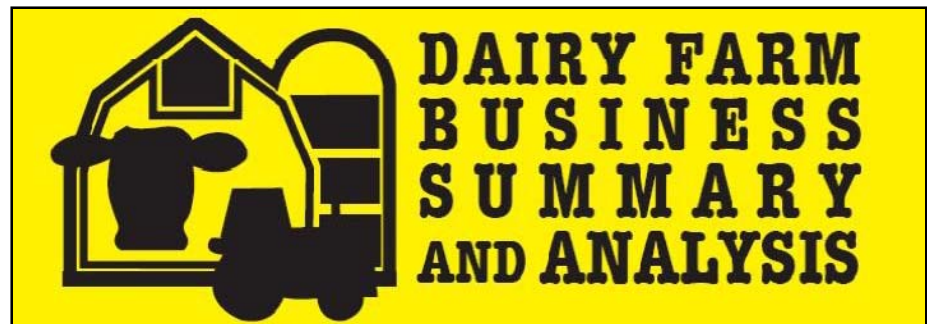


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DAIRY FARM MANAGEMENT

BUSINESS SUMMARY NEW YORK STATE 2007



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ABSTRACT

Business and financial records for 2007 from 250 New York dairy farm businesses are summarized and analyzed. This analysis demonstrates the use of cash accounting with accrual adjustments to measure farm profitability, financial performance, and costs of producing milk. Traditional methods of analyzing dairy farm businesses are combined with evaluation techniques that show the relationship between good management performance and financial success.

The farms in the project averaged 358 cows per farm and 22,983 pounds of milk sold per cow, which represent above average size and management level for New York dairy farms. Net farm income excluding appreciation, which is the return to the operator's labor, management, capital, and other unpaid family labor, averaged \$410,358 per farm. The rate of return to all capital invested in the farm business including appreciation averaged 18.2 percent.

Differences in profitability between farms continue to widen. Average net farm income excluding appreciation of the top 10 percent of farms was \$1,658,164, while the lowest 10 percent was \$3,007. Rates of return on equity with appreciation ranged from positive 55 percent to negative 7 percent for the highest decile and the lowest decile of farms, respectively.

Large freestall farms averaged the highest milk output per cow and per worker, the lowest total cost of production and investment per cow, and the greatest returns to labor, management and capital. Farms milking three times a day (3X) were larger, produced more milk per cow and had higher net farm incomes in 2007 than herds milking two times per day (2X). Operating costs per hundredweight of milk were \$0.47 per hundredweight greater for 3X than 2X milking herds, while output per cow was 4,306 pounds higher. In 2007, farms supplementing the herd with bovine somatotropin (bST) attained higher rates of milk production per cow, had larger herds and were more profitable than farms not supplementing with bST for all measures of profitability. Farms adopting intensive grazing generally produced less milk per cow than non-grazing farms but averaged higher labor and management incomes per operator. One should not conclude that adoption of these technologies alone were responsible for differences in performance.

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INTRODUCTION¹

Dairy farm business summary (DFBS) projects are an integral part of Cornell Cooperative Extension's agricultural educational program in New York State. The Department of Applied Economics and Management of the College of Agriculture and Life Sciences at Cornell University, and County and Regional Extension staff, cooperate in sponsoring DFBS projects. In 2007, over 320 dairy farms participated, including dairy owners, renters, full-time, part-time, and out-of-state farms. Business records submitted by dairy farmers from 46 New York counties provide the basis for continuing Extension programs, data for applied studies, and for use in the classroom. Regardless of the use of the data, confidentiality of individual farm data is maintained.

Cornell Cooperative Extension educators enroll the cooperators and collect the records. In addition, assistance is provided by individual consultants Bruce Dehm and Charles Radick, and by consultants from Farm Credit of Western New York and First Pioneer Farm Credit. Each cooperator receives a detailed summary and analysis of his or her business. All educators are using a computer in their offices or on the farm to process and return the individual farm business reports for immediate use. The program used to generate the farm business reports can be found at the website <http://dfbs.cornell.edu>. Regional reports are prepared by Cornell faculty and used by DFBS cooperators and other farmers to compare their farm performance with regional averages. The DFBS program helps farmers improve accounting and financial analysis techniques, develop managerial skills, solve business and financial management problems and plan the future of their business. For more information, please visit <http://dfbs.aem.cornell.edu>

Individual farm records from the 6 regions and 46 counties of the State (Figure 1, page 2) have been combined and the total data set analyzed to determine the effects of different levels of price, technology, and management on dairy farm incomes. This study provides current dairy farm business information for use by farmers, Cooperative Extension staff, teachers, and others concerned with the New York dairy industry.

Trend Analysis

Farms in New York have changed dramatically over the past 50 years. Farms are larger, more efficient with greater rates of production and generally more profitable. Changes have also occurred in recent years especially in regard to costs and milk price (see pages 3-7).

Farms Included

Data from 250 specialized dairy farms are included in the main body of this report starting on page 8. 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 proportionately represented (Figure 1, page 2). Participants represent more than 4.5 percent of the milk cow operations in New York (see Appendix Table A3). The 250 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, part-time dairy operators, and organic farms are not included in the main body of this report. Data on dairy farm renters are summarized separately in the supplemental information section of the publication.

Features

Accrual adjustment 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 9. Five measures of farm profitability; net farm income, labor and management income, return on equity, return on all capital, and return to all labor and management are calculated on pages 11 through 14. The balance sheet is presented with the current portion of intermediate and long-term debt identified as a current liability, on pages 14 and 15. The statement of owner equity, which shows the interrelationship between farm profitability, non-farm cash flows and net worth is presented on page 17. A detailed cash flow statement, as well as budgeting data and debt repayment analysis are presented on pages 18 through 20.

The whole farm method of calculating the cost of producing milk is detailed on pages 28 through 33. The operating cost, purchased inputs cost and total cost of producing 100 pounds of milk are developed and analyzed. Farm business charts for farms with conventional and freestall housing are presented on pages 63 through 67. Specific studies of the performance of dairy farms using bST, rotational grazing and three times (3X) a day milking are presented on pages 71, 76 and 77.

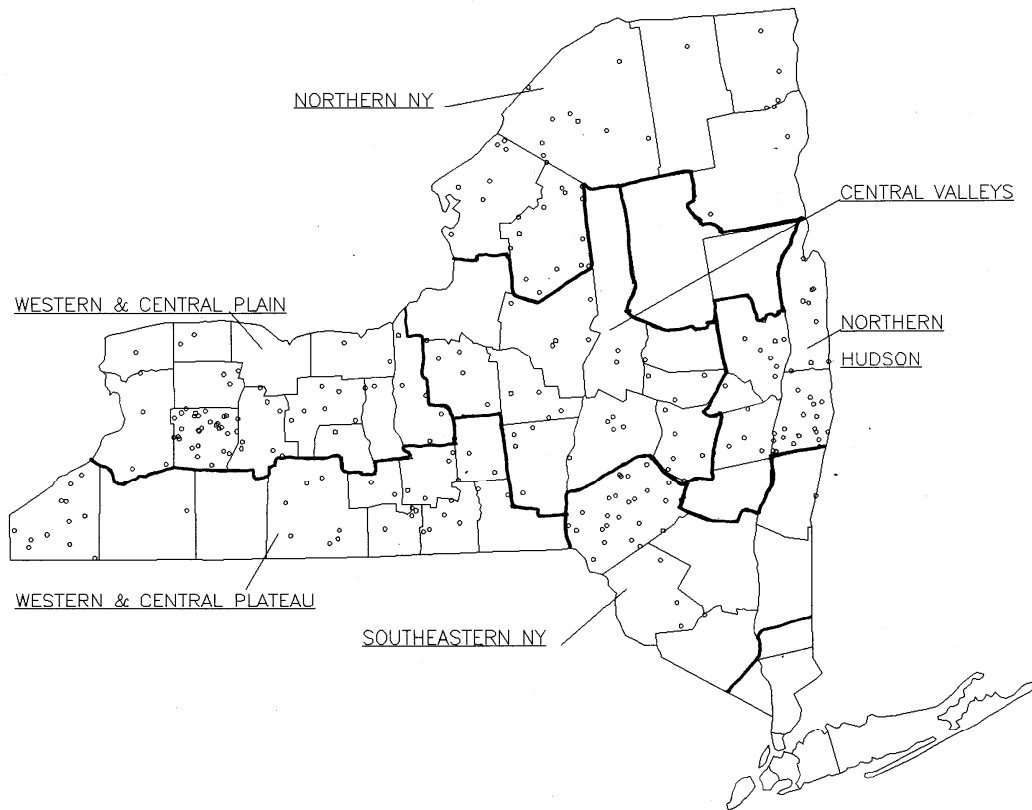
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¹This report was written by Wayne A. Knoblauch, Professor; Linda D. Putnam and Daniel Murray, Extension Support Specialists in the Department of Applied Economics and Management at Cornell University; Jason Karszes, Senior Extension Associate, Pro-Dairy; and Rella Moag, Work Study Student.

Figure 1.

**LOCATION OF THE 250 NEW YORK DAIRY FARMS
IN THE 2007 DAIRY FARM BUSINESS SUMMARY**



2007 Regional Summary Publications

| <u>Region</u> | <u>Publications</u> | <u>Author(s)</u> |
|-----------------------------|---------------------|---|
| Western and Central Plain | E.B. 2008-07 | Wayne A. Knoblauch, Linda D. Putnam, Jason Karszes, John Hanchar, Kyle Getty, & Joan S. Petzen |
| Northern Hudson | E.B. 2008-10 | George J. Conneman, Linda D. Putnam, Cathy S. Wickswat, Sandra A. Buxton, Richard C. Smith & Jason Karszes |
| Western and Central Plateau | E.B. 2008-13 | Wayne A. Knoblauch, Linda D. Putnam, Jason Karszes, James W. Grace, David L. Munsee, Joan S. Petzen, & Lynn A. O'Brien |
| Southeastern New York | E.B. 2008-14 | Wayne A. Knoblauch, Linda D. Putnam, Mariane Kiraly, Joseph J. Walsh, Larry R. Hulle, & Cathly S. Wickswat |
| Central Valleys | E.B. 2008-17 | Wayne A. Knoblauch, Jason Karszes, Daniel Murray, Charles Z. Radick, Cathy S. Wickswat, James P. Manning, Bonnie Collins, David Balbian, George Allhusen, Sandra A. Buxton, Linda D. Putnam, & Rella Moag |
| Northern New York | E.B. 2008-18 | Wayne A. Knoblauch, Linda D. Putnam, Jason Karszes, Peggy Murray, Frans Vokey, Molly Ames, Anita Deming, Jessica Prosper, & Rella Moag |

FIFTY YEARS OF NEW YORK STATE DAIRY FARM BUSINESS DATA

New York dairy farming has changed dramatically over the past 50 years (Table 1, page 4). Dairy cows per farm on cooperating farms increased 10 fold between 1957 and 2007 with nearly a doubling in herd size over the last 10 years. The DFBS sample is not representative of all farms in New York State. New York Agricultural Statistics Service data indicate the average herd in the state increased in size about two and a half times over the same 50-year period. Milk output per cow increased 159 percent with the largest increase occurring between 1986 and 1996. Labor efficiency, measured by pounds of milk sold per worker, is up 502 percent on DFBS farms, and the operating cost of producing milk increased more than 655 percent with the largest jump occurring between 1967 and 1977.

There is a large increase in farm capital invested per farm, up 6846 percent since 1957. Net farm income per farm increased 800 percent (adjusted for 2007 dollars). Labor and management income per operator is up 325 percent from 50 years ago (adjusted for 2007 dollars) as 2007 was a high income year. This is a reflection of the increased variability over the last 10 years. Some factors could not be calculated with 1957 and 1967 data because liabilities, interest paid, and appreciation were not available in those years. Farm net worth excluding deferred taxes has increased 111 percent over the last 30 years and return on equity capital increased 578 percent since 1977.

FOUR YEARS OF VARIABILITY

Recognition and evaluation of the progress that has occurred on farms can best be achieved by studying the same farms over a period of time. Table 2, page 5, presents average data from 165 farms that were DFBS cooperators each year since 2004. Chart 1 shows the price received for milk in comparison to the operating cost of producing a hundredweight of milk for these farms. The higher milk price and higher costs in 2007 still provided dairy farmers with the highest operating margin per hundredweight of \$6.37.

Average net farm income without appreciation in 2007 was 100 percent above the 2004 average, and 978 percent above the 2006 average. Net worth increased 17 percent in 2004, increased 15 percent in 2005, increased 2 percent in 2006, and increased 27 percent in 2007.

The last four years have been a period requiring skillful decision making and improved management skills on the part of New York dairy farm operators. Risk management skills, including output price management, are becoming more important to farm business success.

Chart 1.

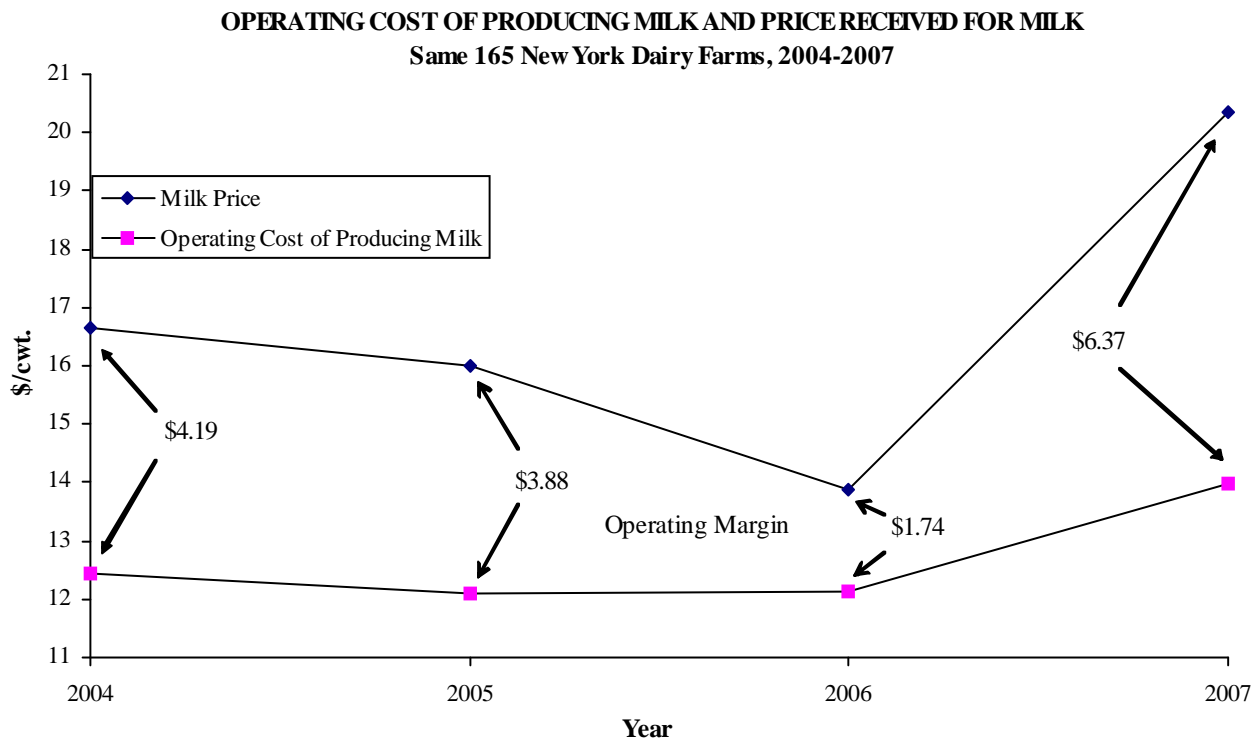


Table 1.

