                  |              |           |           |           |
| Total Tillable acres                              | 167          | 294       | 270       | 585       |
| Tillable acres rented*                            | 53           | 115       | 100       | 217       |
| Hay crop acres*                                   | 103          | 172       | 146       | 251       |
| Corn silage acres*                                | 28           | 56        | 67        | 201       |
| Hay crop, tons DM/acre                            | 2.3          | 2.6       | 2.5       | 2.9       |
| Corn silage, tons/acre                            | 12.2         | 13.8      | 13.7      | 13.4      |
| Oats, bushels/acre                                | 49.6         | 58.7      | 60.0      | 54.7      |
| Forage DM per cow, tons                           | 7.7          | 8.1       | 8.1       | 7.2       |
| Tillable acres/cow                                | 3.6          | 3.4       | 3.2       | 2.6       |
| Fert. & lime exp./til. acre                       | \$22.30      | \$24.69   | \$30.57   | 33.16     |
| Total machinery costs                             | \$21,279     | \$36,427  | \$40,470  | \$90,526  |
| Machinery cost/tillable acre                      | \$127        | \$124     | \$150     | \$155     |
| <u>Dairy Analysis</u>                             |              |           |           |           |
| Number of cows                                    | 46           | 87        | 85        | 227       |
| Number of heifers                                 | 37           | 71        | 69        | 177       |
| Milk sold, lbs.                                   | 743,605      | 1,453,839 | 1,415,556 | 4,098,891 |
| Milk sold/cow, lbs.                               | 16,157       | 16,697    | 16,585    | 18,066    |
| Operating cost of prod. milk/cwt.                 | \$10.11      | \$10.42   | \$10.29   | \$10.68   |
| Total cost of prod. milk/cwt.                     | \$16.41      | \$15.19   | \$15.45   | \$13.92   |
| Price/cwt. milk sold                              | \$14.40      | \$14.43   | \$14.58   | \$14.62   |
| Purchased dairy feed/cow                          | \$649        | \$664     | \$658     | \$723     |
| Purchased dairy feed/cwt. milk                    | \$4.01       | \$3.98    | \$3.97    | \$4.00    |
| Purc. grain & conc. as % milk rec.                | 27%          | 27%       | 26%       | 26%       |
| Purc. feed & crop exp./cwt. milk                  | \$4.90       | \$4.86    | \$5.00    | \$4.93    |
| <u>Capital Efficiency</u>                         |              |           |           |           |
| Farm capital/worker                               | \$168,798    | \$199,109 | \$205,751 | \$221,387 |
| Farm capital/cow                                  | \$7,429      | \$6,765   | \$6,882   | \$5,812   |
| Farm capital/til. acre owned                      | \$2,998      | \$3,292   | \$3,437   | \$3,593   |
| Real estate/cow                                   | \$3,824      | \$3,248   | \$3,176   | \$2,582   |
| Machinery investment/cow                          | \$1,391      | \$1,205   | \$1,417   | \$973     |
| Capital turnover, years                           | 2.48         | 2.30      | 2.26      | 1.81      |
| <u>Labor Efficiency</u>                           |              |           |           |           |
| Worker equivalent                                 | 2.02         | 2.96      | 2.86      | 5.96      |
| Operator/manager equivalent                       | 1.22         | 1.44      | 1.44      | 1.51      |
| Milk sold/worker, lbs.                            | 367,285      | 491,277   | 495,572   | 688,163   |
| Cows/worker                                       | 23           | 29        | 30        | 38        |
| Work units/worker                                 | 245          | 314       | 316       | 390       |
| Labor cost/cow                                    | \$498        | \$447     | \$430     | \$483     |
| Labor cost/tillable acre                          | \$137        | \$133     | \$136     | \$187     |
| <u>Profitability &amp; Balance Sheet Analysis</u> |              |           |           |           |
| Net farm income (w/o apprec.)                     | \$20,720     | \$39,553  | \$39,227  | \$112,143 |
| Labor & mgmt. income/operator                     | \$5,437      | \$11,836  | \$11,533  | \$45,387  |
| Farm debt/cow                                     | \$2,375      | \$2,055   | \$2,116   | \$2,024   |
| Percent equity                                    | 68%          | 70%       | 69%       | 65%       |

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

Table 45. FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARM  
122 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 1989

| Size of Business             |            |            | Rates of Production |             |              | Labor Efficiency |            |
|------------------------------|------------|------------|---------------------|-------------|--------------|------------------|------------|
| Worker                       | No.        | Pounds     | Pounds              | Tons        | Tons Corn    | Cows             | Pounds     |
| Equiv-                       | of         | Milk       | Milk Sold           | Hay Crop    | Silage       | Per              | Milk Sold  |
| alent                        | Cows       | Sold       | Per Cow             | DM/Acre     | Per Acre     | Worker           | Per Worker |
| 3.2                          | 59         | 1,082,881  | 20,110              | 3.7         | 21           | 35               | 587,841    |
| 2.5                          | 56         | 958,974    | 18,349              | 3.1         | 17           | 29               | 499,136    |
| 2.3                          | 54         | 892,052    | 17,564              | 2.8         | 16           | 27               | 450,294    |
| 2.1                          | 52         | 827,657    | 16,984              | 2.6         | 15           | 26               | 422,701    |
| 2.0                          | 49         | 783,358    | 16,434              | 2.5         | 13           | 24               | 397,144    |
| -----                        |            |            |                     |             |              |                  |            |
| 2.0                          | 45         | 719,950    | 15,944              | 2.2         | 12           | 23               | 374,075    |
| 1.9                          | 43         | 650,096    | 15,271              | 2.0         | 11           | 22               | 345,055    |
| 1.7                          | 40         | 584,651    | 14,520              | 1.9         | 10           | 20               | 303,273    |
| 1.4                          | 35         | 530,551    | 13,332              | 1.7         | 8            | 17               | 258,421    |
| 1.1                          | 26         | 359,661    | 11,239              | 1.1         | 4            | 13               | 177,369    |
| -----                        |            |            |                     |             |              |                  |            |
| Cost Control                 |            |            |                     |             |              |                  |            |
| Grain                        | % Grain is | Machinery  | Labor &             | Feed & Crop | Feed & Crop  |                  |            |
| Bought                       | of Milk    | Costs      | Machinery           | Expenses    | Expenses Per |                  |            |
| Per Cow                      | Receipts   | Per Cow    | Costs Per Cow       | Per Cow     | Cwt. Milk    |                  |            |
| \$316                        | 14%        | \$217      | \$ 664              | \$ 464      | \$3.17       |                  |            |
| 442                          | 20         | 299        | 771                 | 562         | 3.75         |                  |            |
| 487                          | 22         | 362        | 822                 | 624         | 4.05         |                  |            |
| 541                          | 24         | 410        | 868                 | 687         | 4.44         |                  |            |
| 578                          | 26         | 448        | 916                 | 744         | 4.66         |                  |            |
| -----                        |            |            |                     |             |              |                  |            |
| 622                          | 28         | 473        | 972                 | 790         | 4.90         |                  |            |
| 688                          | 30         | 504        | 1,036               | 842         | 5.12         |                  |            |
| 732                          | 32         | 543        | 1,093               | 927         | 5.55         |                  |            |
| 812                          | 34         | 597        | 1,151               | 1,020       | 6.12         |                  |            |
| 977                          | 41         | 717        | 1,400               | 1,194       | 7.54         |                  |            |
| -----                        |            |            |                     |             |              |                  |            |
| Value and Cost of Production |            |            | Profitability       |             |              |                  |            |
| Milk                         | Oper. Cost | Total Cost | Net Farm Income     |             | Labor &      | Change in        |            |
| Receipts                     | Milk       | Production | With                | Without     | Mgmt. Inc.   | Net Worth        |            |
| Per Cow                      | Per Cwt.   | Per Cwt.   | Apprec.             | Apprec.     | Per Oper.    | w/Apprec.        |            |
| \$2,973                      | \$ 6.19    | \$13.34    | \$77,328            | \$48,104    | \$26,023     | \$56,366         |            |
| 2,688                        | 8.05       | 14.29      | 57,624              | 35,025      | 18,388       | 37,798           |            |
| 2,566                        | 9.03       | 14.76      | 45,724              | 31,524      | 14,483       | 31,255           |            |
| 2,453                        | 9.40       | 15.15      | 39,848              | 26,540      | 12,362       | 26,731           |            |
| 2,339                        | 9.81       | 15.56      | 35,068              | 22,584      | 9,906        | 21,857           |            |
| -----                        |            |            |                     |             |              |                  |            |
| 2,243                        | 10.12      | 16.02      | 32,068              | 19,706      | 6,256        | 18,070           |            |
| 2,160                        | 10.61      | 17.04      | 27,705              | 15,506      | 2,400        | 14,531           |            |
| 2,066                        | 11.22      | 17.97      | 23,549              | 11,515      | -1,429       | 11,710           |            |
| 1,870                        | 12.19      | 19.30      | 15,708              | 3,658       | -7,860       | 6,889            |            |
| 1,617                        | 14.13      | 23.57      | 551                 | -8,603      | -24,176      | -6,541           |            |

Table 46. FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS  
109 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 1989

| Size of Business          |                   |                        | Rates of Production            |                             |                                 | Labor Efficiency      |                                   |
|---------------------------|-------------------|------------------------|--------------------------------|-----------------------------|---------------------------------|-----------------------|-----------------------------------|
| Worker<br>Equiv-<br>alent | No.<br>of<br>Cows | Pounds<br>Milk<br>Sold | Pounds<br>Milk Sold<br>Per Cow | Tons<br>Hay Crop<br>DM/Acre | Tons Corn<br>Silage<br>Per Acre | Cows<br>Per<br>Worker | Pounds<br>Milk Sold<br>Per Worker |
| 5.0                       | 148               | 2,535,927              | 20,872                         | 4.7                         | 21                              | 44                    | 735,247                           |
| 3.9                       | 110               | 1,927,801              | 19,003                         | 3.7                         | 17                              | 37                    | 635,498                           |
| 3.3                       | 97                | 1,674,576              | 18,148                         | 3.2                         | 16                              | 35                    | 578,731                           |
| 3.0                       | 91                | 1,490,911              | 17,659                         | 3.0                         | 15                              | 33                    | 555,010                           |
| 2.9                       | 81                | 1,378,256              | 17,136                         | 2.7                         | 14                              | 31                    | 528,601                           |
| 2.6                       | 76                | 1,282,035              | 16,615                         | 2.4                         | 13                              | 29                    | 478,090                           |
| 2.5                       | 71                | 1,204,144              | 16,073                         | 2.2                         | 12                              | 28                    | 434,996                           |
| 2.3                       | 68                | 1,121,221              | 15,296                         | 2.0                         | 11                              | 25                    | 409,259                           |
| 2.1                       | 65                | 1,016,738              | 14,152                         | 1.8                         | 9                               | 23                    | 363,710                           |
| 1.9                       | 62                | 852,073                | 11,564                         | 1.3                         | 6                               | 19                    | 301,588                           |

| Cost Control               |                                   |                               |                                       |                                    |                                          |
|----------------------------|-----------------------------------|-------------------------------|---------------------------------------|------------------------------------|------------------------------------------|
| Grain<br>Bought<br>Per Cow | % Grain is<br>of Milk<br>Receipts | Machinery<br>Costs<br>Per Cow | Labor &<br>Machinery<br>Costs Per Cow | Feed & Crop<br>Expenses<br>Per Cow | Feed & Crop<br>Expenses Per<br>Cwt. Milk |
| \$ 287                     | 13%                               | \$230                         | \$ 584                                | \$ 415                             | \$2.96                                   |
| 387                        | 19                                | 296                           | 690                                   | 570                                | 3.72                                     |
| 507                        | 21                                | 331                           | 748                                   | 667                                | 4.24                                     |
| 581                        | 24                                | 363                           | 800                                   | 749                                | 4.50                                     |
| 645                        | 27                                | 403                           | 841                                   | 787                                | 4.69                                     |
| 690                        | 29                                | 437                           | 887                                   | 828                                | 4.87                                     |
| 733                        | 30                                | 469                           | 929                                   | 892                                | 5.11                                     |
| 772                        | 31                                | 494                           | 977                                   | 945                                | 5.44                                     |
| 844                        | 33                                | 550                           | 1,061                                 | 998                                | 5.69                                     |
| 1,022                      | 40                                | 626                           | 1,181                                 | 1,184                              | 6.82                                     |