COMPARISON OF FARM BUSINESS SUMMARY DATA
New York Dairy Farms, 1957 - 2007

| Selected Factors | 1957 | 1967 | 1977 | 1987 | 1997 | 2007 |
|---|------------------|------------------|------------------|-----------|-------------|----------------------|
| Number of farms | 464 | 548 | 570 | 426 | 253 | 250 |
| <u>Size of Business</u> | | | | | | |
| Average number of cows | 33 | 51 | 71 | 101 | 190 | 358 |
| Average number of heifers | 20 | 33 | 51 | 79 | 139 | 289 |
| Milk sold, cwt. | 2,931 | 6,166 | 9,648 | 16,498 | 39,809 | 82,315 |
| Worker equivalent | 1.80 | 1.90 | 2.50 | 3.19 | 5.01 | 8.40 ⁴ |
| Total tillable acres | 100 ² | 138 ² | 219 ² | 305 | 462 | 758 |
| <u>Rates of Production</u> | | | | | | |
| Milk sold per cow, lbs. | 8,884 | 12,100 | 13,600 | 16,351 | 20,651 | 22,983 |
| Hay DM per acre, tons | 2.1 | 2.6 | 2.3 | 2.7 | 2.5 | 3.0 |
| Corn silage per acre, tons | 11 | 17 | 14 | 16 | 16 | 19 |
| <u>Labor Efficiency</u> | | | | | | |
| Cows per worker | 18 | 27 | 28 | 32 | 38 | 43 ⁴ |
| Milk sold per worker, lbs. | 162,883 | 324,500 | 385,920 | 516,728 | 784,604 | 980,234 ⁴ |
| <u>Cost Control</u> | | | | | | |
| Grain & conc. as % of milk sales | 26% | 26% | 28% | 24% | 33% | 24% |
| Dairy feed & crop expense/cwt. | \$1.80 | \$1.74 | \$3.56 | \$4.11 | \$5.39 | \$6.13 |
| Operating cost of prod. cwt. milk | \$1.41 | \$1.77 | \$9.05 | \$9.33 | \$11.76 | \$14.02 |
| Total cost of producing cwt. milk | \$3.98 | \$6.80 | \$11.09 | \$13.55 | \$14.71 | \$17.46 |
| Milk receipts per cwt. milk | \$4.65 | \$5.25 | \$9.76 | \$12.89 | \$13.65 | \$20.34 |
| <u>Capital Efficiency</u> | | | | | | |
| Total farm capital | \$43,444 | \$91,810 | \$296,248 | \$594,713 | \$1,177,289 | \$3,017,709 |
| Farm capital per cow | \$1,316 | \$1,800 | \$4,173 | \$5,894 | \$6,196 | \$8,426 |
| Machinery & equipment per cow | \$278 | \$137 | \$778 | \$1,057 | \$1,108 | \$1,448 |
| Real estate per cow | \$617 | \$834 | \$2,137 | \$2,805 | \$2,650 | \$3,356 |
| Livestock investment per cow | \$304 | \$435 | \$793 | \$1,214 | \$1,463 | \$2,244 |
| Asset turnover ratio | 0.46 | 0.48 | 0.36 | 0.46 | 0.52 | 0.67 |
| <u>Profitability</u> | | | | | | |
| Net farm income without apprec. ⁵ | NA ³ | NA ³ | \$47,420 | \$64,401 | \$47,637 | \$410,358 |
| Net farm income with apprec. ⁵ | \$61,800 | \$81,283 | \$61,795 | \$106,226 | \$60,809 | \$556,376 |
| Labor & management income per operator/manager ⁵ | \$44,524 | \$46,643 | \$10,333 | \$20,207 | \$413 | \$189,019 |
| Rate of return on: | | | | | | |
| Equity capital with appreciation | NA | NA | 3.6% | 8.1% | 0.4% | 24.4% |
| All capital with appreciation | NA | NA | 4.6% | 8.1% | 3.2% | 18.2% |
| All capital without appreciation | NA | NA | 3.2% | 4.2% | 2.4% | 13.4% |
| <u>Financial Summary, End Year</u> | | | | | | |
| Farm net worth | NA | NA | \$189,104 | \$398,209 | \$685,665 | \$2,200,655 |
| Change in net worth with apprec. | NA | NA | NA | \$35,023 | \$1,446 | \$453,526 |
| Debt to asset ratio | NA | NA | 0.36 | 0.35 | 0.43 | 0.32 |
| Farm debt per cow | NA | NA | \$1,509 | \$2,046 | \$2,611 | \$2,878 |

²Acres of cropland harvested.

³NA = not available.

⁴Based on hours actually worked by owner/operator instead of standard 12 months per full-time owner/operator.

⁵Adjusted for inflation using Consumer Price Index – 2007 dollars.

Table 2.

COMPARISON OF FARM BUSINESS SUMMARY DATA
Same 165 New York Dairy Farms, 2004 - 2007

| Selected Factors | 2004 | 2005 | 2006 | 2007 |
|--|-------------|-------------|-------------|-------------|
| Milk receipts per cwt. milk | \$16.64 | \$15.99 | \$13.86 | \$20.36 |
| <u>Size of Business</u> | | | | |
| Average number of cows | 379 | 392 | 412 | 417 |
| Average number of heifers | 294 | 315 | 334 | 336 |
| Milk sold, cwt. | 85,059 | 91,192 | 95,810 | 97,116 |
| Worker equivalent ⁶ | 9.02 | 9.23 | 9.49 | 9.66 |
| Total tillable acres | 787 | 818 | 843 | 859 |
| <u>Rates of Production</u> | | | | |
| Milk sold per cow, lbs. | 22,427 | 23,236 | 23,249 | 23,277 |
| Hay DM per acre, tons | 3.6 | 3.5 | 3.3 | 3.1 |
| Corn silage per acre, tons | 18 | 19 | 19 | 19 |
| <u>Labor Efficiency</u> | | | | |
| Cows per worker ⁶ | 42 | 43 | 43 | 43 |
| Milk sold per worker, lbs. ⁶ | 943,004 | 987,992 | 1,009,584 | 1,005,341 |
| <u>Cost Control</u> | | | | |
| Grain & concentrate purchased as % of milk sales | 27% | 25% | 29% | 24% |
| Dairy feed & crop expense per cwt. milk | \$5.57 | \$5.07 | \$5.03 | \$6.10 |
| Operating cost of producing cwt. milk | \$12.45 | \$12.11 | \$12.12 | \$13.99 |
| Total cost of producing cwt. milk | \$15.50 | \$15.23 | \$15.22 | \$17.27 |
| Hired labor cost per cwt. | \$2.75 | \$2.69 | \$2.67 | \$2.79 |
| Interest paid per cwt. | \$0.53 | \$0.62 | \$0.77 | \$0.79 |
| Labor & machinery costs per cow | \$1,330 | \$1,382 | \$1,372 | \$1,487 |
| <u>Capital Efficiency, Average for Year</u> | | | | |
| Farm capital per cow | \$6,916 | \$7,377 | \$7,654 | \$8,243 |
| Machinery & equipment per cow | \$1,195 | \$1,287 | \$1,332 | \$1,429 |
| Real estate per cow | \$2,733 | \$2,837 | \$2,999 | \$3,172 |
| Livestock investment per cow | \$1,865 | \$2,007 | \$2,091 | \$2,223 |
| Asset turnover ratio | 0.65 | 0.63 | 0.53 | 0.69 |
| <u>Profitability</u> | | | | |
| Net farm income without appreciation | \$245,280 | \$231,822 | \$45,480 | \$490,091 |
| Net farm income with appreciation | \$337,449 | \$359,519 | \$145,525 | \$650,060 |
| Labor & management income per operator/manager | \$105,763 | \$84,303 | \$-35,540 | \$227,910 |
| Rate return on: | | | | |
| Equity capital with appreciation | 17.2% | 15.9% | 3.5% | 25.6% |
| All capital with appreciation | 11.9% | 11.9% | 4.5% | 18.9% |
| All capital without appreciation | 8.4% | 7.4% | 1.3% | 14.2% |
| <u>Financial Summary, End Year</u> | | | | |
| Farm net worth | \$1,670,451 | \$1,928,193 | \$1,986,225 | \$2,504,588 |
| Change in net worth with appreciation | \$246,800 | \$252,733 | \$29,338 | \$532,535 |
| Debt to asset ratio | 0.39 | 0.36 | 0.39 | 0.32 |
| Farm debt per cow | \$2,767 | \$2,775 | \$2,965 | \$2,843 |

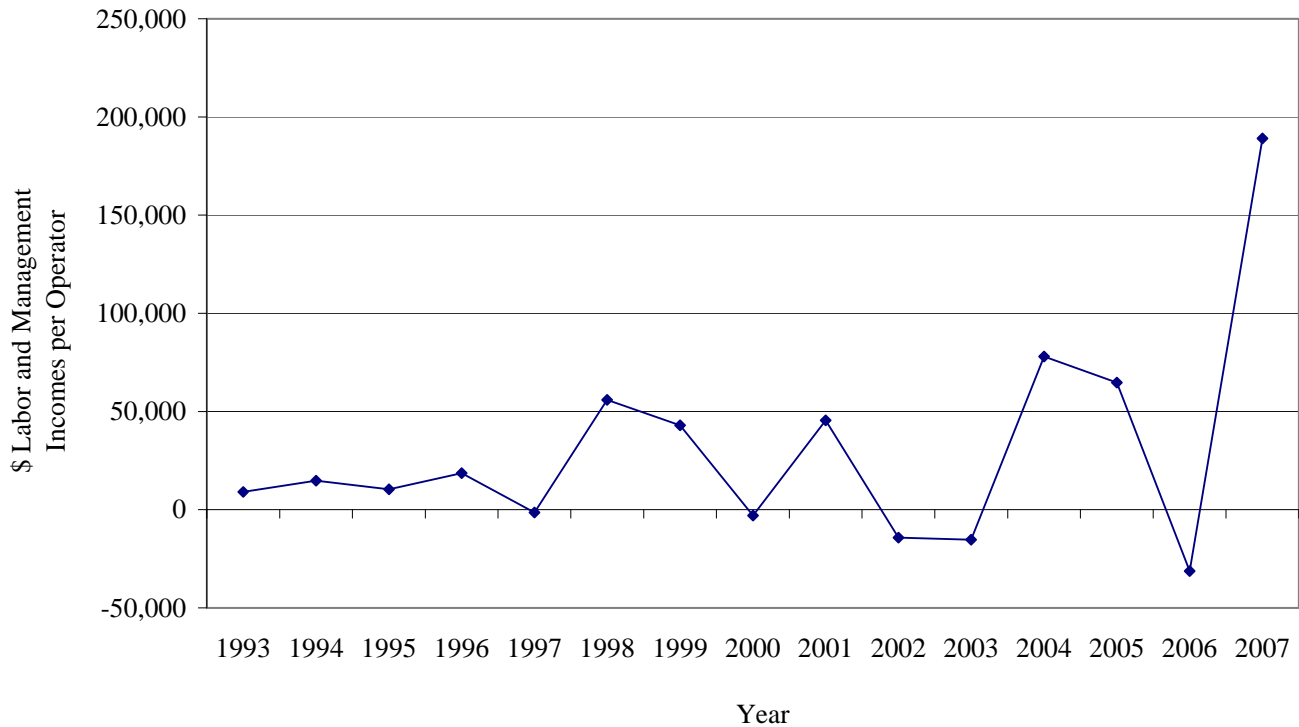
⁶Based on hours actually worked by owner/operator instead of standard 12 months per full-time owner/operator.

ADJUSTING PROFIT, PRICE AND COSTS FOR INFLATION

Labor and management incomes per operator in 2007 were at an all-time high, when measured in nominal (actual) value (Chart 2). Over the period 1993 to 2007, labor and management incomes per operator did not exceed \$25,000 except for \$55,000 in 1998, nearly \$43,000 in 1999, over \$45,000 in 2001, over \$78,000 in 2004, nearly \$65,000 in 2005 and \$189,019 in 2007. The reader is reminded that the average herd size of DFBS participating farms steadily increased from 130 cows to 358 cows over this period.

Chart 2.

LABOR AND MANAGEMENT INCOMES PER OPERATOR Dairy Farm Business Summary Farms, 1993-2007

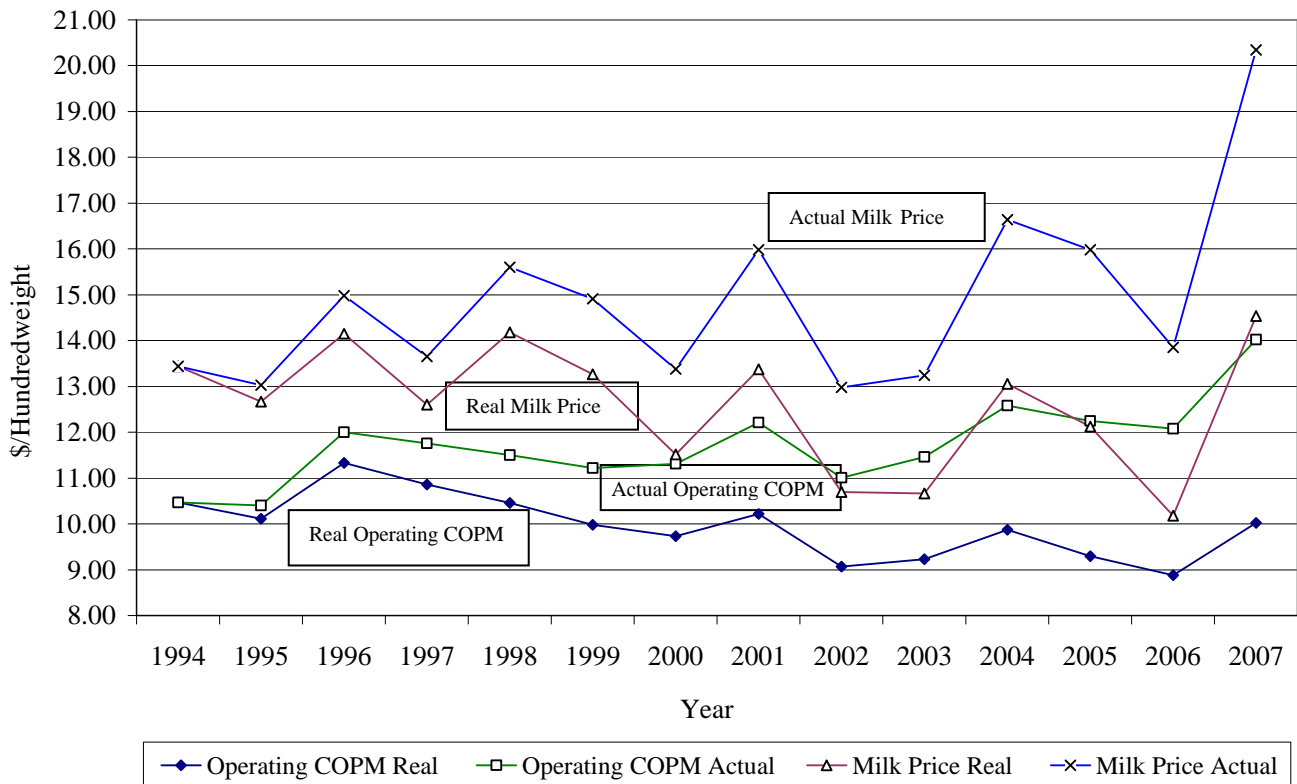


Milk prices in 2007 averaged \$20.34 per hundredweight in actual dollars (Chart 3). However, the 2007 milk price, adjusted for inflation, in 1994 dollars, would have been only \$14.54 per hundredweight.

Operating cost of producing milk (actual) had been very constant from 1994 through 1995 (Chart 3). Feed costs were higher in 1996 and so were operating costs of producing milk. Operating costs were on a downward trend from 1996 through 2000. Operating costs then increased in 2001, fell in 2002, and increased in 2003 and 2004, but remained higher than the early 1990's. Operating costs decreased slightly in 2005 and 2006 but increased nearly \$2 per hundredweight in 2007. Real costs of producing milk per hundredweight have been on a downward trend over this 14-year period except for increases in 1996, 2001, 2004 and 2007.

Chart 3.

OPERATING COST OF PRODUCING MILK AND MILK PRICE⁷
Dairy Farm Business Summary Farms, 1994-2007



⁷ Actual operating cost of producing milk as well as milk price are adjusted for inflation, to obtain real values, using the Consumer Price Index-1994 dollars.

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 and the number of farms reporting these characteristics for 2007 are presented in the following table.

Table 3.

BUSINESS CHARACTERISTICS AND RESOURCES USED 250 New York Dairy Farms, 2007

| <u>Dairy Livestock (number)</u> | <u>Cows</u> | <u>Heifers</u> | <u>Dairy Records</u> | <u>Number</u> | <u>Percent</u> |
|---------------------------------|---------------|----------------|--|----------------|----------------|
| Beginning of Year | 346 | 281 | Testing Service | 189 | 75 |
| End of Year | 358 | 297 | On Farm System | 29 | 12 |
| Average for Year | 358 | 289 | Other | 3 | 1 |
| | | | None | 29 | 12 |
| <u>Type of Business</u> | <u>Number</u> | <u>Percent</u> | <u>bST Usage</u> | <u>Number</u> | <u>Percent</u> |
| Sole Proprietorship | 118 | 48 | Used consistently | 92 | 37 |
| Partnership | 58 | 23 | Used inconsistently | 8 | 3 |
| Limited Liability Corp. | 56 | 22 | Started using in 2007 | 2 | 1 |
| Subchapter S Corporation | 13 | 5 | Stopped using in 2007 | 1 | 1 |
| Subchapter C Corporation | 5 | 2 | Not used in 2007 | 147 | 59 |
| <u>Barn Type</u> | <u>Number</u> | <u>Percent</u> | Average % usage, if used | 51% | |
| Stanchion | 67 | 27 | <u>Labor Force</u> | <u>Average</u> | <u>Percent</u> |
| Freestall | 168 | 67 | Operators | 22.2 | 22 |
| Combination | 15 | 6 | Family Paid | 5.0 | 5 |
| <u>Milking System</u> | <u>Number</u> | <u>Percent</u> | Family Unpaid | 2.3 | 2 |
| Bucket & Carry | 0 | 0 | Hired | <u>71.3</u> | <u>71</u> |
| Dumping Station | 1 | 1 | Total Months | 100.8 | 100 |
| Pipeline | 71 | 28 | | | |
| Herringbone Conventional | 76 | 30 | | | <u>Average</u> |
| Herringbone Rapid Exit | 20 | 8 | <u>Operators</u> (total = 405) | | 1.62 |
| Parallel | 56 | 22 | Age | | 47 |
| Parabone | 6 | 2 | Education | | 13 years |
| Rotary | 1 | 1 | Estimated value of labor & management/farm | | \$69,103 |
| Other | 19 | 8 | | | |
| <u>Milking Frequency</u> | <u>Number</u> | <u>Percent</u> | <u>Land Used</u> | <u>Number</u> | <u>Average</u> |
| 2 times per day | 166 | 67 | Total acres: | | |
| 3 times per day | 73 | 29 | Owned | 250 | 545 |
| Other | 11 | 4 | Rented | 228 | 439 |
| <u>Business Records</u> | <u>Number</u> | <u>Percent</u> | Tillable acres: | | |
| Account Book | 39 | 16 | Owned | 250 | 373 |
| Accounting Service | 46 | 18 | Rented | 225 | 428 |
| On-Farm Computer | 161 | 64 | Total | 250 | 758 |
| Other | 4 | 2 | <u>Breed of Herd</u> | | |
| | | | Holstein | 91% | |
| | | | Jersey | 5% | |
| | | | Other | 4% | |

There were 405 full-time operator equivalents on the 250 dairy farms for an average of 1.62 operators per farm. The operators averaged 51 years of age and 15 years of formal education. Additional data on the labor force is in Table 44.

All 250 farm businesses included in this dairy summary own farm real estate. Dairy farm renters are summarized separately later in this publication. However, 225 of the dairy farm owners rented an average of 428 acres of tillable land in 2007. The 250 farms averaged 758 total tillable acres per farm of which 385 acres were rented. Tables 19 and 25 contain additional information on land use and the dairy herd.

Accounting Procedures

Accrual accounting adjustments are made to cash receipts and expenses to accurately measure annual receipts, expenses, and farm profitability. These procedures express the true value and cost of production for the year, regardless of whether cash was received or expended in this year. Cash expenses and cash receipts are used when evaluating the cash flow position of the business.

The accrual accounting adjustments consider 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 cost of production and the total value of production are obtained to provide an accurate representation of profitability in that year.

Accrual adjustments are complemented by accounting procedures used to separate changes in inventory of capital assets 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 is included in the return to farm capital, but excluded from the return to labor and management.

Income Statement - Expenses

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

1. Hired labor includes gross wages plus the farm share of social security, workers' compensation insurance, employee health insurance and other employee benefits paid by the farm employer.
2. 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.
3. Machinery costs represent all the operating costs of using machinery on the farm. Ownership costs are excluded here but are included in the analysis of machinery costs presented on page 22.
4. Livestock expenses include the cost of supplies and services directly associated with the care and maintenance of the dairy herd, such as breeding, veterinary, bedding, milking supplies and custom boarding expenses plus milk marketing costs. The purchase of replacement cattle is considered a herd maintenance expense while expansion livestock is not.
5. Crop expenses include the costs of fertilizer, lime, seeds, spray and other crop supplies.
6. Real estate expenses are the direct costs associated with owning and maintaining farm land and buildings.
7. Other includes insurance, the farm share of utilities, interest paid on all farm indebtedness and miscellaneous costs.
8. Expansion livestock is purchased dairy cattle and other livestock that cause an increase in herd size from the beginning to the end of the year. It is a nonoperating cost included in total expenses.
9. Depreciation of machinery and buildings are nonoperating costs included in total expenses. Depreciation charges are based on those reported for income tax purposes.

Cash and accrual farm expenses are summarized below. Total operating accrual expenses for the 250 farms averaged \$3,712 per day and 92 percent of total farm accrual expenses. 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.

Table 4.

CASH AND ACCRUAL FARM EXPENSES
250 New York Dairy Farms, 2007

| Expense Item | Cash Paid | - | Change in Inventory or Prepaid Expense | + | Change in Accounts Payable | = | Accrual Expenses | Per- cent |
|---|--------------|---|---|---|----------------------------------|---|---------------------|--------------|
| <u>Hired Labor</u> | \$222,392 | | \$351 << | | \$19 | | \$222,060 | 16 |
| <u>Feed</u> | | | | | | | | |
| Dairy grain & concentrate | 448,783 | | 38,510 | | -8,797 | | 401,476 | 30 |
| Dairy roughage | 27,465 | | 986 | | 154 | | 26,633 | 2 |
| Nondairy livestock | 473 | | 5 | | 0 | | 468 | <1 |
| Professional nutritional services | 337 | | -10 << | | -9 | | 338 | <1 |
| <u>Machinery</u> | | | | | | | | |
| Machinery hire, rent & lease | 33,720 | | 55 << | | -572 | | 33,094 | 2 |
| Machinery repairs & farm vehicle expense | 74,535 | | 1,041 | | -1,954 | | 71,540 | 5 |
| Fuel, oil & grease | 57,106 | | 1,021 | | -981 | | 55,104 | 4 |
| <u>Livestock</u> | | | | | | | | |
| Replacement livestock | 6,125 | | 0 << | | 0 | | 6,125 | <1 |
| Breeding | 21,317 | | 910 | | -375 | | 20,033 | 1 |
| Veterinary & medicine | 55,813 | | 1,774 | | -568 | | 53,472 | 4 |
| Milk marketing | 66,245 | | 0 << | | -78 | | 66,167 | 5 |
| Bedding | 26,823 | | 387 | | -542 | | 25,894 | 2 |
| Milking Supplies | 35,308 | | 1,397 | | -675 | | 33,236 | 2 |
| Cattle lease & rent | 1,420 | | 0 << | | -49 | | 1,371 | <1 |
| Custom boarding | 23,838 | | 92 << | | -368 | | 23,378 | 2 |
| bST expense | 20,853 | | 349 << | | 108 | | 20,612 | 2 |
| Livestock professional fees | 5,070 | | 469 << | | -47 | | 4,554 | <1 |
| Other livestock expense | 7,344 | | 191 | | 39 | | 7,192 | 1 |
| <u>Crops</u> | | | | | | | | |
| Fertilizer & lime | 44,256 | | 9,939 | | -1,003 | | 33,314 | 2 |
| Seeds & plants | 34,419 | | 10,637 | | -691 | | 23,091 | 2 |
| Spray & other crop expense | 19,349 | | 1,157 | | -457 | | 17,736 | 1 |
| Crop professional fees | 2,443 | | 281 << | | -89 | | 2,072 | <1 |
| <u>Real Estate</u> | | | | | | | | |
| Land, building & fence repair | 26,910 | | 377 | | -346 | | 26,187 | 2 |
| Taxes | 19,364 | | 398 << | | -39 | | 18,927 | 1 |
| Rent & lease | 24,204 | | 464 << | | -366 | | 23,374 | 2 |
| <u>Other</u> | | | | | | | | |
| Insurance | 16,076 | | 282 << | | -66 | | 15,728 | 1 |
| Utilities | 36,799 | | 211 << | | -247 | | 36,341 | 3 |
| Interest paid | 68,203 | | 52 << | | -174 | | 67,977 | 5 |
| Other professional fees | 7,919 | | 160 << | | -60 | | 7,699 | 1 |
| Miscellaneous | 9,853 | | 30 | | -17 | | 9,806 | 1 |
| Total Operating | \$1,444,764 | | \$71,514 | | \$-18,251 | | \$1,354,999 | 100 |
| Expansion livestock | \$10,422 | | 0 << | | 5 | | \$10,427 | |
| Extraordinary expense | \$582 | | 0 | | 0 | | \$582 | |
| Machinery depreciation | | | | | | | \$68,060 | |
| Building depreciation | | | | | | | \$40,914 | |
| TOTAL ACCRUAL EXPENSES | | | | | | | \$1,474,982 | |

Change in inventory represents feeds and supplies purchased this year but not used (positive change), and similar items purchased in a prior year and used this year (negative change). For example, purchased dairy grain and concentrate inventory increased \$38,510.

Prepaid expenses (noted by « in Table 4) are advance payments made for services and noninventory items to be used in future years. For example, advance payments for rent increased an average of \$464 per farm in 2007, and that increase is subtracted from cash rent to determine the correct 2007 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. Total change in inventory and prepaid expenses equals \$71,514 and total change in accounts payable equals \$-18,251.

Income Statement - Receipts

Cash and accrual farm receipts are presented in the following table. Total cash receipts averaged \$1,756,591 per farm. Total accrual receipts averaged \$1,885,340 per farm. Accrual receipts were greater than cash receipts due primarily to dairy herd growth and increases in crop inventory. Cow numbers increased an average of 12 head per farm and the homegrown feed inventory per farm increased \$31,174. Homegrown feed inventory per cow increased \$69 from beginning to end of year.

Table 5.

CASH AND ACCRUAL FARM RECEIPTS 250 New York Dairy Farms, 2007

| Receipt Item | Cash Receipts | + | Change in Inventory | + | Change in Accounts Receivable | = | Accrual Receipts | Percent |
|---|--------------------|---|------------------------|---|-------------------------------------|---|---------------------|------------|
| Milk sales | \$1,612,764 | | | | \$61,406 | | \$1,674,170 | 89 |
| Dairy cattle | 59,693 | | \$34,566 | | 496 | | 94,756 | 5 |
| Dairy calves | 11,967 | | -411 | | 36 | | 11,592 | 1 |
| Other livestock | 3,073 | | 235 | | 4 | | 3,312 | <1 |
| Crops | 17,186 | | 31,174 | | 908 | | 49,268 | 3 |
| Government receipts | 24,863 | | -19 | | -42 | | 24,801 | 1 |
| Custom machine work | 3,007 | | | | 56 | | 3,063 | <1 |
| Gas tax refund | 277 | | | | 8 | | 285 | <1 |
| Other | 23,760 | | | | 332 | | 24,092 | 1 |
| - Nonfarm noncash Capital ⁹ | | | (-) 0 | | | | (-) 0 | |
| Total | \$1,756,591 | | \$65,544 | | \$63,204 | | \$1,885,340 | 100 |

⁸Change in advanced government receipts.

⁹Gifts 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 included. Changes in advanced government receipts are the amount by which government payments received for participating in a future year's program have changed from 2006 to 2007. An increase requires a negative adjustment to cash receipts while a decrease is a positive adjustment. Changes in accounts receivable include the difference between the January milk check for December 2007 marketings and the previous January's check, and other delayed payments.

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.

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. Net appreciation totaled \$146,017 per farm in 2007. On the average, farm real estate appreciated \$54,131 or 5 percent of beginning fair market value. Machinery appreciated 3.9 percent while dairy cattle prices appreciated 9.7 percent in 2007.

Average data from 25 farms with the highest rates of return to all capital (without appreciation) are compared with the 250 farm average in Table 8 and in many of the following tables. Net farm income without appreciation averaged \$1,089,809 per farm on the top 10 percent farms, 166 percent greater than the 250-farm average.

Table 6.

NET FARM INCOME 250 New York Dairy Farms, 2007

| Item | Average 250 Farms | | Average Top 10% Farms ¹⁰ | |
|--|-------------------|---------|-------------------------------------|---------|
| | Per Farm | Per Cow | Per Farm | Per Cow |
| Total accrual receipts | \$1,885,340 | | \$3,610,006 | |
| + Appreciation: Livestock | 72,650 | | 66,675 | |
| Machinery | 18,742 | | 27,069 | |
| Real Estate | 54,131 | | 69,887 | |
| Other Stock & Certificates | <u>494</u> | | <u>257</u> | |
| = Total including appreciation | \$2,031,358 | | \$ 3,773,893 | |
| - Total accrual expenses | <u>1,474,982</u> | | <u>2,520,196</u> | |
| = Net Farm Income (with appreciation) | \$556,376 | \$1,553 | \$1,253,697 | \$2,049 |
| Net Farm Income (without appreciation) | \$410,358 | \$1,145 | \$1,089,809 | \$1,781 |

¹⁰Average of 25 farms with highest rates of return to all capital (without appreciation).

Labor and management income is the part 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 charge for unpaid family labor and the cost of using equity capital at a real interest rate of 5 percent, from net farm income 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. Operator(s) labor is not included in unpaid family labor.