| Value and Cost of Production |                                |                                      | Profitability                      |                    |                                    |                                     |
|------------------------------|--------------------------------|--------------------------------------|------------------------------------|--------------------|------------------------------------|-------------------------------------|
| Milk<br>Receipts<br>Per Cow  | Oper. Cost<br>Milk<br>Per Cwt. | Total Cost<br>Production<br>Per Cwt. | Net Farm Income<br>With<br>Apprec. | Without<br>Apprec. | Labor &<br>Mgmt. Inc.<br>Per Oper. | Change in<br>Net Worth<br>w/Apprec. |
| \$3,077                      | \$ 7.09                        | \$12.08                              | \$114,433                          | \$88,805           | \$49,904                           | \$91,501                            |
| 2,729                        | 8.23                           | 13.18                                | 94,259                             | 65,165             | 31,977                             | 63,463                              |
| 2,620                        | 8.88                           | 13.91                                | 77,085                             | 55,430             | 24,453                             | 48,723                              |
| 2,523                        | 9.66                           | 14.33                                | 66,467                             | 47,313             | 18,813                             | 40,634                              |
| 2,443                        | 10.21                          | 14.83                                | 59,917                             | 41,312             | 15,344                             | 33,677                              |
| 2,382                        | 10.68                          | 15.30                                | 54,078                             | 34,051             | 10,150                             | 25,419                              |
| 2,331                        | 11.12                          | 15.85                                | 50,247                             | 28,701             | 5,622                              | 20,441                              |
| 2,185                        | 11.49                          | 16.51                                | 42,611                             | 22,779             | -23                                | 15,025                              |
| 2,045                        | 12.22                          | 17.64                                | 26,362                             | 12,470             | -7,495                             | 8,067                               |
| 1,663                        | 13.72                          | 19.28                                | 7,372                              | -4,472             | -30,414                            | -15,456                             |

Table 47. FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS  
65 Freestall Barn Dairy Farms with 120 or Less Cows, New York, 1989

| Size of Business             |            |            | Rates of Production |             |              | Labor Efficiency |            |
|------------------------------|------------|------------|---------------------|-------------|--------------|------------------|------------|
| Worker                       | No.        | Pounds     | Pounds              | Tons        | Tons Corn    | Cows             | Pounds     |
| Equiv-                       | of         | Milk       | Milk Sold           | Hay Crop    | Silage       | Per              | Milk Sold  |
| alent                        | Cows       | Sold       | Per Cow             | DM/Acre     | Per Acre     | Worker           | Per Worker |
| 4.1                          | 117        | 2,099,489  | 20,204              | 3.7         | 19           | 49               | 818,478    |
| 3.6                          | 110        | 1,937,211  | 19,154              | 3.2         | 18           | 39               | 658,565    |
| 3.3                          | 104        | 1,768,897  | 18,170              | 3.0         | 16           | 36               | 588,100    |
| 3.1                          | 96         | 1,652,918  | 17,494              | 2.7         | 15           | 33               | 550,232    |
| 3.0                          | 87         | 1,435,527  | 16,761              | 2.6         | 14           | 30               | 506,410    |
| -----                        |            |            |                     |             |              |                  |            |
| 2.7                          | 79         | 1,255,415  | 16,149              | 2.5         | 13           | 28               | 468,429    |
| 2.5                          | 73         | 1,167,685  | 15,604              | 2.2         | 12           | 27               | 441,999    |
| 2.3                          | 67         | 992,268    | 14,639              | 2.0         | 12           | 24               | 396,308    |
| 2.0                          | 61         | 886,048    | 13,300              | 1.7         | 10           | 22               | 339,922    |
| 1.5                          | 45         | 657,390    | 11,473              | 1.3         | 6            | 18               | 253,660    |
| -----                        |            |            |                     |             |              |                  |            |
| Cost Control                 |            |            |                     |             |              |                  |            |
| Grain                        | % Grain is | Machinery  | Labor &             | Feed & Crop | Feed & Crop  |                  |            |
| Bought                       | of Milk    | Costs      | Machinery           | Expenses    | Expenses Per |                  |            |
| Per Cow                      | Receipts   | Per Cow    | Costs Per Cow       | Per Cow     | Cwt. Milk    |                  |            |
| \$262                        | 11%        | \$262      | \$ 629              | \$ 499      | \$3.18       |                  |            |
| 414                          | 18         | 335        | 685                 | 598         | 3.65         |                  |            |
| 481                          | 21         | 361        | 726                 | 648         | 4.03         |                  |            |
| 529                          | 23         | 387        | 807                 | 695         | 4.39         |                  |            |
| 559                          | 24         | 416        | 848                 | 747         | 4.75         |                  |            |
| -----                        |            |            |                     |             |              |                  |            |
| 619                          | 26         | 442        | 892                 | 823         | 5.10         |                  |            |
| 711                          | 29         | 486        | 946                 | 884         | 5.37         |                  |            |
| 786                          | 31         | 581        | 1,028               | 985         | 5.72         |                  |            |
| 827                          | 35         | 627        | 1,150               | 1,066       | 6.23         |                  |            |
| 927                          | 39         | 772        | 1,319               | 1,166       | 7.47         |                  |            |
| -----                        |            |            |                     |             |              |                  |            |
| Value and Cost of Production |            |            | Profitability       |             |              |                  |            |
| Milk                         | Oper. Cost | Total Cost | Net Farm Income     |             | Labor &      | Change in        |            |
| Receipts                     | Milk       | Production | With                | Without     | Mgmt. Inc.   | Net Worth        |            |
| Per Cow                      | Per Cwt.   | Per Cwt.   | Apprec.             | Apprec.     | Per Oper.    | w/Apprec.        |            |
| \$2,931                      | \$ 7.42    | \$12.82    | \$131,181           | \$92,002    | \$42,876     | \$120,849        |            |
| 2,746                        | 8.41       | 13.67      | 108,370             | 70,904      | 29,632       | 71,555           |            |
| 2,627                        | 8.78       | 13.95      | 86,558              | 59,498      | 24,712       | 53,730           |            |
| 2,535                        | 9.32       | 14.44      | 71,185              | 47,335      | 17,710       | 45,227           |            |
| 2,389                        | 9.91       | 14.83      | 63,492              | 39,374      | 12,181       | 39,713           |            |
| -----                        |            |            |                     |             |              |                  |            |
| 2,340                        | 10.38      | 15.55      | 49,919              | 32,611      | 9,253        | 30,475           |            |
| 2,271                        | 10.74      | 16.16      | 45,678              | 23,502      | 5,595        | 24,566           |            |
| 2,163                        | 11.42      | 16.96      | 40,668              | 17,094      | 433          | 19,880           |            |
| 2,026                        | 12.08      | 18.09      | 28,633              | 12,468      | -6,569       | 12,909           |            |
| 1,786                        | 14.23      | 21.47      | 6,011               | -9,408      | -30,033      | -22,467          |            |

Table 48. FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS  
85 Freestall Barn Dairy Farms with More Than 120 Cows, New York, 1989

| Size of Business          |                   |                        | Rates of Production            |                             |                                 | Labor Efficiency      |                                   |
|---------------------------|-------------------|------------------------|--------------------------------|-----------------------------|---------------------------------|-----------------------|-----------------------------------|
| Worker<br>Equiv-<br>alent | No.<br>of<br>Cows | Pounds<br>Milk<br>Sold | Pounds<br>Milk Sold<br>Per Cow | Tons<br>Hay Crop<br>DM/Acre | Tons Corn<br>Silage<br>Per Acre | Cows<br>Per<br>Worker | Pounds<br>Milk Sold<br>Per Worker |
| 13.5                      | 599               | 11,715,283             | 21,902                         | 4.7                         | 21                              | 57                    | 974,828                           |
| 7.9                       | 309               | 5,924,952              | 20,191                         | 3.9                         | 17                              | 45                    | 834,516                           |
| 6.4                       | 241               | 4,151,273              | 19,033                         | 3.5                         | 15                              | 42                    | 758,862                           |
| 5.9                       | 202               | 3,477,166              | 18,235                         | 3.1                         | 15                              | 40                    | 679,571                           |
| 5.4                       | 176               | 3,076,850              | 17,527                         | 2.9                         | 14                              | 38                    | 648,794                           |
| 4.7                       | 158               | 2,716,435              | 17,113                         | 2.7                         | 14                              | 36                    | 622,961                           |
| 4.3                       | 147               | 2,587,680              | 16,618                         | 2.5                         | 13                              | 33                    | 591,466                           |
| 4.0                       | 135               | 2,401,491              | 16,199                         | 2.3                         | 12                              | 30                    | 555,013                           |
| 3.6                       | 129               | 2,208,918              | 15,276                         | 2.0                         | 10                              | 29                    | 477,645                           |
| 2.9                       | 124               | 1,747,481              | 12,827                         | 1.4                         | 8                               | 24                    | 394,681                           |

| Cost Control               |                                   |                               |                                       |                                    |                                          |
|----------------------------|-----------------------------------|-------------------------------|---------------------------------------|------------------------------------|------------------------------------------|
| Grain<br>Bought<br>Per Cow | % Grain is<br>of Milk<br>Receipts | Machinery<br>Costs<br>Per Cow | Labor &<br>Machinery<br>Costs Per Cow | Feed & Crop<br>Expenses<br>Per Cow | Feed & Crop<br>Expenses Per<br>Cwt. Milk |
| \$350                      | 15%                               | \$269                         | \$ 570                                | \$ 557                             | \$3.34                                   |
| 447                        | 18                                | 311                           | 713                                   | 659                                | 3.99                                     |
| 542                        | 21                                | 347                           | 755                                   | 763                                | 4.37                                     |
| 612                        | 24                                | 367                           | 806                                   | 824                                | 4.55                                     |
| 675                        | 26                                | 385                           | 841                                   | 871                                | 4.72                                     |
| 697                        | 27                                | 412                           | 884                                   | 910                                | 5.03                                     |
| 735                        | 29                                | 446                           | 944                                   | 940                                | 5.35                                     |
| 791                        | 30                                | 473                           | 999                                   | 986                                | 5.66                                     |
| 854                        | 32                                | 523                           | 1,089                                 | 1,033                              | 5.99                                     |
| 933                        | 38                                | 637                           | 1,214                                 | 1,135                              | 6.79                                     |

| Value and Cost of Production |                                |                                      | Profitability   |           |                                    |                                     |
|------------------------------|--------------------------------|--------------------------------------|-----------------|-----------|------------------------------------|-------------------------------------|
| Milk<br>Receipts<br>Per Cow  | Oper. Cost<br>Milk<br>Per Cwt. | Total Cost<br>Production<br>Per Cwt. | Net Farm Income |           | Labor &<br>Mgmt. Inc.<br>Per Oper. | Change in<br>Net Worth<br>w/Apprec. |
| \$3,158                      | \$ 7.53                        | \$11.77                              | \$489,502       | \$388,784 | \$263,374                          | \$386,727                           |
| 2,943                        | 8.97                           | 12.78                                | 224,879         | 166,354   | 81,107                             | 148,869                             |
| 2,826                        | 9.63                           | 13.41                                | 175,229         | 125,725   | 55,887                             | 114,322                             |
| 2,690                        | 10.12                          | 13.79                                | 149,071         | 104,032   | 39,787                             | 93,275                              |
| 2,588                        | 10.72                          | 14.03                                | 128,645         | 89,598    | 30,944                             | 75,711                              |
| 2,514                        | 11.14                          | 14.37                                | 112,208         | 74,194    | 24,061                             | 61,278                              |
| 2,411                        | 11.53                          | 14.82                                | 95,648          | 58,276    | 18,210                             | 48,408                              |
| 2,317                        | 11.83                          | 15.31                                | 82,467          | 48,720    | 12,879                             | 39,145                              |
| 2,194                        | 12.23                          | 15.86                                | 62,456          | 31,784    | 4,109                              | 19,973                              |
| 1,931                        | 13.85                          | 18.47                                | 11,693          | -5,278    | -33,414                            | -28,227                             |