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
250 New York Dairy Farms, 2007**

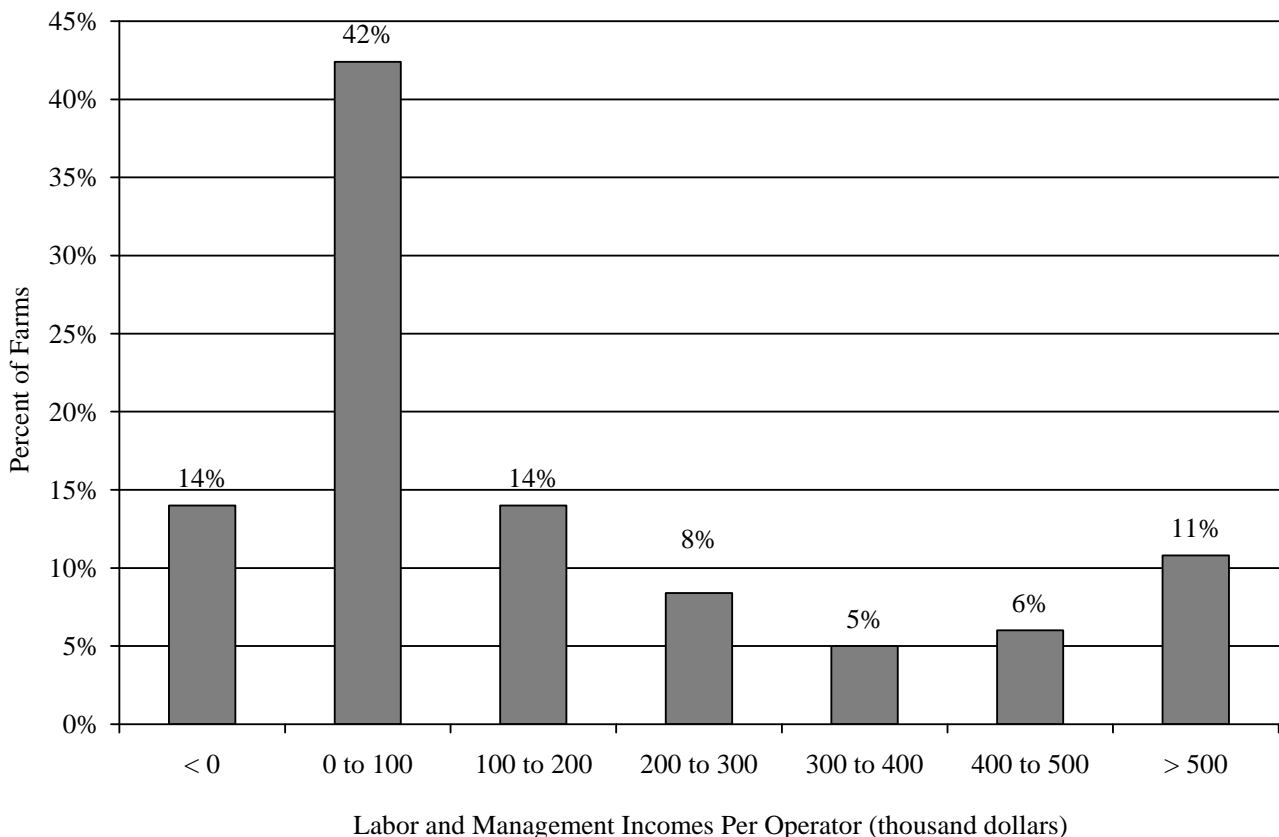
| Item | Average 250 Farms | | Average Top 10% Farms ¹¹ |
|---|----------------------|------------------|--|
| Net farm income without appreciation | \$ 410,358 | | \$1,089,809 |
| - Family labor unpaid @ \$2,400 per month | 5,453 | | 2,909 |
| - Real interest @ 5% on \$1,973,892 equity capital for average & \$3,257,387 for the top 10% farms | <u>98,695</u> | | <u>162,869</u> |
| = Labor & Management Income (1.62 operators) | \$306,210 | (1.85 operators) | \$924,031 |
| Labor & Management Income per Operator | \$189,019 | | \$499,476 |

¹¹Average of 25 farms with highest rates of return to all capital (without appreciation).

Labor and management income per operator averaged \$189,019 on these 250 dairy farms in 2007. The range in labor and management income per operator was from less than \$-200,000 to more than \$1,340,000. Returns to labor and management were negative on 14 percent of the farms. Labor and management incomes per operator were between \$0 and \$300,000 on 64 percent of the farms while 22 percent showed labor and management incomes of \$300,000 or more per operator.

Chart 4.

**DISTRIBUTION OF LABOR & MANAGEMENT INCOMES PER OPERATOR
250 New York Dairy Farms, 2007**



Return to 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 and unpaid family labor. 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 year's average farm net worth or equity capital. Return to all 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 average total capital. Net farm income from operations ratio is net farm income (without appreciation) divided by total accrual receipts.

Table 8.

**RETURN TO CAPITAL
250 New York Dairy Farms, 2007**

| Item | Average 250 Farms | Average Top 10% Farms ¹² |
|---|----------------------|--|
| Net farm income with appreciation | \$556,376 | \$1,253,697 |
| - Family labor unpaid at \$2,400 per month | 5,453 | 2,909 |
| - Value of operators' labor & management | <u>69,103</u> | <u>95,833</u> |
| = Return to equity capital with appreciation | \$481,819 | \$1,154,954 |
| + Interest paid | <u>67,977</u> | <u>86,994</u> |
| = Return to all capital with appreciation | \$549,796 | \$1,241,948 |
| Return to equity capital without appreciation | \$335,801 | \$991,067 |
| Return to all capital without appreciation | \$403,778 | \$1,078,061 |
| Rate of return on average equity capital: | | |
| with appreciation | 24.4% | 35.5% |
| without appreciation | 17.0% | 30.4% |
| Rate of return on all capital: | | |
| with appreciation | 18.2% | 26.2% |
| without appreciation | 13.4% | 22.7% |
| Net farm income from operations ratio | 0.22 | 0.30 |

¹²Average of 25 farms with highest rates of return to all capital (without appreciation).

Return to all labor and management is another measure of profitability of a business that can be calculated. It is calculated by adding the charge for unpaid family labor and the hired labor expense to labor and management income. Table 9 shows that farms with higher return to all capital with appreciation also had significantly higher return per hour to all labor and management.

Table 9.

**RETURN TO ALL LABOR AND MANAGEMENT BY RETURN
TO ALL CAPITAL WITH APPRECIATION
250 New York Dairy Farms, 2007**

| Item | Quartile by Return to All Capital With Appreciation | | | |
|---|---|------------|------------|-------------|
| | Lowest 25% | 3rd 25% | 2nd 25% | Top 25% |
| Return to all capital with appreciation | \$18,145 | \$113,113 | \$484,843 | \$1,598,703 |
| Rate of return on all capital with appreciation | 2.4% | 10.1% | 17.0% | 21.6% |
| Total returns to all labor & management | \$28,416 | \$108,989 | \$477,839 | \$1,534,649 |
| Worker equivalent | 2.39 | 3.26 | 8.45 | 19.67 |
| Return per worker equivalent | \$11,900 | \$33,436 | \$56,527 | \$78,027 |
| Returns/hour (2,760 hours/worker/year) | \$4.31 | \$12.11 | \$20.48 | \$28.27 |

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 liabilities and fill out the balance sheet. The second step is to analyze the complete balance sheet by evaluating the relationships between assets and liabilities and changes made during the year.

Table 10.

2007 FARM BUSINESS AND NONFARM BALANCE SHEET 250 New York Dairy Farms, 2007

| Farm Assets | Jan. 1 | Dec. 31 | Farm Liabilities & Net Worth | Jan. 1 | Dec. 31 |
|--------------------------------------|----------------|----------------|--|------------------|------------------|
| <u>Current</u> | | | <u>Current</u> | | |
| Farm cash, checking & savings | \$17,911 | \$18,215 | Accounts payable | \$52,183 | \$33,937 |
| Accounts receivable | 80,453 | 143,657 | Operating debt | 56,994 | 60,463 |
| Prepaid expenses | 1,821 | 4,625 | Short term | 6,546 | 4,197 |
| Feed & supplies | <u>247,017</u> | <u>346,900</u> | Advanced gov't. receipt | 0 | 19 |
| Total Current | \$247,203 | \$513,398 | Current portion: | | |
| | | | Intermediate | 77,908 | 87,466 |
| | | | Long term | <u>24,198</u> | <u>27,480</u> |
| | | | Total Current | \$217,829 | \$213,562 |
| <u>Intermediate</u> | | | <u>Intermediate</u> | | |
| Dairy Cows: | | | Structured debt | | |
| owned | \$472,261 | \$536,695 | 1-10 years | \$439,601 | \$421,094 |
| leased | 880 | 878 | Financial lease | | |
| Heifers | 272,304 | 314,613 | (cattle & machinery) | 3,765 | 3,633 |
| Bulls & other livestock | 4,221 | 4,519 | Farm Credit stock | <u>3,607</u> | <u>982</u> |
| Mach. & equip. owned | 483,629 | 548,248 | Total Intermediate | \$446,973 | \$425,709 |
| Mach. & equip. leased | 2,885 | 2,765 | | | |
| Farm Credit stock | 3,607 | 982 | <u>Long Term</u> | | |
| Other stock & certificates | <u>56,469</u> | <u>66,032</u> | Structured debt | | |
| Total Intermediate | \$1,296,256 | \$1,474,722 | ≥ 10 years | \$380,730 | \$402,209 |
| <u>Long Term</u> | | | Financial lease | | |
| Land & buildings: | | | (structures) | <u>266</u> | <u>355</u> |
| owned | \$1,149,202 | \$1,254,015 | Total Long Term | \$380,996 | \$402,564 |
| leased | <u>266</u> | <u>355</u> | | | |
| Total Long Term | \$1,149,468 | \$1,254,370 | Total Farm Liabilities | \$1,045,798 | \$1,041,835 |
| Total Farm Assets | \$2,792,927 | \$3,242,490 | FARM NET WORTH | \$1,747,129 | \$2,200,655 |
| Nonfarm Assets ¹³ | Jan.1 | Dec. 31 | Nonfarm Liabilities ¹³ & Net Worth | Jan. 1 | Dec. 31 |
| Personal cash, checking & savings | \$11,706 | \$13,790 | Nonfarm Liabilities | \$2,048 | \$2,433 |
| Cash value life insurance | 25,506 | 28,965 | NONFARM NET WORTH | \$275,618 | \$289,161 |
| Nonfarm real estate | 161,431 | 162,926 | | | |
| Auto (personal share) | 9,114 | 10,036 | FARM & NONFARM ¹⁴ | Jan. 1 | Dec. 31 |
| Stocks & bonds | 51,577 | 56,708 | Total Assets | \$3,070,593 | \$3,534,084 |
| Household furnishings | 8,864 | 8,822 | Total Liabilities | <u>1,047,846</u> | <u>1,044,268</u> |
| All other | <u>9,466</u> | <u>10,346</u> | TOTAL FARM & NON- | | |
| Total Nonfarm | \$277,666 | \$291,594 | FARM NET WORTH | \$2,022,747 | \$2,498,816 |

¹³Average of 107 farms completing the nonfarm balance sheet.

¹⁴Sum of average farm values for 250 farms and nonfarm values for 107 farms.

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 making 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 includes 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 ratios reflect strength in solvency and the potential capacity to borrow. The debt analysis ratios show how well the debt is structured and managed. The leverage ratio is the dollars of debt per dollar of equity, computed by dividing total farm liabilities by farm net worth. Debt levels per unit of productive capacity include some old standards that are still useful if used with measures of cash flow and repayment ability.

Table 11.

FARM BALANCE SHEET ANALYSIS
250 New York Dairy Farms, 2007

| Item | Average 250 Farms | Average Top 10% Farms ¹⁵ | | |
|---|----------------------|--|----------------|------------------------------------|
| <u>Farm Financial Ratios:</u> | | | | |
| Percent equity | 68% | 72% | | |
| Debt/asset ratio: total | 0.32 | 0.28 | | |
| long term | 0.32 | 0.31 | | |
| intermediate & current | 0.32 | 0.27 | | |
| Leverage Ratio: | 0.47 | 0.40 | | |
| Current Ratio: | 2.40 | 2.85 | | |
| Working Capital: \$299,835 Dollars as % of Total Expenses: | 20% | \$692,035 27% | | |
| <u>Farm Debt Analysis:</u> | | | | |
| Accounts payable as % of total debt | 3% | 3% | | |
| Long term liabilities as % of total debt | 39% | 38% | | |
| Current & intermediate liabilities as % of total debt | 61% | 62% | | |
| Cost of term debt (weighted average) | 6.2% | 6.0% | | |
| <u>Farm Debt Levels:</u> | | | | |
| | <u>Per Cow</u> | <u>Per Tillable Acre Owned</u> | <u>Per Cow</u> | <u>Per Tillable Acre Owned</u> |
| Total farm debt | \$2,878 | \$2,790 | \$2,348 | \$2,984 |
| Long term debt | 1,112 | 1,078 | 899 | 1,143 |
| Intermediate & long term | 2,288 | 2,218 | 1,754 | 2,230 |
| Intermediate & current debt | 1,766 | 1,712 | 1,449 | 1,841 |

¹⁵Average of 250 farms with highest rates of return to all capital (without appreciation).

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
250 New York Dairy Farms, 2007

| Item | Real Estate | Machinery & Equipment | Livestock |
|--|-------------------------|-----------------------|---------------|
| Value beginning of year | \$1,149,202 | \$483,629 | \$748,786 |
| Purchases | \$130,017 ¹⁶ | \$118,828 | |
| + nonfarm noncash transfer ¹⁷ | 1,232 | 26 | |
| - Lost capital | 33,892 | | |
| - Net sales | 5,762 | 4,916 | |
| - Depreciation | <u>40,914</u> | <u>68,060</u> | |
| = Net Investment | 50,682 | 45,877 | 34,390 |
| + Appreciation | <u>54,131</u> | <u>18,742</u> | <u>72,650</u> |
| Value end of year | \$1,254,015 | \$548,248 | \$855,827 |

¹⁶\$38,004 land and \$92,013 buildings and/or depreciable improvements.

¹⁷Gifts and inheritances of property transferred into the farm business from outside.

The Statement of Owner Equity has two purposes. It allows (1) verification that the accrual income statement and market value balance sheet are consistent (in accountants' terms they reconcile) and (2) identification of the causes of change in equity that occurred on the farm during the year. The Statement of Owner Equity allows the farmer to determine to what degree the changes in equity were caused by (1) earnings from the business, and nonfarm income, (in excess of withdrawals) being retained in the business (retained earnings), (2) outside capital invested in the business or farm capital removed from the business (called contributed/withdrawn capital) and (3) increases or decreases in the value (price) of assets owned by the business (called change in valuation equity).

Retained earnings are an excellent indicator of farm generated financial progress.

Table 13.

**STATEMENT OF OWNER EQUITY (RECONCILIATION)
250 New York Dairy Farms, 2007**

| Item | Average 250 Farms | Average Top 10% Farms ¹⁹ |
|---|----------------------|--|
| Beginning of year farm net worth | \$1,747,129 | \$2,777,945 |
| Net farm income without appreciation | \$410,358 | \$1,089,809 |
| + Nonfarm cash income | 7,274 | 2,882 |
| - Personal withdrawals & family expenditures and income taxes, excluding nonfarm borrowings | <u>101,892</u> | <u>248,104</u> |
| RETAINED EARNINGS | + \$315,740 | + \$844,587 |
| Nonfarm noncash transfers to farm | \$1,258 | \$0 |
| + Cash used in business from nonfarm capital | 25,348 | 11,645 |
| - Note or mortgage from farm real estate sold (nonfarm) | <u>240</u> | <u>0</u> |
| CONTRIBUTED/WITHDRAWN CAPITAL | + \$26,366 | + \$11,645 |
| Appreciation | \$146,018 | \$163,887 |
| - Lost capital | <u>33,892</u> | <u>56,776</u> |
| CHANGE IN VALUATION EQUITY | + \$112,126 | + \$107,111 |
| IMBALANCE/ERROR | <u>- \$706</u> | <u>- \$4,460</u> |
| End of year farm net worth ¹⁸ | \$2,200,655 | \$3,736,828 |
| <u>Change in Net Worth</u> | | |
| Without appreciation | \$307,508 | \$794,996 |
| With appreciation | \$453,526 | \$958,883 |

¹⁸May not add due to rounding.

¹⁹Average of 25 farms with highest rates of return to all capital (without appreciation).

Cash Flow Summary and Analysis

Completing an annual cash flow statement is an important step in understanding and organizing the sources and uses of funds for the business. It is also a means useful in determining accuracy and completeness of the data. Understanding last year's cash flow is the first step in planning and managing cash flow for the current and future years.

The annual cash flow statement is structured to show net cash provided by operating activities, investing activities, financing activities and from reserves. All cash inflows and outflows are included. Therefore the sum of net cash provided from all four activities should be zero. Any imbalance is the error from incorrect accounting of cash flows.

Table 14.