Table 49. SELECTED BUSINESS FACTORS BY MILKING SYSTEMS  
404 New York Dairy Farms, 1989

| Item                                              | Dumping<br>Station | Pipeline  | Herringbone<br>Parlor | Other<br>Parlors |
|---------------------------------------------------|--------------------|-----------|-----------------------|------------------|
| Number of farms                                   | 27                 | 218       | 143                   | 16               |
| Percent of farms                                  | 7%                 | 54%       | 35%                   | 4%               |
| <u>Cropping Program Analysis</u>                  |                    |           |                       |                  |
| Total Tillable acres                              | 202                | 247       | 432                   | 469              |
| Tillable acres rented*                            | 44                 | 97        | 161                   | 148              |
| Hay crop acres*                                   | 117                | 142       | 203                   | 211              |
| Corn silage acres*                                | 24                 | 48        | 135                   | 154              |
| Hay crop, tons DM/acre                            | 2.1                | 2.6       | 2.8                   | 2.5              |
| Corn silage, tons/acre                            | 11.2               | 13.3      | 13.6                  | 12.7             |
| Oats, bushels/acre                                | 46.2               | 52.7      | 58.1                  | 48.4             |
| Forage DM per cow, tons                           | 7.2                | 8.2       | 7.7                   | 5.5              |
| Tillable acres/cow                                | 4.4                | 3.4       | 2.8                   | 2.3              |
| Fert. & lime exp./tillable acre                   | \$15.13            | \$26.07   | \$32.39               | \$27.92          |
| Total machinery costs                             | \$16,837           | \$32,010  | \$65,316              | \$76,948         |
| Machinery cost/tillable acre                      | \$83               | \$130     | \$151                 | \$164            |
| <u>Dairy Analysis</u>                             |                    |           |                       |                  |
| Number of cows                                    | 46                 | 72        | 155                   | 207              |
| Number of heifers                                 | 39                 | 58        | 123                   | 155              |
| Milk sold, lbs.                                   | 637,115            | 1,216,001 | 2,720,404             | 3,834,735        |
| Milk sold/cow, lbs.                               | 13,740             | 16,898    | 17,559                | 18,514           |
| Oper. cost of prod. milk/cwt.                     | \$10.11            | \$10.22   | \$10.64               | \$10.44          |
| Total cost of prod. milk/cwt.                     | \$16.72            | \$15.38   | \$14.44               | \$13.21          |
| Price/cwt. milk sold                              | \$14.07            | \$14.41   | \$14.64               | \$14.48          |
| Purchased dairy feed/cow                          | \$605              | \$659     | \$708                 | \$739            |
| Purchased dairy feed/cwt. milk                    | \$4.40             | \$3.90    | \$4.03                | \$3.99           |
| Purc. grain & conc. as % milk receipts            | 30%                | 26%       | 26%                   | 27%              |
| Purc. feed & crop expense/cwt. milk               | \$5.19             | \$4.84    | \$5.00                | \$4.69           |
| <u>Capital Efficiency</u>                         |                    |           |                       |                  |
| Farm capital/worker                               | \$151,565          | \$187,631 | \$223,556             | \$188,060        |
| Farm capital/cow                                  | \$6,926            | \$6,872   | \$6,190               | \$5,467          |
| Farm capital/tillable acre owned                  | \$2,034            | \$3,299   | \$3,525               | \$3,516          |
| Real estate/cow                                   | \$3,926            | \$3,277   | \$2,775               | \$2,522          |
| Machinery investment/cow                          | \$1,010            | \$1,279   | \$1,129               | \$798            |
| Capital turnover, years                           | 2.77               | 2.26      | 1.95                  | 1.73             |
| <u>Labor Efficiency</u>                           |                    |           |                       |                  |
| Worker equivalent                                 | 2.12               | 2.64      | 4.29                  | 6.02             |
| Operator/manager equivalent                       | 1.26               | 1.38      | 1.44                  | 1.28             |
| Milk sold/worker, lbs.                            | 300,491            | 461,112   | 634,298               | 636,955          |
| Cows/worker                                       | 22                 | 27        | 36                    | 34               |
| Work units/worker                                 | 236                | 293       | 375                   | 341              |
| Labor cost/cow                                    | \$513              | \$464     | \$463                 | \$514            |
| Labor cost/tillable acre                          | \$118              | \$135     | \$166                 | \$227            |
| <u>Profitability &amp; Balance Sheet Analysis</u> |                    |           |                       |                  |
| Net farm income (w/o apprec.)                     | \$17,229           | \$34,265  | \$72,831              | \$116,451        |
| Labor & mgmt. income/operator                     | \$2,529            | \$10,879  | \$27,161              | \$62,160         |
| Farm debt/cow                                     | \$2,641            | \$2,120   | \$1,984               | \$2,090          |
| Percent equity                                    | 62%                | 70%       | 68%                   | 62%              |

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

Table 50. COMPARISON OF DAIRY FARM BUSINESS DATA BY REGION  
420 New York Dairy Farms, 1989\*

| Item                               | Region**      |               |               |               |
|------------------------------------|---------------|---------------|---------------|---------------|
|                                    | 1             | 2             | 3             | 4             |
| Number of farms                    | 145           | 91            | 73            | 111           |
| <u>ACCRUAL EXPENSES</u>            |               |               |               |               |
| Hired labor                        | \$ 19,169     | \$ 61,339     | \$18,861      | \$ 21,455     |
| Feed                               | 60,799        | 110,256       | 60,178        | 61,408        |
| Machinery                          | 19,225        | 38,134        | 18,750        | 20,946        |
| Livestock                          | 24,454        | 46,522        | 23,706        | 32,731        |
| Crops                              | 13,388        | 29,690        | 12,959        | 14,714        |
| Real estate                        | 12,808        | 24,252        | 12,651        | 15,157        |
| Other                              | <u>26,000</u> | <u>52,656</u> | <u>29,149</u> | <u>29,682</u> |
| Total Operating                    | \$175,843     | \$362,849     | \$176,254     | \$196,093     |
| Expansion livestock                | 639           | 7,070         | 2,153         | 1,108         |
| Machinery depreciation             | 12,822        | 21,962        | 14,268        | 12,546        |
| Building depreciation              | <u>6,955</u>  | <u>15,545</u> | <u>6,541</u>  | <u>6,998</u>  |
| Total Accrual Expenses             | \$196,259     | \$407,426     | \$199,216     | \$216,745     |
| <u>ACCRUAL RECEIPTS</u>            |               |               |               |               |
| Milk sales                         | \$206,984     | \$429,021     | \$209,780     | \$224,509     |
| Livestock                          | 19,948        | 51,450        | 22,311        | 20,326        |
| Crops                              | 3,383         | 3,553         | 5,006         | 2,275         |
| All other                          | <u>5,799</u>  | <u>11,566</u> | <u>5,866</u>  | <u>5,990</u>  |
| Total Accrual Receipts             | \$236,114     | \$495,590     | \$242,963     | \$253,100     |
| <u>PROFITABILITY ANALYSIS</u>      |               |               |               |               |
| Net farm income (w/o appreciation) | \$39,855      | \$88,164      | \$43,747      | \$36,355      |
| Net farm income (w/appreciation)   | \$61,920      | \$117,884     | \$65,914      | \$62,928      |
| Labor & management income          | \$18,728      | \$54,993      | \$23,875      | \$10,767      |
| Number of operators                | 1.34          | 1.52          | 1.37          | 1.42          |
| Labor & management income/operator | \$13,976      | \$36,179      | \$17,427      | \$7,582       |
| <u>BUSINESS FACTORS</u>            |               |               |               |               |
| Worker equivalent                  | 2.91          | 4.63          | 2.96          | 2.95          |
| Number of cows                     | 86            | 162           | 88            | 90            |
| Number of heifers                  | 67            | 131           | 72            | 71            |
| Acres of hay crops***              | 151           | 179           | 171           | 165           |
| Acres of corn silage***            | 57            | 140           | 70            | 69            |
| Total tillable acres               | 267           | 476           | 287           | 297           |
| Pounds of milk sold                | 1,431,388     | 2,978,961     | 1,470,681     | 1,496,965     |
| Pounds of milk sold/cow            | 16,734        | 18,425        | 16,692        | 16,601        |
| Tons hay crop dry matter/acre      | 2.6           | 2.9           | 2.4           | 2.6           |
| Tons corn silage/acre              | 12.8          | 13.3          | 14.2          | 13.5          |
| Cows/worker                        | 29            | 35            | 30            | 31            |
| Pounds of milk sold/worker         | 492,606       | 642,763       | 496,652       | 507,497       |
| Percent grain & conc.              |               |               |               |               |
| is of milk receipts                | 28%           | 25%           | 27%           | 26%           |
| Feed & crop expense/cwt. milk      | \$5.16        | \$4.67        | \$4.93        | \$5.07        |
| Fertilizer & lime/crop acre        | \$27.37       | \$32.38       | \$25.97       | \$27.90       |
| Machinery cost/tillable acre       | \$139         | \$144         | \$134         | \$131         |

\*Includes 11 dairy cash-crop farms.

\*\*See Figure 2 for region descriptions.

\*\*\*Average of all farms in the region, not only those producing the crop.

Figure 2. Percent Increase in Milk Production,  
Four Regions in New York,  
1979–1989.

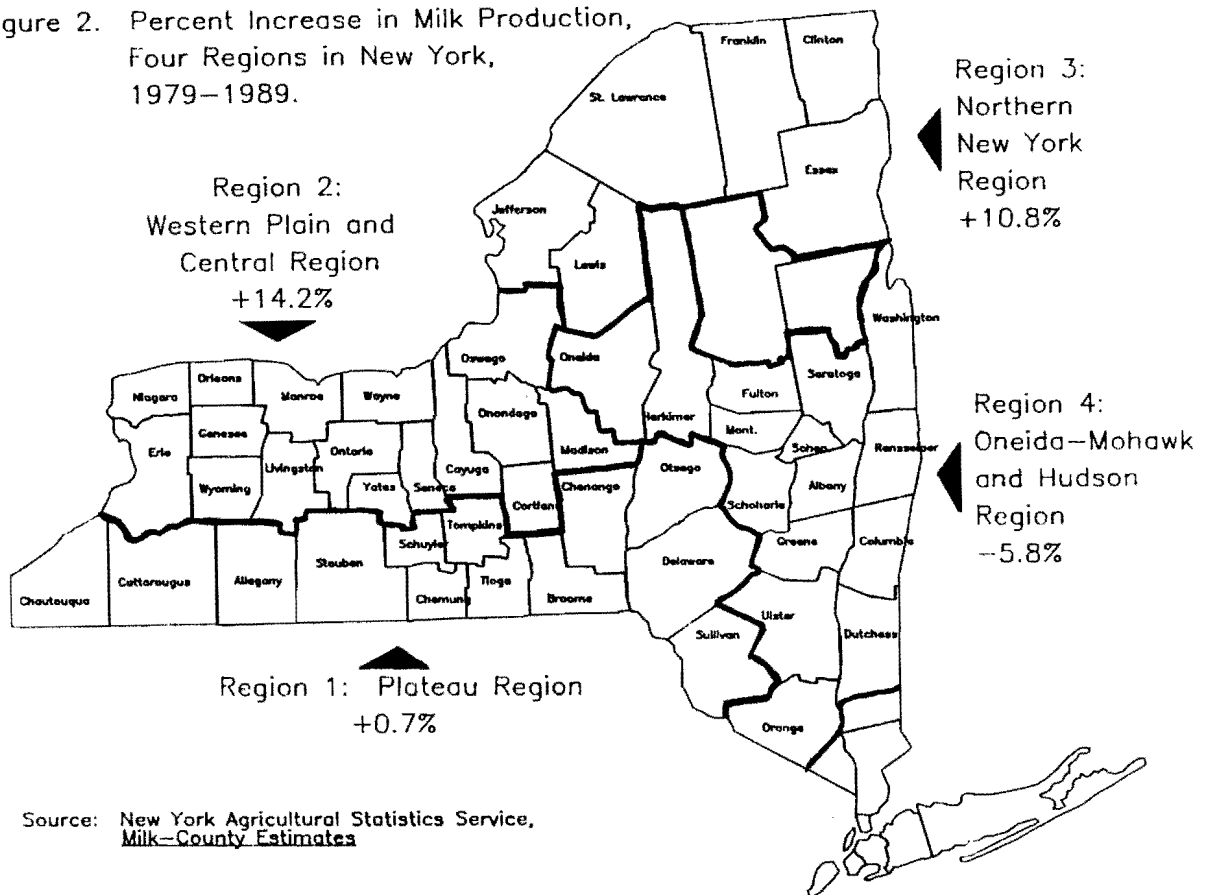


Table 51. MILK PRODUCTION AND AVERAGE COST OF PRODUCING MILK  
FOUR REGIONS OF NEW YORK, 1989

| Item                                                   | Region*                     |         |         |         |
|--------------------------------------------------------|-----------------------------|---------|---------|---------|
|                                                        | 1                           | 2       | 3       | 4       |
| <b>MILK PRODUCTION**</b>                               |                             |         |         |         |
|                                                        | (million pounds)            |         |         |         |
| 1979                                                   | 2,981.6                     | 3,104.5 | 1,929.5 | 2,590.6 |
| 1989                                                   | 3,003.7                     | 3,546.1 | 2,138.0 | 2,441.6 |
| Percent change                                         | +0.7%                       | +14.2%  | +10.8%  | -5.8%   |
| <b>COST OF PRODUCING MILK</b>                          |                             |         |         |         |
|                                                        | (\$ per hundredweight milk) |         |         |         |
| Operating cost                                         | \$10.29                     | \$10.18 | \$ 9.87 | \$11.26 |
| Total cost                                             | 15.15                       | 14.02   | 14.62   | 16.32   |
| Average price received                                 | 14.46                       | 14.40   | 14.26   | 15.00   |
| Return per cwt. to operator<br>labor, mgmt., & capital | 2.62                        | 2.90    | 2.80    | 2.28    |

\*See Figure 2 for region descriptions.

\*\*Source: New York Agricultural Statistics Service, Milk-County Estimates.



Table 52.

TEN YEAR COMPARISON: SELECTED BUSINESS FACTORS  
New York Dairy Farms, 1980 to 1989

| Item                                          | 1980      | 1981      | 1982      | 1983      | 1984      | 1985      | 1986      | 1987      | 1988      | 1989      |
|-----------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Number of farms                               | 600       | 553       | 572       | 510       | 458       | 404       | 414       | 426       | 406       | 409       |
| <u>Cropping Program</u>                       |           |           |           |           |           |           |           |           |           |           |
| Total tillable acres                          | 246       | 257       | 262       | 272       | 280       | 280       | 288       | 305       | 302       | 316       |
| Tillable acres rented                         | 76        | 83        | 83        | 91        | 94        | 93        | 100       | 105       | 104       | 117       |
| Hay crop acres                                | 131       | 131       | 135       | 139       | 143       | 142       | 147       | 153       | 156       | 164       |
| Corn silage acres                             | 60        | 59        | 70        | 72        | 76        | 69        | 67        | 67        | 74        | 81        |
| Hay crop,<br>tons DM/acre                     | 2.5       | 2.5       | 2.6       | 2.5       | 2.7       | 2.7       | 2.7       | 2.7       | 2.6       | 2.6       |
| Corn silage,<br>tons/acre                     | 14.5      | 14.9      | 14.0      | 13.5      | 14.0      | 14.3      | 14.3      | 16.2      | 14.1      | 13.4      |
| Fert. & lime exp.<br>/tillable acre           | \$29      | \$32      | \$33      | \$31      | \$32      | \$32      | \$26      | \$27      | \$29      | \$29      |
| Machinery cost/cow                            | \$425     | \$465     | \$432     | \$413     | \$433     | \$426     | \$400     | \$413     | \$398     | \$425     |
| <u>Dairy Analysis</u>                         |           |           |           |           |           |           |           |           |           |           |
| Number of cows                                | 75        | 79        | 82        | 88        | 89        | 89        | 95        | 101       | 102       | 104       |
| Number of heifers                             | 56        | 59        | 67        | 72        | 76        | 73        | 77        | 79        | 82        | 83        |
| Milk sold, cwt.                               | 10,761    | 11,420    | 12,105    | 13,432    | 13,735    | 14,001    | 15,374    | 16,498    | 17,200    | 17,975    |
| Milk sold/cow, lbs.                           | 14,300    | 14,456    | 14,762    | 15,264    | 15,433    | 15,679    | 16,237    | 16,351    | 16,882    | 17,259    |
| Purchased dairy<br>feed/cwt. milk             | \$3.47    | \$3.51    | \$3.27    | \$3.44    | \$3.28    | \$3.04    | \$3.10    | \$3.21    | \$3.71    | \$3.99    |
| Purc. grain & conc.<br>as % milk receipts     | 27%       | 26%       | 24%       | 25%       | 24%       | 23%       | 24%       | 24%       | 28%       | 27%       |
| Purc. feed & crop<br>exp./cwt. milk           | \$4.49    | \$4.67    | \$4.53    | \$4.62    | \$4.53    | \$4.13    | \$4.00    | \$4.11    | \$4.62    | \$4.92    |
| <u>Capital Efficiency</u>                     |           |           |           |           |           |           |           |           |           |           |
| Farm capital/cow                              | \$5,539   | \$5,676   | \$5,517   | \$5,421   | \$5,520   | \$5,801   | \$5,792   | \$5,894   | \$6,133   | \$6,407   |
| Real estate/cow                               | \$2,602   | \$2,693   | \$2,664   | \$2,668   | \$2,731   | \$2,726   | \$2,758   | \$2,805   | \$2,902   | \$2,977   |
| Mach. invest./cow                             | \$1,015   | \$1,078   | \$1,047   | \$1,038   | \$1,057   | \$1,083   | \$1,062   | \$1,057   | \$1,083   | \$1,154   |
| Capital turnover, yrs.                        | 2.2       | 2.4       | 2.5       | 2.4       | 2.3       | 2.5       | 2.3       | 2.2       | 2.2       | 2.1       |
| <u>Labor Efficiency</u>                       |           |           |           |           |           |           |           |           |           |           |
| Worker equivalent                             | 2.70      | 2.75      | 2.83      | 3.00      | 3.08      | 3.17      | 3.17      | 3.19      | 3.17      | 3.30      |
| Operator/manager eq.                          | 1.30      | 1.25      | 1.30      | 1.32      | 1.31      | 1.34      | 1.33      | 1.32      | 1.35      | 1.39      |
| Milk sold/worker,<br>lbs.                     | 403,000   | 415,273   | 427,739   | 447,733   | 445,942   | 442,125   | 497,555   | 516,728   | 542,708   | 544,598   |
| Cows/worker                                   | 28        | 29        | 29        | 29        | 29        | 28        | 31        | 32        | 32        | 32        |
| Labor cost/cow                                | \$326     | \$335     | \$352     | \$344     | \$366     | \$387     | \$385     | \$400     | \$426     | \$469     |
| <u>Profitability &amp; Financial Analysis</u> |           |           |           |           |           |           |           |           |           |           |
| Labor & mgmt.<br>income/oper.                 | \$1,565   | \$-4,261  | \$3,451   | \$5,514   | \$2,262   | \$2,850   | \$3,837   | \$11,042  | \$11,911  | \$18,004  |
| Farm net worth                                | \$288,022 | \$301,975 | \$306,589 | \$322,001 | \$336,210 | \$325,664 | \$348,909 | \$398,209 | \$426,123 | \$468,848 |
| Percent equity                                | 66%       | 64%       | 63%       | 63%       | 64%       | 63%       | 62%       | 65%       | 66%       | 68%       |

Table 53.

TEN YEAR COMPARISON: AVERAGE COST OF PRODUCING MILK PER HUNDREDWEIGHT  
New York Dairy Farms, 1980 to 1989

| Item                                                        | 1980    | 1981    | 1982    | 1983    | 1984    | 1985*   | 1986*   | 1987*   | 1988*   | 1989*   |
|-------------------------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <u>Cash Operating Expenses</u>                              |         |         |         |         |         |         |         |         |         |         |
| Hired labor                                                 | \$ 1.09 | \$ 1.20 | \$ 1.29 | \$ 1.25 | \$ 1.39 | \$ 1.38 | \$ 1.38 | \$ 1.49 | \$ 1.46 | \$1.62  |
| Purchased feed                                              | 3.60    | 3.62    | 3.40    | 3.59    | 3.46    | 3.09    | 3.15    | 3.26    | 3.73    | 4.02    |
| Machinery repairs & rent                                    | .75     | .81     | .81     | .77     | .80     | .78     | .75     | .88     | .83     | .92     |
| Auto expenses (farm share)                                  | .04     | .04     | .04     | .04     | .03     | .03     | .04     | .04     | .04     | .04     |
| Fuel, oil & grease                                          | .54     | .62     | .59     | .49     | .50     | .48     | .34     | .35     | .34     | .33     |
| Replacement livestock                                       | .29     | .23     | .19     | .16     | .10     | .10     | .13     | .13     | .11     | .17     |
| Breeding fees                                               | .16     | .18     | .19     | .19     | .20     | .20     | .19     | .19     | .18     | .18     |
| Veterinary & medicine                                       | .24     | .28     | .29     | .28     | .29     | .27     | .28     | .28     | .28     | .30     |
| Milk marketing                                              | .35     | .40     | .50     | .93     | 1.03    | .80     | .84     | .74     | .52     | .49     |
| Other dairy expenses                                        | .47     | .49     | .52     | .54     | .55     | .53     | .52     | .53     | .56     | .60     |
| Lime & fertilizer                                           | .66     | .72     | .71     | .63     | .66     | .63     | .49     | .50     | .51     | .50     |
| Seeds & plants                                              | .20     | .23     | .23     | .21     | .22     | .23     | .21     | .21     | .21     | .22     |
| Spray & other crop expense                                  | .16     | .21     | .18     | .19     | .20     | .22     | .20     | .19     | .19     | .21     |
| Land, building, fence repair                                | .21     | .22     | .21     | .18     | .18     | .17     | .16     | .20     | .22     | .27     |
| Taxes                                                       | .31     | .35     | .34     | .34     | .33     | .34     | .33     | .35     | .35     | .36     |
| Insurance                                                   | .24     | .23     | .23     | .21     | .20     | .22     | .22     | .22     | .23     | .23     |
| Telephone & elec. (farm share)                              | .28     | .32     | .35     | .36     | .36     | .37     | .39     | .38     | .38     | .39     |
| Interest paid                                               | 1.17    | 1.43    | 1.54    | 1.40    | 1.40    | 1.25    | 1.18    | 1.04    | 1.02    | 1.06    |
| Misc. (including rent)                                      | .37     | .41     | .43     | .44     | .44     | .40     | .41     | .45     | .41     | .43     |
| Total Operating Expenses                                    | \$11.13 | \$11.99 | \$12.04 | \$12.20 | \$12.34 | \$11.50 | \$11.22 | \$11.43 | \$11.57 | \$12.34 |
| Less: Nonmilk cash receipts                                 | 1.67    | 1.58    | 1.47    | 1.49    | 1.74    | 1.58    | 1.52    | 1.84    | 1.86    | 1.75    |
| Increase in feed & supplies**                               | .43     | .11     | .03     | .26     | .18     | .05     | .01     | .16     | .16     | .02     |
| Increase in livestock                                       | .39     | .25     | .35     | .24     | .16     | .18     | .12     | .10     | .08     | .12     |
| OPERATING COST OF MILK PRODUCTION                           | \$ 8.64 | \$10.05 | \$10.19 | \$10.21 | \$10.26 | \$ 9.69 | \$ 9.57 | \$ 9.33 | \$ 9.47 | \$10.45 |
| <u>Overhead Expenses</u>                                    |         |         |         |         |         |         |         |         |         |         |
| Depreciation: mach. & bldgs.                                | \$ 1.43 | \$ 1.56 | \$ 1.60 | \$ 1.56 | \$ 1.65 | \$ 1.64 | \$ 1.54 | \$ 1.43 | \$ 1.31 | \$ 1.31 |
| Unpaid labor                                                | .14     | .14     | .14     | .12     | .12     | .12     | .13     | .10     | .11     | .12     |
| Operator(s) labor***                                        | 1.05    | .99     | .93     | .89     | .87     | .97     | .86     | .87     | .95     | .98     |
| Operator(s) mgmt. (5% of cash rec.)                         | .72     | .76     | .75     | .76     | .76     | .72     | .71     | .74     | .74     | .81     |
| Interest on farm eq. cap. (5%)                              | 1.34    | 1.32    | 1.27    | 1.20    | 1.22    | 1.16    | 1.10    | 1.15    | 1.19    | 1.24    |
| Total Overhead Expenses                                     | \$ 4.68 | \$ 4.77 | \$ 4.69 | \$ 4.53 | \$ 4.62 | \$ 4.61 | \$ 4.34 | \$ 4.28 | \$ 4.30 | \$ 4.46 |
| TOTAL COST OF MILK PRODUCTION                               | \$13.32 | \$14.82 | \$14.88 | \$14.74 | \$14.88 | \$14.30 | \$13.91 | \$13.61 | \$13.77 | \$14.91 |
| AVERAGE FARM PRICE OF MILK                                  | \$12.81 | \$13.66 | \$13.56 | \$13.64 | \$13.49 | \$12.90 | \$12.65 | \$12.89 | \$13.03 | \$14.53 |
| Return per cwt. to operator labor,<br>capital, & management | \$2.60  | \$1.91  | \$1.63  | \$1.75  | \$1.46  | \$1.45  | \$1.41  | \$2.04  | \$2.14  | \$2.65  |
| Rate of return on farm eq. cap.                             | 3.1%    | 0.6%    | -0.2%   | 0.4%    | -0.7%   | -1.0%   | -0.7%   | 1.9%    | 1.8%    | 3.5%    |