ANNUAL CASH FLOW STATEMENT 250 New York Dairy Farms, 2007

| Item | Average 250 farms | |
|---|-------------------|------------------|
| <u>Cash Flow from Operating Activities</u> | | |
| Cash farm receipts | \$1,756,591 | |
| - Cash farm expenses | 1,444,764 | |
| - Extraordinary expense | <u>582</u> | |
| = Net cash farm income | | \$311,245 |
| Personal withdrawals & family expenses including nonfarm debt payments | \$102,122 | |
| - Nonfarm income | <u>7,274</u> | |
| - Net cash withdrawals from the farm | | <u>\$94,848</u> |
| = Net Provided by Operating Activities | | \$216,397 |
| <u>Cash Flow From Investing Activities</u> | | |
| Sale of assets: machinery | \$4,916 | |
| + real estate | 5,522 | |
| + other stock & certificates | <u>1,614</u> | |
| = Total asset sales | | \$12,052 |
| Capital purchases: expansion livestock | \$10,422 | |
| + machinery | 118,828 | |
| + real estate | 130,017 | |
| + other stock & certificates | <u>10,682</u> | |
| - Total invested in farm assets | | <u>\$269,949</u> |
| + Net Provided by Investment Activities | | \$-257,897 |
| <u>Cash Flow From Financing Activities</u> | | |
| Money borrowed (intermediate & long term) | \$164,081 | |
| + Money borrowed (short term) | 5,815 | |
| + Increase in operating debt | 3,470 | |
| + Cash from nonfarm capital used in business | 25,348 | |
| + Money borrowed - nonfarm | <u>230</u> | |
| = Cash inflow from financing | | \$198,944 |
| Principal payments (intermediate & long term) | \$148,273 | |
| + Principal payments (short term) | 8,165 | |
| + Decrease in operating debt | <u>0</u> | |
| - Cash outflow for financing | | <u>\$156,438</u> |
| = Net Provided by Financing Activities | | \$42,506 |
| <u>Cash Flow From Reserves</u> | | |
| Beginning farm cash, checking & savings | | \$17,911 |
| - Ending farm cash, checking & savings | | <u>\$18,215</u> |
| = Net Provided from Reserves | | \$-304 |
| <u>Imbalance (error)</u> | | \$702 |

Table 15.

ANNUAL CASH FLOW DATA
250 New York Dairy Farms, 2007

| Item | Average 250 Farms | | | Average Top 10% Farms ²¹ | | |
|--|-------------------|------------|-------------|-------------------------------------|--------------|-------------|
| | Total | Per Cow | Per Cwt. | Total | Per Cow | Per Cwt. |
| Average number of cows and cwt. milk | | 358 | 82,315 | | 612 | 154,445 |
| <u>Accrual Operating Receipts</u> | | | | | | |
| Milk | \$1,674,170 | \$4,674 | \$20.34 | \$3,210,031 | \$5,246 | \$20.78 |
| Dairy cattle | 94,756 | 265 | 1.15 | 188,775 | 308 | 1.22 |
| Dairy calves | 11,592 | 32 | 0.14 | 27,060 | 44 | 0.18 |
| Other livestock | 3,312 | 9 | 0.04 | 110 | 0 | 0.00 |
| Crops | 49,268 | 138 | 0.60 | 112,601 | 184 | 0.73 |
| Miscellaneous receipts | <u>52,242</u> | <u>146</u> | <u>0.63</u> | <u>71,428</u> | <u>117</u> | <u>0.46</u> |
| Total | \$1,885,340 | \$5,264 | \$22.90 | \$3,610,006 | \$5,899 | \$23.37 |
| <u>Accrual Operating Expenses</u> | | | | | | |
| Hired labor | \$ 222,060 | \$ 620 | \$ 2.70 | \$ 402,390 | \$ 658 | \$ 2.61 |
| Dairy grain & concentrate | 401,476 | 1,121 | 4.88 | 760,552 | 1,243 | 4.92 |
| Dairy roughage | 26,633 | 74 | 0.32 | 38,585 | 63 | 0.25 |
| Nondairy feed | 468 | 1 | 0.01 | 38 | 0 | 0.00 |
| Professional nutritional services | 338 | 1 | 0.00 | 613 | 1 | 0.00 |
| Machinery hire, rent & lease | 33,094 | 92 | 0.40 | 62,694 | 102 | 0.41 |
| Machinery repairs & vehicle expense | 71,540 | 200 | 0.87 | 108,435 | 177 | 0.70 |
| Fuel, oil & grease | 55,104 | 154 | 0.67 | 92,136 | 151 | 0.60 |
| Replacement livestock | 6,125 | 17 | 0.07 | 206 | 0 | 0.00 |
| Breeding | 20,033 | 56 | 0.24 | 31,711 | 52 | 0.21 |
| Veterinary & medicine | 53,472 | 149 | 0.65 | 81,830 | 134 | 0.53 |
| Milk marketing | 66,167 | 185 | 0.80 | 128,549 | 210 | 0.83 |
| Bedding | 25,894 | 72 | 0.31 | 48,344 | 79 | 0.31 |
| Milking supplies | 33,236 | 93 | 0.40 | 56,832 | 93 | 0.37 |
| Cattle lease | 1,371 | 4 | 0.02 | 3,724 | 6 | 0.02 |
| Custom boarding | 23,378 | 65 | 0.28 | 38,497 | 63 | 0.25 |
| bST expense | 20,612 | 58 | 0.25 | 40,515 | 66 | 0.26 |
| Livestock professional fees | 4,554 | 13 | 0.06 | 5,852 | 10 | 0.04 |
| Other livestock expense | 7,192 | 20 | 0.09 | 6,717 | 11 | 0.04 |
| Fertilizer & lime | 33,314 | 93 | 0.40 | 45,690 | 75 | 0.30 |
| Seeds & plants | 23,091 | 64 | 0.28 | 37,668 | 62 | 0.24 |
| Spray/other crop expense | 17,736 | 50 | 0.22 | 31,595 | 52 | 0.20 |
| Crop professional fees | 2,072 | 6 | 0.03 | 6,564 | 11 | 0.04 |
| Land, building & fence repair | 26,187 | 73 | 0.32 | 51,484 | 84 | 0.33 |
| Taxes | 18,927 | 53 | 0.23 | 24,237 | 40 | 0.16 |
| Real estate rent & lease | 23,374 | 65 | 0.28 | 36,380 | 59 | 0.24 |
| Insurance | 15,728 | 44 | 0.19 | 22,531 | 37 | 0.15 |
| Utilities | 36,341 | 101 | 0.44 | 59,467 | 97 | 0.39 |
| Miscellaneous | <u>17,505</u> | <u>49</u> | <u>0.21</u> | <u>26,192</u> | <u>43</u> | <u>0.17</u> |
| Total Less Interest Paid | \$1,287,022 | \$3,594 | \$ 15.64 | \$2,250,027 | \$3,677 | \$ 14.57 |
| <u>Net Accrual Operating Income</u> | | | | | | |
| (without interest paid) | \$ 598,318 | \$1,671 | \$ 7.27 | \$1,359,978 | \$2,222 | \$ 8.81 |
| - Change in livestock & crop inventory | 65,544 | 183 | \$ 0.80 | 203,125 | 332 | 1.32 |
| - Change in accounts receivable | 63,204 | 176 | 0.77 | 131,024 | 214 | 0.85 |
| - Change in feed & supply inventory | 71,514 | 200 | 0.87 | 176,455 | 288 | 1.14 |
| + Change in accounts payable ²⁰ | -18,077 | -50 | -0.22 | -2,465 | -4 | -0.02 |
| NET CASH FLOW | \$ 379,979 | \$1,061 | 4.62 | \$ 846,909 | 1,384 | 5.48 |
| - Net personal withdrawals & family exp. | <u>93,603</u> | <u>261</u> | <u>1.14</u> | <u>245,213</u> | <u>401</u> | <u>1.59</u> |
| Available for Farm Debt Payments & Invest. | \$ 286,376 | \$ 800 | \$ 3.48 | \$ 601,696 | \$ 983 | \$ 3.90 |
| - Farm debt payments | <u>266,283</u> | <u>743</u> | <u>3.23</u> | <u>613,123</u> | <u>1,002</u> | <u>3.97</u> |
| Cash available for Farm Investments | \$ 20,093 | \$ 56 | \$ 0.24 | \$ -11,427 | \$ -19 | \$-0.07 |

²⁰Exclude change in interest account payable.

²¹Average of 25 farms with highest rates of return to all capital (without appreciation).

Repayment Analysis

The second step in cash flow planning and management is to compare and evaluate debt payments planned and made last year, and then to 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 below are from farms that completed summaries for both 2006 and 2007.

Table 16.

FARM DEBT PAYMENTS PLANNED Same 217 New York Dairy Farms, 2006 & 2007

| Debt Payments | Same 217 Dairy Farms | | | Same 25 Top 10% Farms | | |
|--------------------------------|----------------------|---------------|-----------------|-----------------------|---------------|-----------------|
| | 2007 Payments | | Planned 2008 | 2007 Payments | | Planned 2008 |
| | Planned | Made | | Planned | Made | |
| Long term | \$54,326 | \$77,897 | \$55,739 | \$63,304 | \$224,374 | \$64,000 |
| Intermediate term | 120,771 | 147,535 | 122,612 | 175,829 | 315,057 | 161,685 |
| Short term | 3,047 | 9,141 | 3,161 | 14,560 | 24,852 | 10,206 |
| Operating (net reduction) | 6,746 | 22,078 | 11,034 | 11,907 | 32,467 | 46,860 |
| Accts. payable (net reduction) | <u>1,256</u> | <u>24,169</u> | <u>1,583</u> | <u>1,200</u> | <u>16,373</u> | <u>11,765</u> |
| Total | \$186,145 | \$280,819 | \$194,130 | \$266,800 | \$613,123 | \$294,516 |
| Per cow | \$498 | \$751 | | \$436 | \$1,002 | |
| Per cwt. 2007 milk | \$2.15 | \$3.25 | | \$1.73 | \$3.97 | |
| % of 2007 milk receipts | 11% | 16% | | 9% | 19% | |

The cash flow coverage ratio and debt coverage ratio measure the ability of the farm business to meet its planned debt payments from normal operation of the business. Debt coverage ratio indicates the income generated to make payments while cash flow coverage ratio shows the cash available to make payments.

Table 17.

COVERAGE RATIOS Same 217 New York Dairy Farms, 2006 & 2007

| Item | Average | Item | Average |
|---|---------------|---|---------------|
| <u>Cash Flow Coverage Ratio</u> | | <u>Debt Coverage Ratio</u> | |
| Cash farm receipts | \$1,845,249 | Net farm income (without apprec.) | \$ 441,765 |
| - Cash farm expenses | 1,514,687 | + Depreciation | 116,817 |
| + Interest paid (cash) | 69,723 | + Interest paid (accrual) | 69,480 |
| - Net personal withdrawals from farm ²² | <u>96,601</u> | - Net personal withdrawals from farm ²² | <u>96,601</u> |
| (A) = Amount Available for Debt Service | \$303,684 | (A') = Repayment Capacity | \$531,462 |
| (B) = Debt Payments Planned for 2007 (as of December 31, 2006) | \$186,145 | (B) = Debt Payments Planned for 2007 (as of December 31, 2006) | \$186,145 |
| (A/B) = Cash Flow Coverage Ratio for 2007 | 1.63 | (A'/B) = Debt Coverage Ratio for 2007 | 2.86 |
| ----- | | | |
| Same 25 Top 10% Dairy Farms, 2006 & 2007 | | | |
| (A) = Amount Available for Debt Service | \$601,696 | (A') = Repayment Capacity | \$1,098,068 |
| (B) = Debt Payments Planned for 2007 | 266,800 | (B) = Debt Payments Planned for 2007 | 266,800 |
| (A/B) = Cash Flow Coverage Ratio for 2007 | 2.26 | (A'/B) = Debt Coverage Ratio for 2007 | 4.12 |

²²Personal withdrawals and family expenditures less nonfarm income and nonfarm money borrowed. If excluded, the coverage ratios will represent repayment ability of the farm only.

The debt to asset ratio is a good measure of the current relationship between assets and liabilities, but not the business' ability to meet cash flow obligations. Even with a debt to asset ratio of less than 40 percent, 11.6 percent of the farms had a cash flow coverage ratio less than 1.0.

Table 18.

DEBT TO ASSET RATIO VS. CASH FLOW COVERAGE 250 New York Dairy Farms, 2007

| Debt/Asset Ratio | Cash Flow Coverage Ratio (Farm & Nonfarm) | | | |
|------------------|---|-----------|-----------|-------|
| | <.5 | .5 to .99 | 1 to 1.49 | >=1.5 |
| | percent of farms | | | |
| <40% | 5.6 | 6.0 | 19.6 | 44.8 |
| 40 to 70% | 2.8 | 4.8 | 6.4 | 8.4 |
| 70% & over | 0.0 | 0.8 | 0.4 | 0.4 |

Cropping Program Analysis

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

Table 19.

LAND RESOURCES AND CROP PRODUCTION 250 New York Dairy Farms, 2007

| Item | Average 250 Farms | | | Average Top 10% Farms ²³ | | |
|---------------------|----------------------|---------------|----------------------|-------------------------------------|---------------|----------------------|
| | <u>Owned</u> | <u>Rented</u> | <u>Total</u> | <u>Owned</u> | <u>Rented</u> | <u>Total</u> |
| <u>Land</u> | | | | | | |
| Tillable | 373 | 385 | 758 | 495 | 691 | 1,186 |
| Nontillable pasture | 41 | 11 | 52 | 26 | 10 | 36 |
| Other nontillable | <u>130</u> | <u>5</u> | <u>135</u> | <u>176</u> | <u>13</u> | <u>189</u> |
| Total | 544 | 401 | 945 | 697 | 714 | 1,411 |
| <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 | 243 | 375 | 3.0 tn DM | 24 | 594 | 2.9 tn DM |
| Corn silage | 214 | 302 | 18.9 tn 6.4 tn DM | 24 | 493 | 18.5 tn 6.2 tn DM |
| Other forage | 16 | 50 | 2.3 tn DM | 0 | 0 | 0.0 tn DM |
| Total forage | 243 | 643 | 4.4 tn DM | 24 | 1,087 | 4.4 tn DM |
| Corn grain | 98 | 190 | 134 bu | 10 | 203 | 146 bu |
| Oats | 12 | 44 | 65 bu | 0 | 0 | 0.0 bu |
| Wheat | 17 | 103 | 51 bu | 2 | 103 | 64 bu |
| Other crops | 57 | 151 | | 4 | 277 | |
| Tillable pasture | 43 | 79 | | 0 | 0 | |
| Idle | 39 | 41 | | 6 | 41 | |

²³Average of 25 farms with highest rates of return to all capital (without appreciation).

Crop acres and yields are the average for the farms reporting each crop. All but 7 of the 250 farms produced hay or hay crop silage in 2007. Eighty-six percent produced corn silage, 39 percent grew and harvested corn grain, and 5 percent grew oats for grain. Although 43 farms used tillable pasture in 2007, only 32 farms reported using rotational grazing.

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.

Crop acres represent planted acres, therefore, any unharvested acres are reflected in lower yields per acre.

The following measures of crop management indicate how effectively the land resource is being used and how well total forage requirements are being met. These measures are the averages of farms that grow forages.

Table 20.

CROP MANAGEMENT FACTORS 250 New York Dairy Farms, 2007

| Item | Average 250 Farms | Average Top 10% Farms ²⁴ |
|---|----------------------|--|
| Total tillable acres per cow | 2.15 | 1.95 |
| Total forage acres per cow | 1.79 | 1.72 |
| Harvested forage dry matter, tons per cow | 7.92 | 7.58 |

²⁴Average of 25 farms with highest rates of return to all capital (without appreciation).

Twenty-seven cooperators allocated direct crop related expenses to hay crop and corn. The data in Table 21 have 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 21, the total per tillable acre represents 243 farms that grew forages. The expenses for hay and corn crops are for 27 farms.

Table 21.

CROP RELATED ACCRUAL EXPENSES
New York Dairy Farms, 2007

| Expenses | Average 243 Farms | Average 27 Farms | | Average 27 Farms | | |
|-----------------------------------|----------------------------------|---------------------------------|---------------|----------------------------|---------------------------------|---------------------------------------|
| | Total per Tillable Acre | Hay Crop | | All Corn Per Acre | Corn Silage Per Ton DM | Corn Grain Per Dry Shell Bu. |
| | | Per Acre | Per Ton DM | | | |
| Fertilizer & lime | \$39.92 | \$35.84 | \$14.71 | \$68.55 | \$12.00 | \$0.20 |
| Seeds & plants | 25.04 | 8.74 | 5.05 | 45.55 | 8.04 | 0.14 |
| Spray & other crop exp. | <u>19.33</u> | <u>9.15</u> | <u>10.09</u> | <u>51.67</u> | <u>8.35</u> | <u>0.16</u> |
| Total | \$84.29 | \$53.73 | \$29.85 | \$165.77 | \$28.39 | \$0.50 |
| Ave. Top 10% Farms: ²⁵ | Average 24 Farms | -----Only 3 Farms Reported----- | | | | |
| Fertilizer & lime | \$47.19 | | | | | |
| Seeds & plants | 40.39 | | | | | |
| Spray & other crop exp. | <u>24.12</u> | | | | | |
| Total | \$111.70 | | | | | |

²⁵Average of farms with highest rates of return to all capital (without appreciation).