\*Accrual receipts and expenses.    \*\*Increase in grown feeds, 1985-1989.    \*\*\*1979 = \$650/month, 1980-1984 = \$750/month, 1985 = \$800/month, 1986 = \$850/month, 1987 = \$900/month, 1988 = \$1,000/month, 1989 = \$1,050/month of operator labor.

Table 54.

FARM RECEIPTS AND EXPENSES PER COW AND PER  
HUNDREDWEIGHT FOR TWO LEVELS OF MILK PRODUCTION  
409 New York Dairy Farms, 1989

| Item                                                | 409 Dairy Farms |                | 238 Dairy Farms<br>Milk/Cow <17,259# |                | 171 Dairy Farms<br>Milk/Cow ≥17,259# |                |
|-----------------------------------------------------|-----------------|----------------|--------------------------------------|----------------|--------------------------------------|----------------|
|                                                     | Per Cow         | Per Cwt.       | Per Cow                              | Per Cwt.       | Per Cow                              | Per Cwt.       |
| <b>ACCRUAL RECEIPTS</b>                             |                 |                |                                      |                |                                      |                |
| Milk sales                                          | \$2,507         | \$14.53        | \$2,236                              | \$14.59        | \$2,781                              | \$14.48        |
| Dairy cattle                                        | 212             | 1.23           | 186                                  | 1.21           | 238                                  | 1.24           |
| Dairy calves                                        | 44              | .25            | 42                                   | .27            | 46                                   | .24            |
| Other livestock                                     | 5               | .03            | 3                                    | .02            | 8                                    | .04            |
| Crops                                               | 23              | .13            | 17                                   | .11            | 29                                   | .15            |
| Government receipts                                 | 31              | .18            | 32                                   | .21            | 30                                   | .16            |
| All other                                           | 36              | .21            | 32                                   | .21            | 35                                   | .18            |
| <b>TOTAL ACCRUAL RECEIPTS</b>                       | <b>\$2,858</b>  | <b>\$16.56</b> | <b>\$2,548</b>                       | <b>\$16.62</b> | <b>\$3,167</b>                       | <b>\$16.49</b> |
| <b>ACCRUAL EXPENSES</b>                             |                 |                |                                      |                |                                      |                |
| <u>Labor</u> : Hired                                | \$ 279          | \$ 1.62        | \$ 218                               | \$ 1.42        | \$ 341                               | \$ 1.78        |
| <u>Feed</u> : Dairy grain & conc.                   | 666             | 3.86           | 616                                  | 4.02           | 717                                  | 3.73           |
| Dairy roughage                                      | 22              | .13            | 26                                   | .17            | 18                                   | .10            |
| Nondairy                                            | 5               | .03            | 4                                    | .03            | 5                                    | .03            |
| <u>Machinery</u> : Machine hire/<br>rent/ lease     | 26              | .15            | 22                                   | .14            | 31                                   | .16            |
| Mach. repairs/parts                                 | 133             | .77            | 124                                  | .81            | 142                                  | .74            |
| Auto expense (farm share)                           | 8               | .04            | 9                                    | .06            | 7                                    | .04            |
| Fuel, oil, grease                                   | 57              | .33            | 57                                   | .37            | 58                                   | .30            |
| <u>Livestock</u> : Replacement<br>livestock         | 29              | .17            | 37                                   | .24            | 20                                   | .11            |
| Breeding                                            | 32              | .18            | 27                                   | .18            | 36                                   | .19            |
| Vet & medicine                                      | 53              | .30            | 42                                   | .27            | 63                                   | .33            |
| Milk marketing                                      | 84              | .49            | 80                                   | .52            | 89                                   | .46            |
| Cattle lease/rent                                   | 5               | .03            | 4                                    | .03            | 6                                    | .03            |
| Other livestock expense                             | 99              | .57            | 88                                   | .57            | 111                                  | .58            |
| <u>Crops</u> : Fertilizer & lime                    | 87              | .50            | 81                                   | .53            | 94                                   | .49            |
| Seeds & plants                                      | 38              | .22            | 32                                   | .21            | 45                                   | .23            |
| Spray & other crop expense                          | 36              | .21            | 28                                   | .18            | 43                                   | .23            |
| <u>Real Estate</u> : Land/<br>building/fence repair | 47              | .27            | 44                                   | .29            | 50                                   | .26            |
| Taxes                                               | 61              | .36            | 65                                   | .42            | 58                                   | .30            |
| Rent & lease                                        | 43              | .25            | 39                                   | .25            | 47                                   | .24            |
| <u>Other</u> : Insurance                            | 39              | .23            | 41                                   | .27            | 37                                   | .20            |
| Telephone (farm share)                              | 7               | .04            | 8                                    | .05            | 6                                    | .03            |
| Electricity (farm share)                            | 60              | .35            | 57                                   | .38            | 63                                   | .33            |
| Interest paid                                       | 183             | 1.06           | 167                                  | 1.09           | 198                                  | 1.03           |
| Miscellaneous                                       | 32              | .18            | 28                                   | .18            | 36                                   | .19            |
| <b>TOTAL OPERATING EXPENSES</b>                     | <b>\$2,131</b>  | <b>\$12.34</b> | <b>\$1,944</b>                       | <b>\$12.68</b> | <b>\$2,321</b>                       | <b>\$12.11</b> |
| Expansion livestock                                 | 23              | .13            | 13                                   | .09            | 33                                   | .17            |
| Machinery depreciation                              | 144             | .83            | 136                                  | .88            | 151                                  | .79            |
| Building depreciation                               | 83              | .48            | 70                                   | .46            | 97                                   | .50            |
| <b>TOTAL ACCRUAL EXPENSES</b>                       | <b>\$2,381</b>  | <b>\$13.78</b> | <b>\$2,163</b>                       | <b>\$14.11</b> | <b>\$2,602</b>                       | <b>\$13.57</b> |

Table 55.

FARM RECEIPTS AND EXPENSES PER COW AND PER  
HUNDREDWEIGHT FOR TWO HERD SIZE CATEGORIES  
409 New York Dairy Farms, 1989

| Item                                                | 409 Dairy Farms |                | 267 Dairy Farms<br>with <100 Cows |                | 142 Dairy Farms<br>with ≥100 Cows |                |
|-----------------------------------------------------|-----------------|----------------|-----------------------------------|----------------|-----------------------------------|----------------|
|                                                     | Per Cow         | Per Cwt.       | Per Cow                           | Per Cwt.       | Per Cow                           | Per Cwt.       |
| <b>ACCRUAL RECEIPTS</b>                             |                 |                |                                   |                |                                   |                |
| Milk sales                                          | \$2,507         | \$14.53        | \$2,393                           | \$14.47        | \$2,579                           | \$14.56        |
| Dairy cattle                                        | 212             | 1.23           | 190                               | 1.15           | 226                               | 1.28           |
| Dairy calves                                        | 44              | .25            | 46                                | .28            | 42                                | .24            |
| Other livestock                                     | 5               | .03            | 8                                 | .05            | 4                                 | .02            |
| Crops                                               | 23              | .13            | 25                                | .15            | 22                                | .12            |
| Government receipts                                 | 31              | .18            | 35                                | .21            | 29                                | .16            |
| All other                                           | 36              | .21            | 26                                | .16            | 38                                | .21            |
| <b>TOTAL ACCRUAL RECEIPTS</b>                       | <b>\$2,858</b>  | <b>\$16.56</b> | <b>\$2,723</b>                    | <b>\$16.47</b> | <b>\$2,940</b>                    | <b>\$16.59</b> |
| <b>ACCRUAL EXPENSES</b>                             |                 |                |                                   |                |                                   |                |
| <u>Labor</u> : Hired                                | \$ 279          | \$ 1.62        | \$ 170                            | \$ 1.03        | \$ 348                            | \$ 1.96        |
| <u>Feed</u> : Dairy grain & conc.                   | 666             | 3.86           | 633                               | 3.83           | 687                               | 3.88           |
| Dairy roughage                                      | 22              | .13            | 21                                | .13            | 23                                | .13            |
| Nondairy                                            | 5               | .03            | 7                                 | .04            | 3                                 | .02            |
| <u>Machinery</u> : Machine hire/<br>rent/ lease     | 26              | .15            | 25                                | .15            | 27                                | .15            |
| Mach. repairs/parts                                 | 133             | .77            | 131                               | .79            | 134                               | .76            |
| Auto expense (farm share)                           | 8               | .04            | 11                                | .07            | 6                                 | .03            |
| Fuel, oil, grease                                   | 57              | .33            | 59                                | .36            | 56                                | .32            |
| <u>Livestock</u> : Replacement<br>livestock         | 29              | .17            | 32                                | .19            | 26                                | .15            |
| Breeding                                            | 32              | .18            | 36                                | .21            | 29                                | .17            |
| Vet & medicine                                      | 53              | .30            | 47                                | .28            | 56                                | .32            |
| Milk marketing                                      | 84              | .49            | 98                                | .59            | 76                                | .43            |
| Cattle lease/rent                                   | 5               | .03            | 5                                 | .03            | 5                                 | .03            |
| Other livestock expense                             | 99              | .57            | 107                               | .65            | 95                                | .53            |
| <u>Crops</u> : Fertilizer & lime                    | 87              | .50            | 86                                | .52            | 88                                | .49            |
| Seeds & plants                                      | 38              | .22            | 36                                | .22            | 40                                | .22            |
| Spray & other crop expense                          | 36              | .21            | 31                                | .19            | 39                                | .22            |
| <u>Real Estate</u> : Land/<br>building/fence repair | 47              | .27            | 45                                | .27            | 48                                | .27            |
| Taxes                                               | 61              | .36            | 70                                | .42            | 56                                | .32            |
| Rent & lease                                        | 43              | .25            | 38                                | .23            | 46                                | .26            |
| <u>Other</u> : Insurance                            | 39              | .23            | 45                                | .27            | 36                                | .20            |
| Telephone (farm share)                              | 7               | .04            | 10                                | .06            | 5                                 | .03            |
| Electricity (farm share)                            | 60              | .35            | 66                                | .40            | 57                                | .32            |
| Interest paid                                       | 183             | 1.06           | 181                               | 1.10           | 184                               | 1.04           |
| Miscellaneous                                       | 32              | .18            | 30                                | .18            | 33                                | .19            |
| <b>TOTAL OPERATING EXPENSES</b>                     | <b>\$2,131</b>  | <b>\$12.34</b> | <b>\$2,020</b>                    | <b>\$12.21</b> | <b>\$2,203</b>                    | <b>\$12.44</b> |
| Expansion livestock                                 | 23              | .13            | 9                                 | .05            | 32                                | .18            |
| Machinery depreciation                              | 144             | .83            | 165                               | 1.00           | 130                               | .73            |
| Building depreciation                               | 83              | .48            | 82                                | .50            | 84                                | .47            |
| <b>TOTAL ACCRUAL EXPENSES</b>                       | <b>\$2,381</b>  | <b>\$13.78</b> | <b>\$2,276</b>                    | <b>\$13.76</b> | <b>\$2,449</b>                    | <b>\$13.82</b> |

Table 56. FARM BUSINESS SUMMARIES FOR SINGLE PROPRIETORSHIPS,  
PARTNERSHIPS, AND CORPORATIONS  
409 New York Dairy Farms, 1989

| Item                                      | 270<br>Single Prop. | 118<br>Partnerships | 21<br>Corporations |
|-------------------------------------------|---------------------|---------------------|--------------------|
| <u>ACCRUAL EXPENSES</u>                   |                     |                     |                    |
| Hired labor                               | \$ 25,615           | \$ 25,472           | \$ 93,864          |
| Feed                                      | 62,013              | 80,789              | 154,777            |
| Machinery                                 | 20,389              | 25,375              | 50,111             |
| Livestock                                 | 27,562              | 33,354              | 69,211             |
| Crops                                     | 13,274              | 19,702              | 45,022             |
| Real estate                               | 13,273              | 16,788              | 41,049             |
| Other                                     | <u>29,134</u>       | <u>38,081</u>       | <u>62,567</u>      |
| Total Operating Expenses                  | \$191,260           | \$239,561           | \$516,601          |
| Expansion livestock                       | 1,236               | 3,747               | 9,634              |
| Machinery depreciation                    | 12,931              | 16,678              | 30,884             |
| Building depreciation                     | <u>7,011</u>        | <u>9,394</u>        | <u>26,039</u>      |
| Total Accrual Expenses                    | \$212,438           | \$269,380           | \$583,158          |
| <u>ACCRUAL RECEIPTS</u>                   |                     |                     |                    |
| Milk sales                                | \$220,419           | \$291,975           | \$611,504          |
| Livestock                                 | 22,841              | 30,705              | 63,624             |
| Crops                                     | 2,358               | 3,862               | -4,854             |
| All other                                 | <u>5,258</u>        | <u>7,835</u>        | <u>18,963</u>      |
| Total Accrual Receipts                    | \$250,876           | \$334,377           | \$689,237          |
| <u>PROFITABILITY ANALYSIS</u>             |                     |                     |                    |
| Net farm income (without appreciation)    | \$38,438            | \$64,997            | \$106,079          |
| Net farm income (with appreciation)       | \$61,294            | \$91,620            | \$153,633          |
| Labor & management income                 | \$16,943            | \$38,295            | \$54,341           |
| Number of operators                       | 1.06                | 2.08                | 1.75               |
| Labor & management income per operator    | \$15,984            | \$18,411            | \$31,052           |
| <u>FINANCIAL MEASURES</u>                 |                     |                     |                    |
| Percent equity                            | 67%                 | 69%                 | 73%                |
| Debt/asset ratio - long-term              | 0.39                | 0.35                | 0.24               |
| Debt/asset ratio - inter. & current       | 0.29                | 0.28                | 0.30               |
| Farm net worth, end year                  | \$395,397           | \$532,381           | \$1,056,212        |
| Change in net worth w/appreciation        | \$40,507            | \$49,187            | \$84,290           |
| Total farm debt per cow                   | \$2,155             | \$2,022             | \$1,656            |
| Debt payments made per cow                | \$474               | \$487               | \$487              |
| Amount available for debt service         | \$48,932            | \$65,654            | \$148,546          |
| Cash flow coverage ratio for 1989         | 1.16                | 1.31                | 2.00               |
| <u>BUSINESS FACTORS</u>                   |                     |                     |                    |
| Worker equivalent                         | 2.94                | 3.69                | 5.75               |
| Number of cows                            | 89                  | 116                 | 228                |
| Pounds of milk sold per cow               | 17,082              | 17,232              | 18,227             |
| Total tillable acres                      | 268                 | 368                 | 641                |
| Tons hay crop dry matter per acre         | 2.6                 | 2.6                 | 3.1                |
| Tons corn silage per acre                 | 13.7                | 13.0                | 13.0               |
| Cows per worker                           | 30                  | 31                  | 40                 |
| Pounds of milk sold per worker            | 518,870             | 542,212             | 722,737            |
| Purc. grain & conc. as % of milk receipts | 27%                 | 26%                 | 25%                |
| Average price per cwt. milk               | \$14.46             | \$14.58             | \$14.71            |
| Total cost of producing milk              | \$14.81             | \$14.70             | \$14.50            |

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

Table 57. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION  
51 New York Dairy-Renter Farms,\* 1989

| <u>ACCRUAL EXPENSES</u>          |               |                | <u>ACCRUAL RECEIPTS</u>       |               |                |
|----------------------------------|---------------|----------------|-------------------------------|---------------|----------------|
| Labor: Hired                     | \$ 13,863     |                | Milk sales                    | \$177,260     |                |
| Feed: Dairy grain & conc.        | 45,871        |                | Dairy cattle                  | 13,261        |                |
| Dairy roughage                   | 4,368         |                | Dairy calves                  | 3,179         |                |
| Nondairy                         | 47            |                | Other livestock               | 295           |                |
| Machinery: Mach. hire/rent/lease | 2,053         |                | Crops                         | 3,678         |                |
| Mach. repairs/parts              | 8,096         |                | Government receipts           | 1,867         |                |
| Auto expense (farm share)        | 655           |                | Custom machine work           | 215           |                |
| Fuel, oil, grease                | 4,527         |                | Gas tax refund                | 182           |                |
| Livestock: Replacement lvstk.    | 4,181         |                | Other                         | 3,715         |                |
| Breeding                         | 2,800         |                |                               |               |                |
| Vet & medicine                   | 3,805         |                | TOTAL ACCRUAL RECEIPTS        | \$203,652     |                |
| Milk marketing                   | 7,205         |                |                               |               |                |
| Cattle lease/rent                | 947           |                | <u>PROFITABILITY ANALYSIS</u> |               |                |
| Other livestock expense          | 8,231         |                | Net farm inc. (w/o apprec.)   | \$39,177      |                |
| Crops: Fertilizer & lime         | 5,881         |                | Net farm inc. (w/apprec.)     | \$52,315      |                |
| Seeds & plants                   | 2,525         |                | Labor & mgt. income/farm      | \$27,481      |                |
| Spray & other crop expense       | 1,872         |                | Number of operators           | 1.28          |                |
| Real Estate: Land/building/      |               |                | Labor & mgt. income/oper.     | \$21,469      |                |
| fence repair                     | 2,890         |                | Rate of return on equity      |               |                |
| Taxes                            | 1,764         |                | capital including apprec.     | 13.5%         |                |
| Rent & lease                     | 14,240        |                | <u>BUSINESS FACTORS</u>       |               |                |
| Other:                           |               |                | Number of cows                | 72            |                |
| Insurance                        | 2,665         |                | Number of heifers             | 53            |                |
| Telephone (farm share)           | 528           |                | Worker equivalent             | 2.52          |                |
| Electricity (farm share)         | 4,592         |                | Total tillable acres          | 226           |                |
| Interest paid                    | 5,805         |                | Milk sold per cow, lbs.       | 16,834        |                |
| Miscellaneous                    | 2,309         |                | Hay DM per acre, tons         | 2.5           |                |
| TOTAL OPERATING EXPENSES         | \$151,720     |                | Corn silage per acre, tons    | 13.0          |                |
| Expansion livestock              | 1,345         |                | Milk sold per worker, lbs.    | 483,545       |                |
| Machinery depreciation           | 10,314        |                | Grain/conc. as % milk sales   | 26%           |                |
| Building depreciation            | 1,096         |                | Feed & crop exp./cwt. milk    | \$4.97        |                |
| TOTAL ACCRUAL EXPENSES           | \$164,475     |                | Labor & mach. costs/cow       | \$859         |                |
|                                  |               |                | Average price/cwt. milk       | \$14.55       |                |
| <hr/>                            |               |                |                               |               |                |
| <u>ASSETS</u>                    | <u>Jan. 1</u> | <u>Dec. 31</u> | <u>LIABILITIES</u>            | <u>Jan. 1</u> | <u>Dec. 31</u> |
| Farm cash/chkg./sav.             | \$ 5,228      | \$ 4,582       | Accounts payable              | \$ 3,097      | \$ 4,034       |
| Accounts receivable              | 17,185        | 22,245         | Operating debt                | 3,038         | 3,050          |
| Prepaid expenses                 | 31            | 18             | Short-term                    | 786           | 833            |
| Feed & supplies                  | 33,400        | 35,311         | Advanced gov't. rec.          | 0             | 59             |
| Dairy cows**                     | 65,423        | 72,204         | Intermediate***               | 52,588        | 51,437         |
| Heifers                          | 24,009        | 27,548         | Long-term**                   | 8,727         | 7,726          |
| Bulls & other lvstk.             | 311           | 548            | Total Farm Liab.              | \$ 68,236     | \$ 67,139      |
| Machinery & equip**              | 69,705        | 77,520         | Nonfarm Liab.****             | 5,587         | 7,962          |
| FLB & PCA stock                  | 1,127         | 926            | Total Farm & Nonfarm          |               |                |
| Other stock & cert.              | 3,659         | 4,168          | Liabilities                   | \$ 73,823     | \$ 75,101      |
| Land & buildings**               | 11,552        | 12,989         |                               |               |                |
| Total Farm Assets                | \$231,630     | \$258,059      | Farm Net Worth                | \$163,394     | \$190,920      |
| Nonfarm Assets****               | 33,309        | 38,667         | Farm & Nonfarm                |               |                |
| Total Farm & Nonfarm             |               |                | Net Worth                     | \$191,116     | \$221,625      |
| Assets                           | \$264,939     | \$296,726      |                               |               |                |

\*A renter owns no farm real estate at the end of year or no tillable land.

\*\*Includes discounted lease payments. \*\*\*Includes FLB/PCA stock and discounted lease payments for cattle and machinery. \*\*\*\*Average of 24 farms reporting.