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 22.

ACCRUAL MACHINERY EXPENSES
243 New York Dairy Farms That Grow Forages, 2007

| Machinery Expense Item | Average 243 Farms | | Average Top 10% Farms ²⁶ | |
|-------------------------------------|-------------------|----------------------|-------------------------------------|----------------------|
| | Total Expenses | Per Tillable Acre | Total Expenses | Per Tillable Acre |
| Fuel, oil & grease | \$55,583 | \$71.92 | \$95,686 | \$77.43 |
| Machinery repairs & vehicle expense | 71,900 | 93.04 | 112,706 | 91.20 |
| Machine hire, rent & lease | 33,907 | 43.87 | 65,240 | 52.79 |
| Interest (5%) | 26,331 | 34.07 | 37,962 | 30.72 |
| Depreciation | <u>69,034</u> | <u>89.33</u> | <u>100,763</u> | <u>81.54</u> |
| Total | \$256,755 | \$332.23 | \$412,358 | \$333.68 |

²⁶Average of 24 farms that grow forages with highest rates of return to all capital (without appreciation).

Table 23.

CROP RELATED ACCRUAL EXPENSES FOR HAY CROP PRODUCTION PER ACRE
27 New York Dairy Farms, 2007

| Item | Tons of Hay Crop Dry Matter Per Acre | | | |
|---|--------------------------------------|--------------|--------------|-------------|
| | <2.0 | 2.0-2.5 | 2.5-3.0 | ≥3.0 |
| Hay crop, tons DM per acre | 1.6 | 2.3 | 2.7 | 3.4 |
| Farms reporting crop expense breakdowns | 6 | 8 | 4 | 9 |
| Average number hay crop acres for farms reporting | 300 | 143 | 487 | 398 |
| <u>Accrual Hay Crop Expenses Per Acre</u> | | | | |
| Fertilizer & lime | \$9.80 | \$39.43 | \$39.87 | \$48.23 |
| Seeds & plants | 4.17 | 7.38 | 6.75 | 13.89 |
| Spray & other crop expenses | <u>4.68</u> | <u>15.03</u> | <u>12.98</u> | <u>5.21</u> |
| Total | \$18.65 | \$61.84 | \$59.60 | \$67.33 |
| <u>Accrual Hay Crop Expenses Per Ton DM</u> | | | | |
| Fertilizer & lime | \$6.67 | \$16.54 | \$13.89 | \$13.25 |
| Seeds & plants | 2.65 | 3.14 | 2.65 | 3.73 |
| Spray & other crop expenses | <u>2.68</u> | <u>6.41</u> | <u>4.94</u> | <u>1.34</u> |
| Total | \$12.00 | \$26.09 | \$21.48 | \$18.32 |

Table 24.

CROP RELATED ACCRUAL EXPENSES FOR CORN PRODUCTION PER ACRE
27 New York Dairy Farms, 2007

| Item | Tons Corn Silage Per Acre | | | Dry Shelled Bushels of Corn Grain Per Acre | |
|---|---------------------------|-------------|-------------|--|-------------|
| | <15 | 15-20 | ≥20 | <130 | ≥130 |
| | Corn yield per acre | 12.9 | 17.1 | 24.2 | 113 |
| Farms reporting crop expense breakdowns | 7 | 13 | 7 | 5 | 5 |
| Average number corn acres for farms reporting | 81 | 285 | 342 | 389 | 400 |
| <u>Accrual Corn Crop Expenses Per Acre</u> | | | | | |
| Fertilizer & lime | \$14.69 | \$10.44 | \$12.66 | \$11.70 | \$9.39 |
| Seeds & plants | 2.96 | 1.87 | 5.50 | 2.24 | 1.69 |
| Spray & other crop expenses | <u>1.02</u> | <u>3.54</u> | <u>6.21</u> | <u>2.57</u> | <u>1.02</u> |
| Total | \$18.67 | \$15.85 | \$24.37 | \$16.51 | \$12.10 |
| <u>Accrual Corn Crop Expenses Per Ton DM or Bushel²⁷</u> | | | | | |
| | Per Ton DM of Corn Silage | | | Per Dry Shell Bushel of Corn Grain | |
| Fertilizer & lime | \$19.18 | \$10.10 | \$8.34 | \$0.53 | \$0.53 |
| Seeds & plants | 12.67 | 6.14 | 6.96 | 0.45 | 0.29 |
| Spray & other crop expense | <u>6.32</u> | <u>9.02</u> | <u>9.12</u> | <u>0.42</u> | <u>0.43</u> |
| Total | \$38.17 | \$25.26 | \$24.42 | \$1.40 | \$1.25 |

²⁷Total corn expenses are allocated to corn silage and corn grain based on the proportion of acres in each crop.

It is important to observe that as hay crop yields per acre increased, crop related expenses per acre increased. Hay crop expenses per ton of dry matter varied as yields increased. However, the highest cost per ton of dry matter is reported for the yield of 2.0 - 2.5 tons per dry matter. For corn silage, crop expenses per ton of dry matter are lowest at the highest level of production. Corn grain shows the highest cost per acre for the low yield, with the high yield category producing the lowest cost per bushel. A limited number of cooperators providing data by crop limits the strength of these conclusions.

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 change in inventory is included as an accrual farm receipt when calculating profitability.

Table 25.

DAIRY HERD INVENTORY 250 New York Dairy Farms, 2007

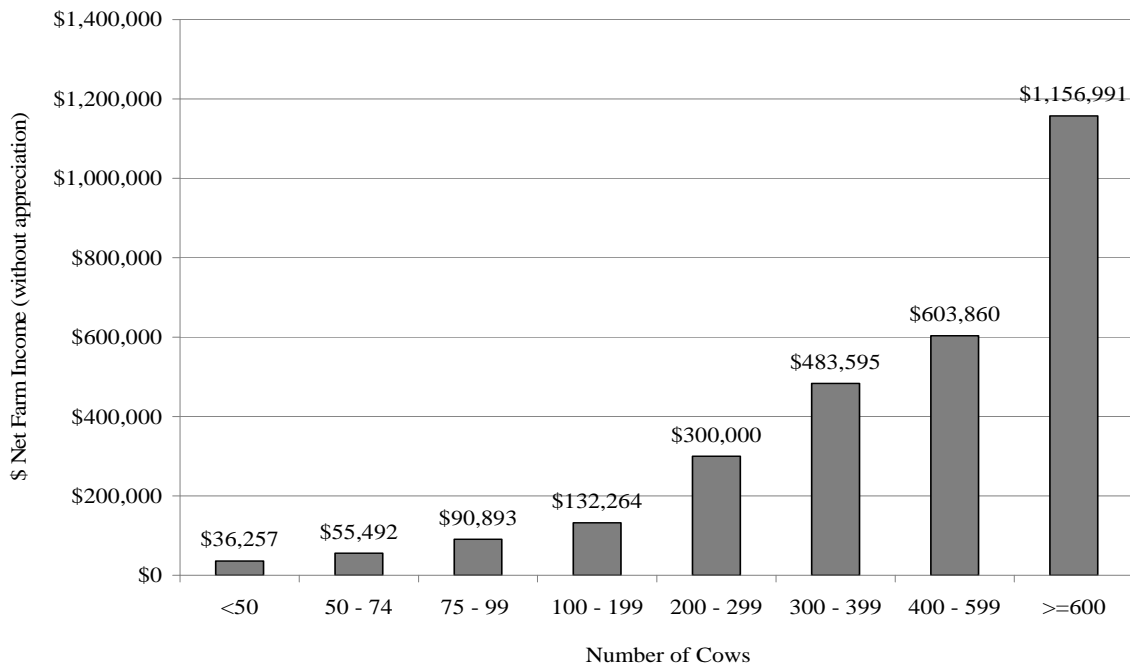
| Item | Dairy Cows | | Heifers | | | | | |
|--|------------|---------------|---------|------------------|------|--------------|--------|--------------|
| | No. | Value | Bred | | Open | | Calves | |
| | | | No. | Value | No. | Value | No. | Value |
| Beg. year (owned) | 346 | \$472,261 | 103 | \$141,222 | 97 | \$86,128 | 81 | \$44,954 |
| + Change w/o apprec. | | 17,571 | | 8,629 | | 8,366 | | -411 |
| + Appreciation | | <u>46,863</u> | | <u>14,213</u> | | <u>6,770</u> | | <u>4,742</u> |
| End year (owned) | 358 | \$536,695 | 109 | \$164,064 | 106 | \$101,264 | 82 | \$49,285 |
| End including leased | 362 | | | | | | | |
| Average number | 358 | | 289 | (all age groups) | | | | |
| <u>Average Top 10% Farms:²⁸</u> | | | | | | | | |
| Beg. year (owned) | 569 | \$773,200 | 177 | \$245,059 | 153 | \$136,731 | 143 | \$77,461 |
| + Change w/o apprec. | | 67,666 | | 13,060 | | 15,077 | | 9,231 |
| + Appreciation | | <u>38,956</u> | | <u>15,356</u> | | <u>6,786</u> | | <u>5,632</u> |
| End year (owned) | 613 | \$879,822 | 186 | \$273,476 | 168 | \$158,594 | 158 | \$92,323 |
| End including leased | 629 | | | | | | | |
| Average number | 612 | | 494 | (all age groups) | | | | |

²⁸Average of 25 farms with highest rates of return to all capital (without appreciation).

Historically, there has been a strong relationship between farm size and net farm income on well-managed dairy farms. In 2007, there was a consistent increase in net farm incomes as herd size increased (Chart 5). For more information on herd size comparisons, see pages 48-57.

Chart 5.

NET FARM INCOME (WITHOUT APPRECIATION) BY HERD SIZE 250 New York Dairy Farms, 2007



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 26.

**MILK PRODUCTION
250 New York Dairy Farms, 2007**

| Item | Average 250 Farms | Average Top 10% Farms ²⁹ |
|-------------------------|----------------------|--|
| Total milk sold, lbs. | 8,231,516 | 15,444,527 |
| Milk sold per cow, lbs. | 22,983 | 25,239 |

²⁹Average of 25 farms with highest rates of return to all capital (without appreciation).

Farms with higher rates of production tend to have higher net farm income. This is due to more cows per farm, not necessarily higher net farm income per cow. In 2007, farms with higher milk production per cow and more cows did have higher labor and management incomes per operator.

Table 27.

**MILK SOLD PER COW AND FARM INCOME MEASURES
250 New York Dairy Farms, 2007**

| Pounds of Milk Sold Per Cow | Number of Farms | Average Number of Cows | Net Farm Income without Appreciation | Net Farm Income Per Cow | Labor & Management Income/Operator |
|--------------------------------|--------------------|------------------------------|--|-------------------------------|--|
| Under 16,000 | 41 | 105 | \$63,275 | \$601 | \$16,819 |
| 16,000 to 16,999 | 10 | 170 | 178,175 | 1,047 | 78,387 |
| 17,000 to 17,999 | 12 | 90 | 73,829 | 818 | 21,113 |
| 18,000 to 18,999 | 10 | 105 | 104,147 | 995 | 40,445 |
| 19,000 to 19,999 | 22 | 187 | 133,592 | 715 | 48,250 |
| 20,000 to 20,999 | 21 | 342 | 380,145 | 1,113 | 145,435 |
| 21,000 to 21,999 | 24 | 342 | 377,573 | 1,103 | 191,725 |
| 22,000 to 22,999 | 21 | 469 | 470,789 | 1,003 | 227,263 |
| 23,000 to 23,999 | 30 | 465 | 552,363 | 1,188 | 197,184 |
| 24,000 to 24,999 | 22 | 527 | 651,719 | 1,237 | 298,631 |
| 25,000 & over | 38 | 700 | 937,116 | 1,339 | 427,746 |

The relationship between milk output per cow and net farm income on all dairy farms is shown in Table 27 above and is diagrammed in Charts 6 and 7 on page 26. Each spot on each scatter diagram represents one of the 250 farms.

Historically, net farm income per cow has increased as pounds of milk sold per cow increased. This relationship was generally true in 2007 (see Table 27 and Charts 6 and 7). As pounds of milk sold per cow increased, total net farm income and also net farm income per cow increased with some fluctuation, especially at the lower production levels.

The trend lines on charts on the following pages were completed using regression techniques. The predictive formulas and R^2 are presented for each relationship. An R^2 of 1.00 indicates a perfect relationship between the data and the trend line. An R^2 of .30 for example, is interpreted as the trend line explaining 30% of the variability in the relationship. The higher the R^2 , the better the trend line fits the data. With a low R^2 , other factors, not measured, are important in explaining the relationship. The very low R^2 value for Charts 8 and 9 indicate that there are little statistical relationship in the 2007 data.

Chart 6.

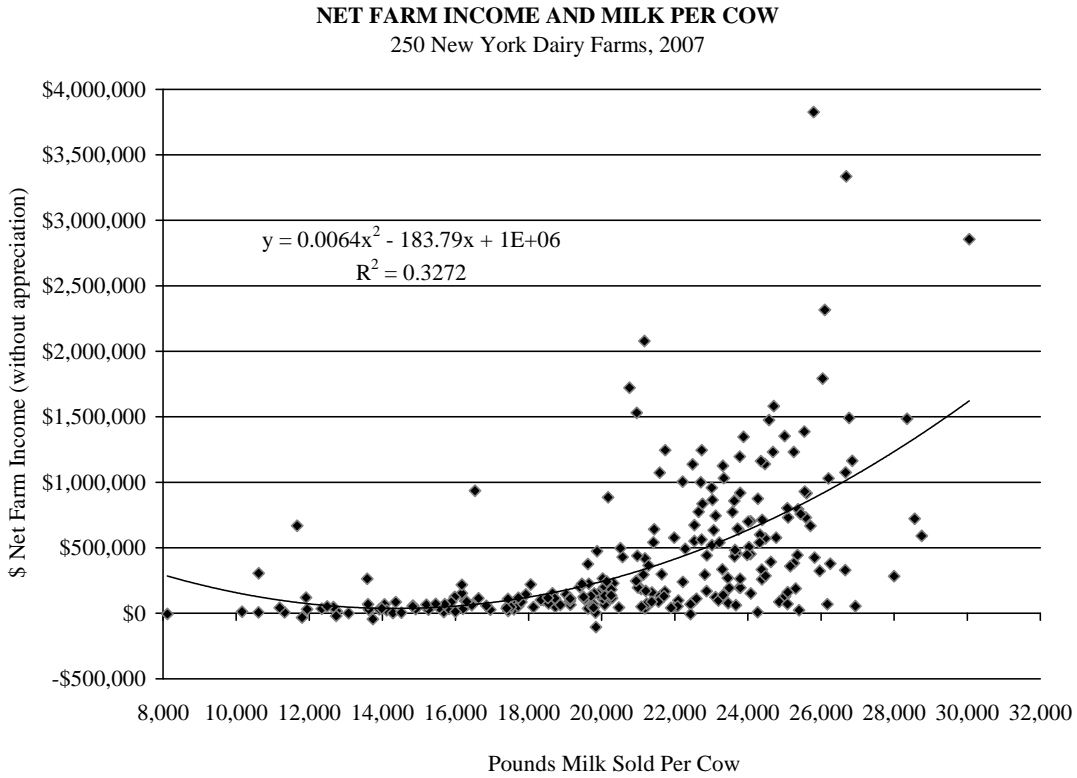
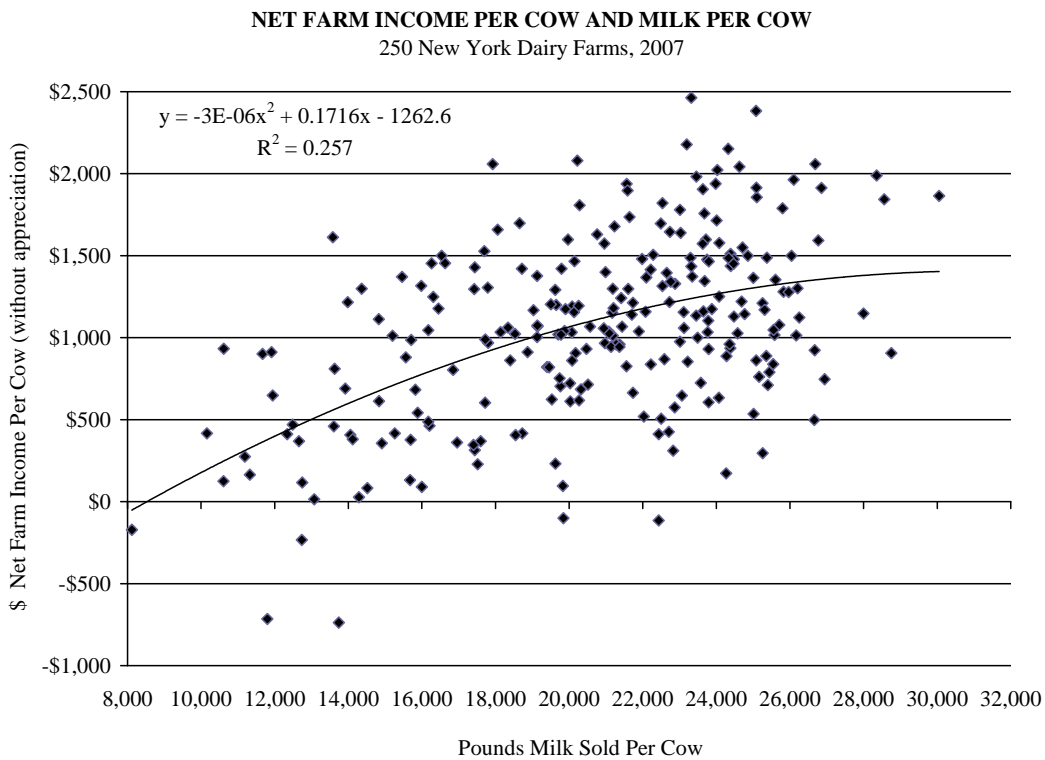


Chart 7.