Table 58. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION  
Top 10 Percent of the Farms by Net Farm Income (without appreciation)  
41 New York Dairy Farms, 1989

| <u>ACCRUAL EXPENSES</u>          |                |                | <u>ACCRUAL RECEIPTS</u>       |                |                |
|----------------------------------|----------------|----------------|-------------------------------|----------------|----------------|
| Labor: Hired                     | \$125,731      |                | Milk sales                    |                | \$813,825      |
| Feed: Dairy grain & conc.        | 211,061        |                | Dairy cattle                  |                | 81,651         |
| Dairy roughage                   | 6,098          |                | Dairy calves                  |                | 13,548         |
| Nondairy                         | 273            |                | Other livestock               |                | 1,928          |
| Machinery: Mach. hire/rent/lease | 8,921          |                | Crops                         |                | 1,295          |
| Mach. repairs/parts              | 36,187         |                | Government receipts           |                | 8,416          |
| Auto expense (farm share)        | 1,415          |                | Custom machine work           |                | 609            |
| Fuel, oil, grease                | 14,655         |                | Gas tax refund                |                | 469            |
| Livestock: Replacement lvstk.    | 7,504          |                | Other                         |                | <u>11,161</u>  |
| Breeding                         | 8,618          |                |                               |                |                |
| Vet & medicine                   | 19,138         |                | TOTAL ACCRUAL RECEIPTS        |                | \$932,902      |
| Milk marketing                   | 19,402         |                |                               |                |                |
| Cattle lease/rent                | 2,476          |                | <u>PROFITABILITY ANALYSIS</u> |                |                |
| Other livestock expense          | 27,127         |                | Net farm inc. (w/o apprec.)   |                | \$186,281      |
| Crops: Fertilizer & lime         | 25,245         |                | Net farm inc. (w/apprec.)     |                | \$237,161      |
| Seeds & plants                   | 12,078         |                | Labor & mgt. income/farm      |                | \$131,138      |
| Spray & other crop expense       | 11,866         |                | Number of operators           |                | 1.70           |
| Real Estate: Land/building/      |                |                | Labor & mgt. income/oper.     |                | \$77,140       |
| fence repair                     | 14,364         |                | Rate of return on equity      |                |                |
| Taxes                            | 13,687         |                | capital including apprec.     |                | 17.44%         |
| Rent & lease                     | 14,461         |                |                               |                |                |
| Other:                           |                |                | <u>BUSINESS FACTORS</u>       |                |                |
| Insurance                        | 8,820          |                | Number of cows                |                | 296            |
| Telephone (farm share)           | 997            |                | Number of heifers             |                | 226            |
| Electricity (farm share)         | 15,674         |                | Worker equivalent             |                | 7.30           |
| Interest paid                    | 47,405         |                | Total tillable acres          |                | 699            |
| Miscellaneous                    | <u>10,037</u>  |                | Milk sold per cow, lbs.       |                | 18,832         |
| TOTAL OPERATING EXPENSES         | \$663,240      |                | Hay DM per acre, tons         |                | 3.0            |
|                                  |                |                | Corn silage per acre, tons    |                | 13.2           |
| Expansion livestock              | \$ 17,457      |                | Milk sold per worker, lbs.    |                | 764,389        |
| Machinery depreciation           | 36,442         |                | Grain/conc. as % milk sales   |                | 26%            |
| Building depreciation            | <u>29,482</u>  |                | Feed & crop exp./cwt. milk    |                | \$4.77         |
| TOTAL ACCRUAL EXPENSES           | \$746,621      |                | Labor & mach. costs/cow       |                | \$870          |
|                                  |                |                | Average price/cwt. milk       |                | \$14.59        |
| <u>ASSETS</u>                    |                |                | <u>LIABILITIES</u>            |                |                |
|                                  | <u>Jan. 1</u>  | <u>Dec. 31</u> |                               | <u>Jan. 1</u>  | <u>Dec. 31</u> |
| Farm cash/chkg./sav.             | \$ 16,874      | \$ 20,763      | Accounts payable              | \$ 11,040      | \$ 10,388      |
| Accounts receivable              | 58,970         | 73,899         | Operating debt                | 36,169         | 44,342         |
| Prepaid expenses                 | 1,926          | 3,014          | Short-term                    | 7,376          | 7,902          |
| Feed & supplies                  | 160,030        | 172,638        | Advanced gov't. rec.          | 0              | 9              |
| Dairy cows*                      | 242,055        | 276,940        | Intermediate**                | 257,053        | 255,552        |
| Heifers                          | 98,495         | 109,444        | Long-term*                    | <u>219,798</u> | <u>212,907</u> |
| Bulls & other lvstk.             | 3,836          | 3,340          | Total Farm Liab.              | \$531,436      | \$531,100      |
| Machinery & equip*               | 236,456        | 268,041        | Nonfarm Liab.***              | <u>466</u>     | <u>1,279</u>   |
| FLB & PCA stock                  | 10,206         | 7,482          | Total Farm & Nonfarm          |                |                |
| Other stock & cert.              | 32,202         | 33,123         | Liabilities                   | \$531,902      | \$532,379      |
| Land & buildings*                | <u>682,504</u> | <u>726,004</u> |                               |                |                |
| Total Farm Assets                | \$1,543,554    | \$1,694,688    | Farm Net Worth                | \$1,012,118    | \$1,163,588    |
| Nonfarm Assets***                | <u>79,174</u>  | <u>93,208</u>  | Farm & Nonfarm                |                |                |
| Total Farm & Nonfarm             |                |                | Net Worth                     | \$1,090,826    | \$1,255,517    |
| Assets                           | \$1,622,728    | \$1,787,896    |                               |                |                |

\*Includes discounted lease payments. \*\*Includes FLB/PCA stock and discounted lease payments for cattle and machinery. \*\*\*Average of 14 farms reporting.

Table 59. FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION  
Average of 409 New York Dairy Farms, 1989

| <u>ACCRUAL EXPENSES</u>                     |           |           | <u>ACCRUAL RECEIPTS</u>                               |           |           |
|---------------------------------------------|-----------|-----------|-------------------------------------------------------|-----------|-----------|
| Labor: Hired                                | \$ 29,077 |           | Milk sales                                            |           | \$261,144 |
| Feed: Dairy grain & conc.                   | 69,409    |           | Dairy cattle                                          |           | 22,098    |
| Dairy roughage                              | 2,310     |           | Dairy calves                                          |           | 4,552     |
| Nondairy                                    | 472       |           | Other livestock                                       |           | 554       |
| Machinery: Mach. hire/rent/lease            | 2,730     |           | Crops                                                 |           | 2,421     |
| Mach. repairs/parts                         | 13,834    |           | Government receipts                                   |           | 3,236     |
| Auto expense (farm share)                   | 806       |           | Custom machine work                                   |           | 295       |
| Fuel, oil, grease                           | 5,981     |           | Gas tax refund                                        |           | 255       |
| Livestock: Replacement lvstk.               | 2,969     |           | Other                                                 |           | 3,147     |
| Breeding                                    | 3,309     |           | - Nonfarm noncash capital                             |           | (-)228    |
| Vet & medicine                              | 5,469     |           | TOTAL ACCRUAL RECEIPTS                                |           | \$297,474 |
| Milk marketing                              | 8,761     |           | <u>PROFITABILITY ANALYSIS</u>                         |           |           |
| Cattle lease/rent                           | 504       |           | Net farm inc. (w/o apprec.)                           |           | \$49,575  |
| Other livestock expense                     | 10,361    |           | Net farm inc. (w/apprec.)                             |           | \$74,787  |
| Crops: Fertilizer & lime                    | 9,066     |           | Labor & mgt. income/farm                              |           | \$25,025  |
| Seeds & plants                              | 3,985     |           | Number of operators                                   |           | 1.39      |
| Spray & other crop expense                  | 3,709     |           | Labor & mgt. income/oper.                             |           | \$18,004  |
| Real Estate: Land/building/<br>fence repair | 4,869     |           | Rate of return on equity<br>capital including apprec. |           | 9.8%      |
| Taxes                                       | 6,397     |           | <u>BUSINESS FACTORS</u>                               |           |           |
| Rent & lease                                | 4,447     |           | Number of cows                                        |           | 104       |
| Other:                                      |           |           | Number of heifers                                     |           | 83        |
| Insurance                                   | 4,081     |           | Worker equivalent                                     |           | 3.30      |
| Telephone (farm share)                      | 702       |           | Total tillable acres                                  |           | 316       |
| Electricity (farm share)                    | 6,280     |           | Milk sold per cow, lbs.                               |           | 17,259    |
| Interest paid                               | 19,029    |           | Hay DM per acre, tons                                 |           | 2.6       |
| Miscellaneous                               | 3,340     |           | Corn silage per acre, tons                            |           | 13.4      |
| TOTAL OPERATING EXPENSES                    | \$221,897 |           | Milk sold per worker, lbs.                            |           | 544,598   |
| Expansion livestock                         | 2,392     |           | Grain/conc. as % milk sales                           |           | 27%       |
| Machinery depreciation                      | 14,934    |           | Feed & crop exp./cwt. milk                            |           | \$4.92    |
| Building depreciation                       | 8,676     |           | Labor & mach. costs/cow                               |           | \$894     |
| TOTAL ACCRUAL EXPENSES                      | \$247,899 |           | Average price/cwt. milk                               |           | \$14.53   |
| <u>ASSETS</u>                               |           |           | <u>LIABILITIES</u>                                    |           |           |
|                                             | Jan. 1    | Dec. 31   |                                                       | Jan. 1    | Dec. 31   |
| Farm cash/chkg./sav.                        | \$ 6,999  | \$ 8,431  | Accounts payable                                      | \$ 5,960  | \$ 5,614  |
| Accounts receivable                         | 20,862    | 24,732    | Operating debt                                        | 6,558     | 8,011     |
| Prepaid expenses                            | 240       | 382       | Short-term                                            | 2,730     | 2,765     |
| Feed & supplies                             | 50,395    | 53,702    | Advanced gov't. rec.                                  | 4         | 19        |
| Dairy cows*                                 | 93,956    | 105,203   | Intermediate**                                        | 89,161    | 90,318    |
| Heifers                                     | 39,210    | 43,682    | Long-term*                                            | 116,428   | 114,460   |
| Bulls & other lvstk.                        | 1,179     | 1,272     | Total Farm Liab.                                      | \$220,841 | \$221,187 |
| Machinery & equip.*                         | 115,128   | 125,276   | Nonfarm Liab.***                                      | 2,622     | 3,312     |
| FLB & PCA stock                             | 4,752     | 3,199     | Total Farm & Nonfarm                                  |           |           |
| Other stock & cert.                         | 7,799     | 7,922     | Liabilities                                           | \$223,463 | \$224,499 |
| Land & buildings*                           | 303,909   | 316,233   | Farm Net Worth                                        | \$423,589 | \$468,848 |
| Total Farm Assets                           | \$644,430 | \$690,035 | Farm & Nonfarm                                        |           |           |
| Nonfarm Assets***                           | 71,696    | 75,378    | Net Worth                                             | \$492,663 | \$540,914 |
| Total Farm & Nonfarm                        |           |           |                                                       |           |           |
| Assets                                      | \$716,126 | \$765,413 |                                                       |           |           |

\*Includes discounted lease payments. \*\*Includes FLB/PCA stock and discounted lease payments for cattle and machinery. \*\*\*Average of 250 farms reporting nonfarm assets and liabilities.