Charts 8 and 9 show relationships between cull rates and milk production and net farm income per cow. For the 2007 year, supplementary information concerning dairy replacements was collected from 39 participating farms. The culling chart (Table 28) reports the decile range of reported factors for the different information that was collected. The average culling rate was 31.0 percent, sell rate was 24.7 percent, and death rate was 6.3 percent. The average number of cows sold for beef equaled 89, four cows were sold for dairy, and 23 cows died. Please refer to the glossary for definitions of the different terms and how the measures were calculated.

Chart 8.

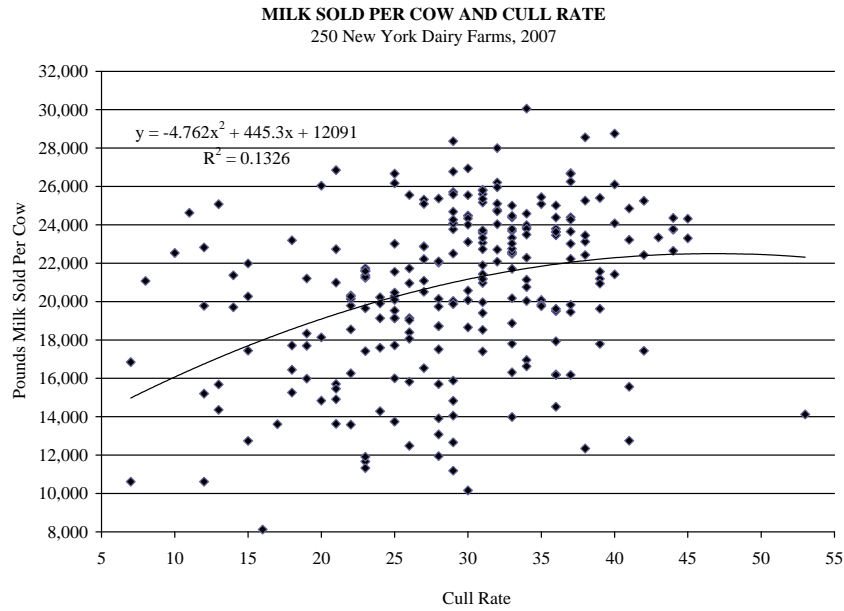


Chart 9.

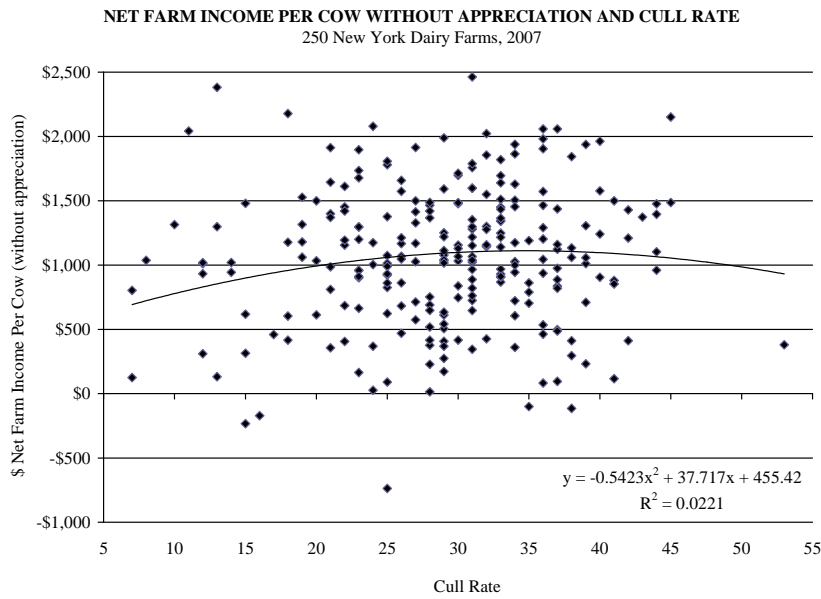


Table 28.

CULLING RATE AND DAIRY REPLACEMENT INFORMATION
New York Dairy Farms, 2007

| Decile | Sell Rate | Death Rate | Cull Rate | Value of Cows Sold | Value of Animals Purchased | Percent of Replacements Purchased | Percent of Heifers Custom Raised |
|--------|------------------------------------|------------|-----------|--------------------|----------------------------|-----------------------------------|----------------------------------|
| | -----249 Farms ³⁰ ----- | | | | \$/head (54 Farms) | -----39 Farms ³⁰ ----- | |
| 1 | 10% | 0% | 14% | \$263 | \$1,136 | 0% | 0% |
| 2 | 16 | 2 | 21 | 384 | 1,426 | 0 | 0 |
| 3 | 19 | 3 | 24 | 458 | 1,635 | 0 | 0 |
| 4 | 21 | 4 | 27 | 502 | 1,792 | 0 | 0 |
| 5 | 23 | 5 | 29 | 539 | 1,920 | 0 | 0 |
| 6 | 25 | 5 | 31 | 571 | 2,056 | 0 | 0 |
| 7 | 26 | 6 | 32 | 617 | 2,279 | 0 | 0 |
| 8 | 29 | 7 | 34 | 700 | 2,495 | 1 | 6 |
| 9 | 32 | 9 | 37 | 840 | 3,235 | 2 | 28 |
| 10 | 37 | 14 | 42 | 1,362 | 4,995 | 56 | 66 |

³⁰249 participating farms provided culling information. Thirty-nine farms provided supplemental information on heifer acquisitions.

Cost of Producing Milk

The cost of producing milk has been compiled below using the whole farm method. The following steps are used in the calculations.

1. The cost of expansion livestock is added to total accrual operating expenses to offset any related inventory increase included in accrual receipts.
2. Accrual milk sales are deducted from total accrual receipts to get total accrual nonmilk receipts, which are used to represent total nonmilk operating costs. This assumes that costs equal revenues for nonmilk costs.
3. Total accrual nonmilk receipts are subtracted from total accrual operating expenses including expansion livestock to calculate the operating cost of producing milk.
4. Machinery depreciation and building depreciation are added to operating costs to determine the purchased inputs cost of producing milk.
5. The opportunity cost of equity capital, operator's labor and operator's management and the value of unpaid family labor are added to all other costs to obtain the total cost of producing milk. This cost includes all the operating, depreciation, and imputed costs of producing milk.

Table 29.

COST OF PRODUCING MILK, WHOLE FARM METHOD
250 New York Dairy Farms, 2007

| Item | Average 250 Farms | Average Top 10% Farms ³¹ |
|---|----------------------|--|
| Total Accrual Operating Expenses | \$1,354,999 | \$2,337,021 |
| Expansion Livestock, Accrual | + <u>10,427</u> | + <u>16,458</u> |
| 1. Total Accrual Operating Expenses, Including Expansion Livestock | \$1,365,426 | \$2,353,479 |
| Total Accrual Receipts | \$1,885,340 | \$3,610,006 |
| Milk Sales, Accrual | <u>-1,674,170</u> | <u>- 3,210,031</u> |
| 2. Total Accrual Nonmilk Receipts | <u>- \$211,170</u> | <u>-\$ 399,975</u> |
| 3. Operating Cost of Producing Milk | \$1,154,256 | \$1,953,505 |
| Machinery Depreciation | + 68,060 | + 96,804 |
| Building Depreciation | + 40,914 | + 69,674 |
| Extraordinary Expense | <u>+ 582</u> | <u>+ 239</u> |
| 4. Purchased Inputs Cost of Producing Milk | \$1,263,813 | \$2,120,222 |
| Family Labor Unpaid (\$2,400/month) | + 5,453 | + 2,909 |
| Real Interest on Equity Capital | + 98,695 | +162,869 |
| Value of Operator's Labor & Management | <u>+ 69,103</u> | <u>+ 95,833</u> |
| 5. Total Costs of Producing Milk | \$1,437,064 | \$2,381,833 |
| 6. Costs Per Cwt.: | | |
| Cwt. Milk Sold | 82,315 | 154,445 |
| Operating Cost Per Cwt. | \$14.02 | \$12.65 |
| Purchased Inputs Cost Per Cwt. | \$15.35 | \$13.73 |
| Total Cost Per Cwt. | \$17.46 | \$15.42 |

³¹Average of 25 farms with highest rates of return to all capital (without appreciation).

Costs of producing milk per hundredweight are presented for eight expenditure categories in Table 30. The whole farm method assumption that accrual nonmilk receipts represent nonmilk operating costs is used in computing net costs. A \$31,174 average increase in crop inventories per farm, (\$0.38 per hundredweight of milk), is included in crop sales on the 250 farms. The top 10 percent farms had a \$98,131 average increase in crop inventories per farm (\$0.64 per hundredweight of milk).

Table 30.

**ITEMIZED COSTS OF PRODUCING MILK PER HUNDREDWEIGHT
BASED ON WHOLE FARM DATA
250 New York Dairy Farms, 2007**

| Item | Average 250 Farms | Average Top 10% Farms ³³ |
|--|----------------------|--|
| Dairy grain and concentrate | \$4.88 | \$4.92 |
| Dairy roughage | 0.32 | 0.25 |
| Nondairy feed | 0.01 | 0.00 |
| Professional nutritional services | <u>0.00</u> | <u>0.00</u> |
| Total feed expense | \$5.21 | \$5.17 |
| Crop expense | 0.93 | 0.78 |
| - Crop sales and government receipts ³² | <u>0.90</u> | <u>0.95</u> |
| Net Feed and Crop Expense | \$5.24 | \$5.00 |
| Hired labor | 2.70 | 2.61 |
| Operator's and family labor | <u>0.91</u> | <u>0.64</u> |
| Total Labor Expense | \$3.61 | \$3.25 |
| Machine repairs, fuel and hire | 1.94 | 1.71 |
| Machinery depreciation | 0.83 | 0.63 |
| - Gas tax refunds and custom work | <u>0.04</u> | <u>0.05</u> |
| Net Machinery Expense | \$2.73 | \$2.29 |
| Replacement and expansion cattle purchases | 0.20 | 0.11 |
| - Sales and inventory growth | <u>1.33</u> | <u>1.40</u> |
| Net Cattle Purchases | \$-1.13 | \$-1.29 |
| Milk marketing costs | 0.80 | 0.83 |
| All other livestock expense excluding purchases | <u>2.30</u> | <u>2.04</u> |
| Net Livestock Expense | \$3.10 | \$2.87 |
| Real estate repairs, rent and taxes | 0.83 | 0.73 |
| Building depreciation | <u>0.50</u> | <u>0.45</u> |
| Total Real Estate Expense | \$1.33 | \$1.18 |
| Interest paid | 0.83 | 0.56 |
| Interest on equity | <u>1.20</u> | <u>1.05</u> |
| Total Interest Expense | \$2.03 | \$1.61 |
| Other operating and miscellaneous expenses | 0.84 | 0.71 |
| - Miscellaneous income | <u>0.29</u> | <u>0.20</u> |
| Net Miscellaneous Expenses | <u>\$ 0.55</u> | <u>\$0.51</u> |
| Total Cost of Producing Milk | \$17.46 | \$15.42 |
| Purchased Inputs Cost | \$15.35 | \$13.73 |
| Total Operating Cost | \$14.02 | \$12.65 |

³²Non-crop related government payments may bias the results.

³³Average of 25 farms with highest rates of return to all capital (without appreciation).

Costs of producing milk per hundredweight are presented in the table below for 217 farms that participated both in 2006 and 2007. Costs of production increased in all expense categories when 2007 data were compared to 2006.

Table 31.

**ITEMIZED COSTS OF PRODUCING MILK PER HUNDREDWEIGHT
BASED ON WHOLE FARM DATA
Same 217 New York Dairy Farms, 2006 & 2007**

| Item | 2006 | 2007 | Percent Change |
|--|---------------|---------------|----------------|
| Dairy grain and concentrate | \$4.03 | \$4.89 | 21.3% |
| Dairy roughage | 0.26 | 0.31 | 19.2% |
| Nondairy feed | 0.00 | 0.01 | |
| Professional nutritional services | <u>0.00</u> | <u>0.00</u> | |
| Total feed expense | \$4.29 | \$5.21 | 21.5% |
| Crop expense | 0.74 | 0.92 | |
| - Crop sales and government receipts ³⁴ | <u>0.95</u> | <u>0.93</u> | |
| Net Feed and Crop Expense | \$4.08 | \$5.20 | 27.5% |
| Hired labor | 2.60 | 2.71 | |
| Operator's and family labor | <u>0.87</u> | <u>0.87</u> | |
| Total Labor Expense | \$3.47 | \$3.58 | 3.2% |
| Machine repairs, fuel and hire | 1.64 | 1.93 | |
| Machinery depreciation | 0.75 | 0.84 | |
| - Gas tax refunds and custom work | <u>0.04</u> | <u>0.04</u> | |
| Net Machinery Expense | \$2.35 | \$2.73 | 16.2% |
| Replacement and expansion cattle purchases | 0.25 | 0.18 | |
| - Sales and inventory growth | <u>1.42</u> | <u>1.31</u> | |
| Net Cattle Purchases | -\$1.17 | -\$1.13 | 3.4% |
| Milk marketing costs | 0.79 | 0.80 | |
| All other livestock expense excluding purchases | <u>2.18</u> | <u>2.26</u> | |
| Net Livestock Expense | \$2.97 | \$3.06 | 3.0% |
| Real estate repairs, rent and taxes | 0.71 | 0.82 | |
| Building depreciation | <u>0.51</u> | <u>0.51</u> | |
| Total Real Estate Expense | \$1.22 | \$1.33 | 9.0% |
| Interest paid | 0.77 | 0.80 | |
| Interest on equity | <u>1.06</u> | <u>1.20</u> | |
| Total Interest Expense | \$1.83 | \$2.00 | 9.3% |
| Other operating and miscellaneous expenses | 0.78 | 0.85 | |
| - Miscellaneous income | <u>0.26</u> | <u>0.29</u> | |
| Net Miscellaneous Expenses | <u>\$0.52</u> | <u>\$0.56</u> | 7.7% |
| Total Cost of Producing Milk | \$15.28 | \$17.34 | 13.5% |
| Purchased Inputs Cost | \$13.35 | \$15.27 | 14.4% |
| Total Operating Cost | \$12.07 | \$13.91 | 15.2% |
| Average Price Received for Milk | \$13.85 | \$20.38 | 47.2% |

³⁴Non-crop related government payments may bias the results.