**NOTES**

**APPENDIX**

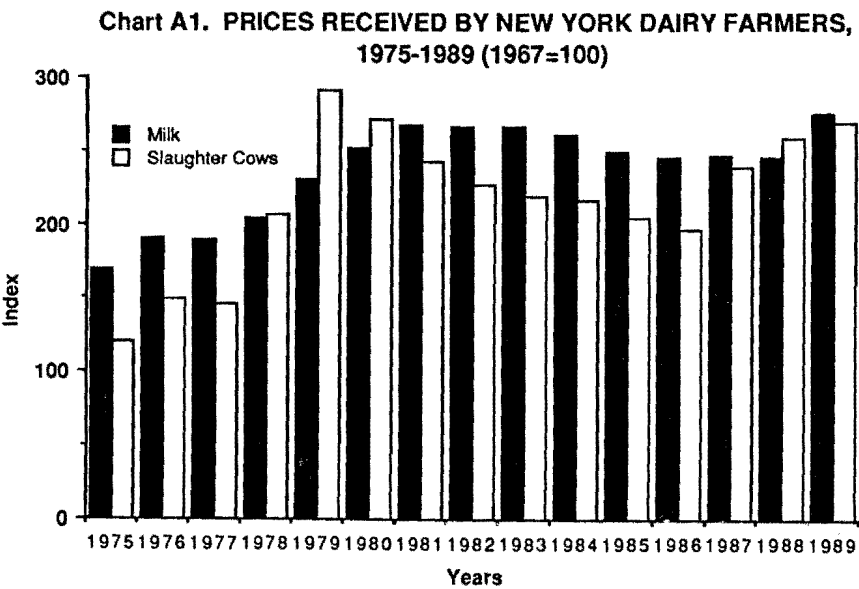
**THE ECONOMIC ENVIRONMENT FACING  
NEW YORK DAIRY FARMERS**

The prices dairy farmers receive for milk and slaughter cows have a major impact on dairy farm profits. Milk prices generally increased from 1975 to 1981. Annual milk prices declined from 1981 to 1986, increased slightly in 1987, and declined in 1988. The 1989 milk price averaged \$1.60 per hundredweight higher than in 1988. The average monthly farm price exceeded 1988 levels during 1989. The December milk price received of \$16.90 is an all time record high since monthly records began in 1909. Slaughter cow prices hit a six-year low in 1975, peaked in 1979, declined through the early 1980's, and increased in 1987-1989. The 1989 slaughter cow price averaged \$1.60 per hundredweight higher than in 1988.

Table A1. PRICES RECEIVED BY NEW YORK DAIRY FARMERS, 1975-1989

| Year | All Milk<br>(\$/cwt) | Slaughter Cows<br>(\$/cwt) | Monthly Farm Price<br>of Milk |             |
|------|----------------------|----------------------------|-------------------------------|-------------|
|      |                      |                            | (\$/cwt)                      |             |
|      |                      |                            | 1988                          | 1989        |
| 1975 | 8.75                 | 20.60                      | January                       | 12.80 14.30 |
| 1976 | 9.83                 | 25.40                      | February                      | 12.50 13.90 |
| 1977 | 9.75                 | 25.00                      | March                         | 12.00 13.30 |
| 1978 | 10.50                | 35.30                      | April                         | 11.60 12.80 |
| 1979 | 11.90                | 49.80                      | May                           | 11.30 12.60 |
|      |                      |                            | June                          | 11.10 12.60 |
| 1980 | 13.00                | 46.30                      | July                          | 11.70 13.30 |
| 1981 | 13.80                | 41.30                      | August                        | 12.50 14.10 |
| 1982 | 13.70                | 38.60                      | September                     | 13.30 15.10 |
| 1983 | 13.70                | 37.20                      | October                       | 14.00 16.00 |
| 1984 | 13.50                | 36.90                      | November                      | 14.40 16.70 |
|      |                      |                            | December                      | 14.20 16.90 |
| 1985 | 12.80                | 34.90                      |                               |             |
| 1986 | 12.60                | 33.60                      |                               |             |
| 1987 | 12.70                | 40.70                      |                               |             |
| 1988 | 12.60                | 44.10                      |                               |             |
| 1989 | 14.20                | 45.70                      |                               |             |

SOURCE: NYCRS, New York Crop and Livestock Report.



The prices dairy farmers pay for a given quantity of goods and services has a major influence on farm production costs. The astute manager will keep close watch on unit costs and utilize the most economical goods and services.

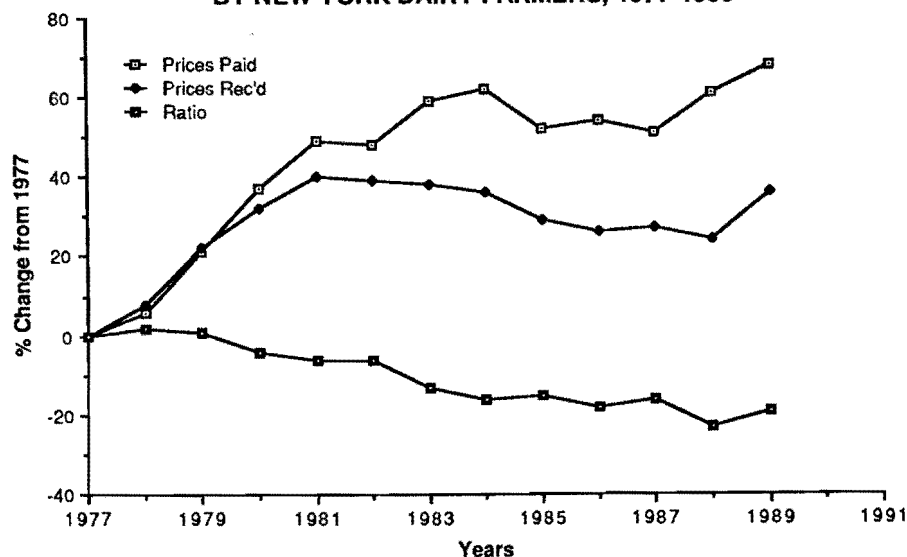
Table A2. PRICES PAID BY NEW YORK FARMERS FOR SELECTED ITEMS, 1979-1989

| Year | Mixed Dairy Feed<br>16% Protein<br>(\$/ton) | Fertilizer, Urea,<br>45-46%N<br>(\$/ton) | Seed Corn,<br>Hybrid*<br>(\$/bu) | Diesel Fuel<br>(\$/gal) | Tractor 50-59 PTO*<br>(\$) | Wage Rate All Hired<br>Farm Workers<br>(\$/hr) |
|------|---------------------------------------------|------------------------------------------|----------------------------------|-------------------------|----------------------------|------------------------------------------------|
| 1979 | 156.80                                      | 213                                      | 45.50                            | 0.723                   | 12,000                     | 2.88                                           |
| 1980 | 179.60                                      | 259                                      | 52.50                            | 1.030                   | 13,400                     | 3.12                                           |
| 1981 | 193.70                                      | 275                                      | 60.00                            | 1.310                   | 14,900                     | 3.26                                           |
| 1982 | 176.60                                      | 278                                      | 63.70                            | 1.240                   | 16,000                     | 3.26                                           |
| 1983 | 192.60                                      | 249                                      | 64.60                            | 1.140                   | 17,200                     | 3.52                                           |
| 1984 | 194.30                                      | 250                                      | 70.20                            | 1.140                   | 17,400                     | 3.60                                           |
| 1985 | 164.20                                      | 238                                      | 67.30                            | 1.080                   | 16,800                     | 4.01***                                        |
| 1986 | 162.90                                      | 200**                                    | 65.60                            | 0.840**                 | 16,600                     | 4.41***                                        |
| 1987 | 152.80**                                    | 190**                                    | 64.90                            | 0.765**                 | 16,700                     | 4.60***                                        |
| 1988 | 180.80**                                    | 208**                                    | 64.20                            | 0.810**                 | 17,150                     | 5.02***                                        |
| 1989 | 188.50**                                    | 227**                                    | 71.40                            | 0.828**                 | 17,350                     | 5.25***                                        |

SOURCE: NYCRS, New York Agricultural Statistics. USDA, ASB, Agricultural Prices. \*United States average. \*\*Northeast region average. \*\*\*New York and New England combined.

The table above shows average prices of selected goods and services used on New York dairy farms. Chart A2 shows the ratio of prices received for milk and prices paid by New York dairy farmers as a percent change from 1977. The ratio has been on a downward trend since 1978 except for slight increases in 1985, 1987, and 1989.

Chart A2. RATIO OF PRICES RECEIVED FOR MILK AND PRICES PAID BY NEW YORK DAIRY FARMERS, 1977-1989



SOURCE: NYCRS, New York Agricultural Statistics.

Inflation, farm profitability, supply and demand all have a direct impact on the inventory values on New York dairy farms. The table below shows year-end (December) prices paid for dairy cows (replacements), an index of these cow prices, an index of new machinery prices (U.S. average), the average per acre value of farmland and buildings reported in February (April for 1982-85), and an index of the real estate prices.

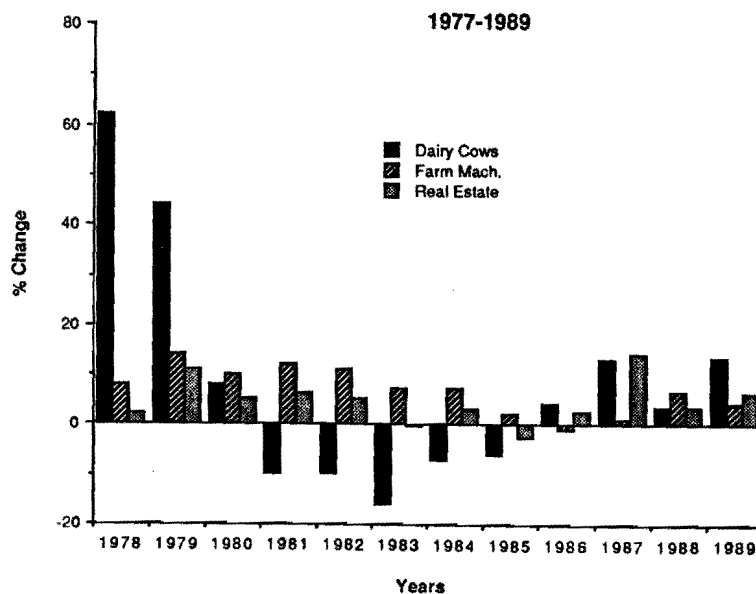
Table A3. VALUES OF NEW YORK DAIRY FARM INVENTORY ITEMS, 1977-1989

| Year | Dairy Cows |          | Machinery* | Farm Real Estate |          |
|------|------------|----------|------------|------------------|----------|
|      | Value/Head | 1977=100 |            | Value/Acre       | 1977=100 |
| 1977 | \$ 495     | 100      | 100        | \$587            | 100      |
| 1978 | 800        | 162      | 109        | 600              | 102      |
| 1979 | 1,150      | 232      | 121        | 670              | 114      |
| 1980 | 1,240      | 251      | 134        | 720              | 123      |
| 1981 | 1,120      | 226      | 149        | 773              | 132      |
| 1982 | 1,010      | 204      | 163        | 821              | 140      |
| 1983 | 850        | 172      | 173        | 817              | 139      |
| 1984 | 790        | 160      | 181        | 848              | 144      |
| 1985 | 740        | 149      | 181        | 820              | 140      |
| 1986 | 770        | 156      | 179        | 843              | 144      |
| 1987 | 870        | 176      | 181        | 960              | 164      |
| 1988 | 900        | 182      | 193        | 993              | 169      |
| 1989 | 1,020      | 206      | 201        | 1,053            | 179      |

SOURCE: NYCRS, New York Agricultural Statistics. USDA, ASB, Agricultural Prices. \*United States average.

Dairy cow prices turned up in 1986 after declining for five consecutive years. The December 1989 value per head averaged \$120 higher than in December 1988. New machinery prices have increased since 1977 with a slight decline in 1986. The 1989 prices increased 4.1 percent over the 1988 level. Farm real estate values continue to strengthen. All of these changes are associated with the gradual improvement in economic conditions on dairy farms.

Chart A3. ANNUAL CHANGES IN DAIRY COW, FARM MACHINERY, AND FARM REAL ESTATE VALUES, NEW YORK DAIRY FARMS



SOURCE: USDA, ERS, Farm Real Estate Market Developments Outlook and Situation. NYCRS, New York Agricultural Statistics.

### Other Agricultural Economics Research Publications

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