The three measures of the accrual cost of producing milk calculated on a per cow and per hundredweight basis are compared with accrual receipts from milk sales in Table 32.

Table 32.

**COST OF PRODUCING MILK, ACCRUAL RECEIPTS FROM DAIRY, AND PROFITABILITY
250 New York Dairy Farms, 2007**

| Item | Average 250 Farms | | | Average Top 10% Farms ³⁵ | | |
|---|-------------------|---------|----------|-------------------------------------|---------|----------|
| | Total | Per Cow | Per Cwt. | Total | Per Cow | Per Cwt. |
| <u>Accrual Cost of Producing Milk</u> | | | | | | |
| Operating Cost | \$1,154,256 | \$3,223 | \$14.02 | \$1,953,505 | \$3,192 | \$12.65 |
| Purchased Inputs Cost | 1,263,813 | 3,529 | 15.35 | 2,120,222 | 3,465 | 13.73 |
| Total Cost | 1,437,064 | 4,012 | 17.46 | 2,381,833 | 3,892 | 15.42 |
| <u>Accrual Receipts from Milk</u> | | | | | | |
| Net Milk Receipts | \$1,674,170 | \$4,675 | \$20.34 | \$3,210,031 | \$5,246 | \$20.78 |
| | 1,608,003 | 4,045 | 19.53 | 3,081,483 | 4,791 | 19.95 |
| <u>Profitability</u> | | | | | | |
| Net Farm Income without Appreciation | \$410,358 | \$1,146 | \$4.99 | \$1,089,809 | \$1,781 | \$7.06 |
| Net Farm Income with Appreciation | \$556,376 | \$1,553 | \$6.76 | \$1,253,697 | \$2,049 | \$8.12 |

³⁵Average of 25 farms with highest rates of return to all capital (without appreciation).

The operating cost of producing milk on all 250 dairy farms averaged \$14.02 per hundredweight, leaving \$6.32 to cover depreciation, unpaid labor and operator resources.

The total cost of producing milk on all 250 dairy farms averaged \$17.46 per hundredweight, \$2.88 less than the average price received for milk sold from these farms during 2007. The imputed costs or charge for the operator's labor, management and equity capital averaged \$2.04 per hundredweight in 2007; however, the farm operator received \$4.92 per hundredweight for these inputs. The 25 most profitable farms held their operating costs to \$12.65 per hundredweight and their total cost of producing milk averaged \$15.42 per hundredweight. This left a profit of \$5.36 per hundredweight of milk sold.

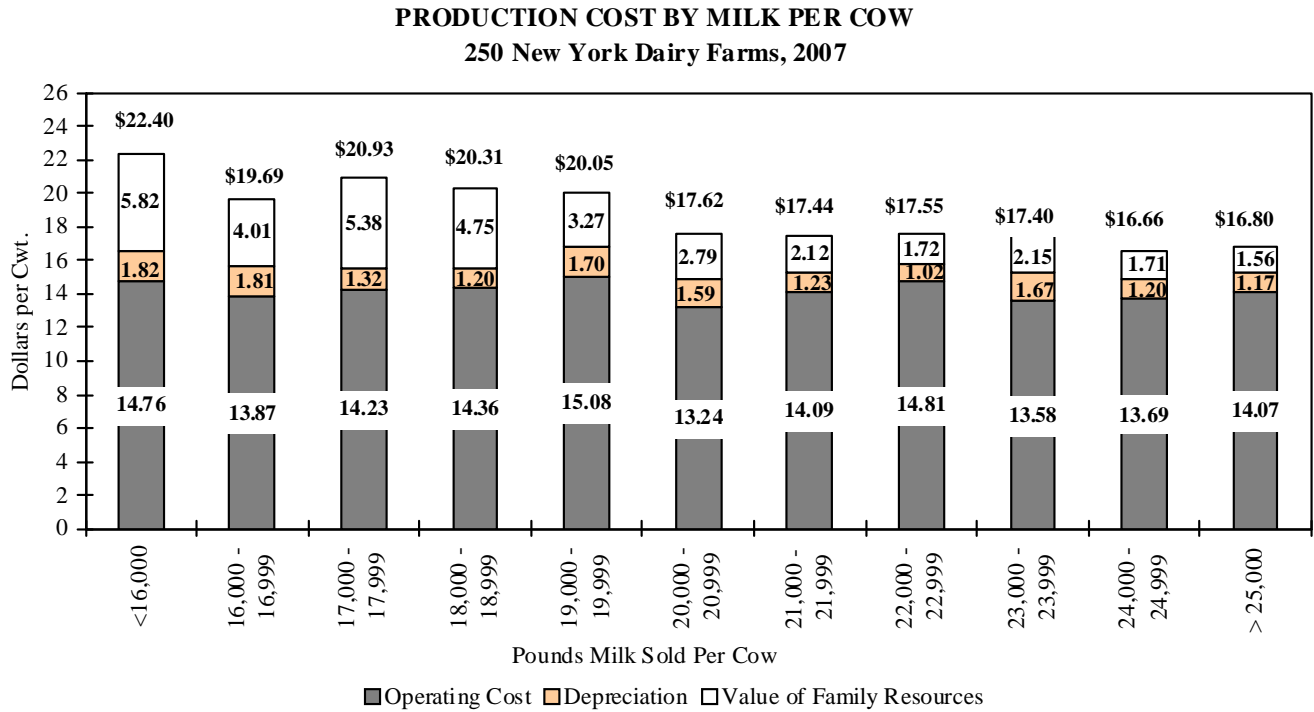
The strong relationship between milk output per cow and the total cost of producing milk is shown in Table 33 and Chart 10 on page 32. Farms selling less than 19,000 pounds of milk per cow had average total costs of production of \$20.83 per hundredweight while those selling 19,000 pounds and over averaged \$17.65 for a difference of \$3.18 per hundredweight.

Table 33.

**FARM COST OF PRODUCING MILK BY MILK SOLD PER COW
250 New York Dairy Farms, 2007**

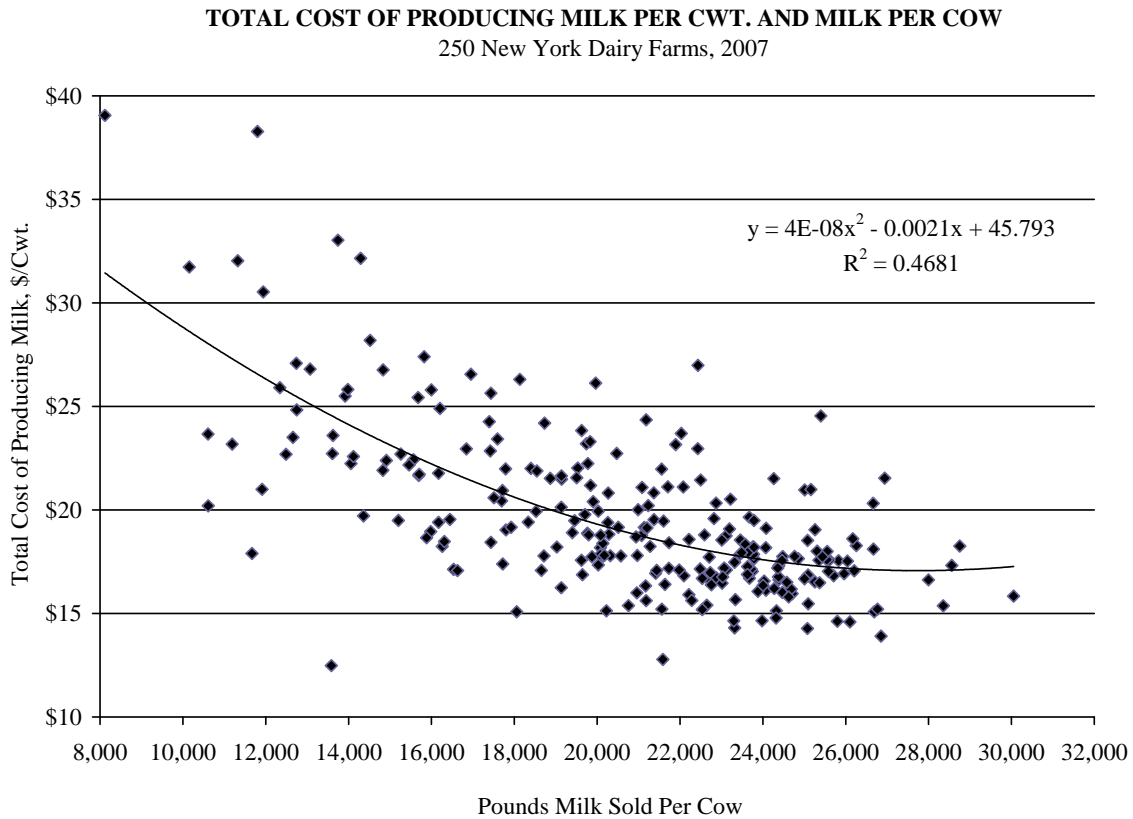
| Pounds Milk Sold Per Cow | Costs per Hundredweight | | | | | Accrual Receipts From Milk Per Cwt. | Return Per Cwt. To Operator's Labor, Mgmt. & Capital |
|-----------------------------|-------------------------|------------------------------|-------------------------|---------------------|---------|--|---|
| | Operating Costs | | Costs of Producing Milk | | | | |
| | Hired Labor | Dairy Grain & Concentrate | Total Operating | Purchased Inputs | Total | | |
| Under 16,000 | \$1.76 | \$5.16 | \$14.76 | \$16.58 | \$22.40 | \$21.13 | \$3.97 |
| 16,000-16,999 | 2.77 | 5.14 | 13.87 | 15.68 | 19.69 | 22.07 | 6.11 |
| 17,000-17,999 | 1.63 | 5.21 | 14.23 | 15.55 | 20.93 | 20.20 | 4.04 |
| 18,000-18,999 | 1.24 | 5.30 | 14.36 | 15.56 | 20.31 | 20.94 | 4.69 |
| 19,000-19,999 | 2.40 | 5.10 | 15.08 | 16.78 | 20.05 | 20.42 | 3.43 |
| 20,000-20,999 | 2.53 | 4.77 | 13.24 | 14.83 | 17.62 | 20.26 | 5.38 |
| 21,000-21,999 | 2.72 | 4.65 | 14.09 | 15.32 | 17.44 | 20.46 | 5.08 |
| 22,000-22,999 | 2.71 | 4.81 | 14.81 | 15.83 | 17.55 | 20.27 | 4.41 |
| 23,000-23,999 | 2.48 | 4.79 | 13.58 | 15.25 | 17.40 | 20.31 | 5.01 |
| 24,000-24,999 | 3.12 | 4.51 | 13.69 | 14.95 | 16.66 | 20.01 | 5.08 |
| 25,000 & over | 2.83 | 5.08 | 14.07 | 15.24 | 16.80 | 20.34 | 5.11 |

Chart 10.



The relationship between total cost of producing milk and milk sold per cow is diagrammed in Chart 11. It shows that as milk sold per cow increases, on the average, total cost of production generally decreases.

Chart 11.



Data in Table 34 and Chart 12 show that the average total cost of production generally declines as herd size increases. This is attributable to spreading fixed costs over more units of output.

Total operating costs are lowest at the 400 to 599 herd size group followed by the 300 to 399 herd size category. Hiring labor cost generally increases with herd size, while purchased dairy grain and concentrate are not related to herd size.

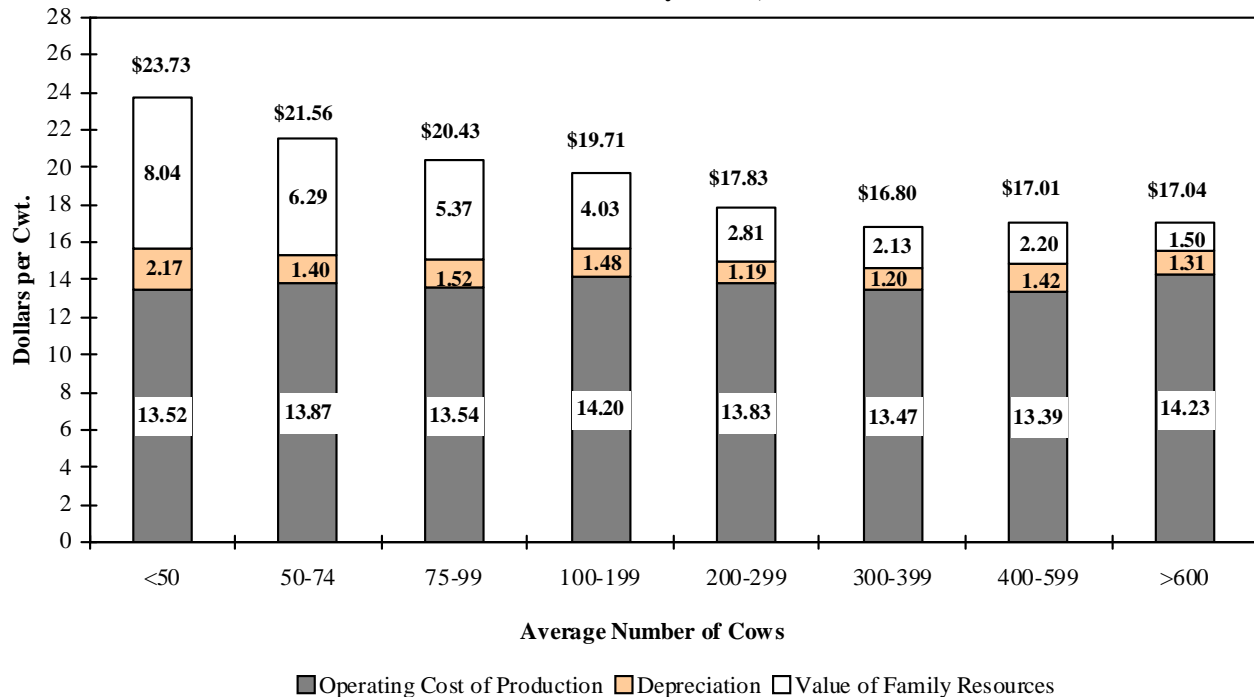
Table 34.

FARM COST OF PRODUCING MILK BY HERD SIZE
250 New York Dairy Farms, 2007

| Number of Cows | Costs per Hundredweight | | | | | Accrual Receipts From Milk | Return Per Cwt. To Operator's Labor, Mgmt. & Capital |
|----------------|-------------------------|---------------------------|-------------------------|------------------|---------|----------------------------|--|
| | Operating Costs | | Costs of Producing Milk | | | | |
| | Hired Labor | Dairy Grain & Concentrate | Total Operating | Purchased Inputs | Total | | |
| Under 50 | \$0.86 | \$4.74 | \$13.52 | \$15.69 | \$23.73 | \$20.58 | \$3.83 |
| 50 to 74 | 1.08 | 4.85 | 13.87 | 15.27 | 21.56 | 20.20 | 4.33 |
| 75 to 99 | 1.45 | 5.32 | 13.54 | 15.06 | 20.43 | 20.66 | 4.82 |
| 100 to 199 | 1.84 | 5.01 | 14.20 | 15.68 | 19.71 | 20.48 | 4.59 |
| 200 to 299 | 2.30 | 4.66 | 13.83 | 15.02 | 17.83 | 20.28 | 5.22 |
| 300 to 399 | 2.57 | 4.94 | 13.47 | 14.67 | 16.80 | 20.68 | 5.93 |
| 400 to 599 | 2.61 | 4.66 | 13.39 | 14.81 | 17.01 | 20.43 | 5.58 |
| 600 and over | 2.97 | 4.91 | 14.23 | 15.54 | 17.04 | 20.26 | 4.71 |

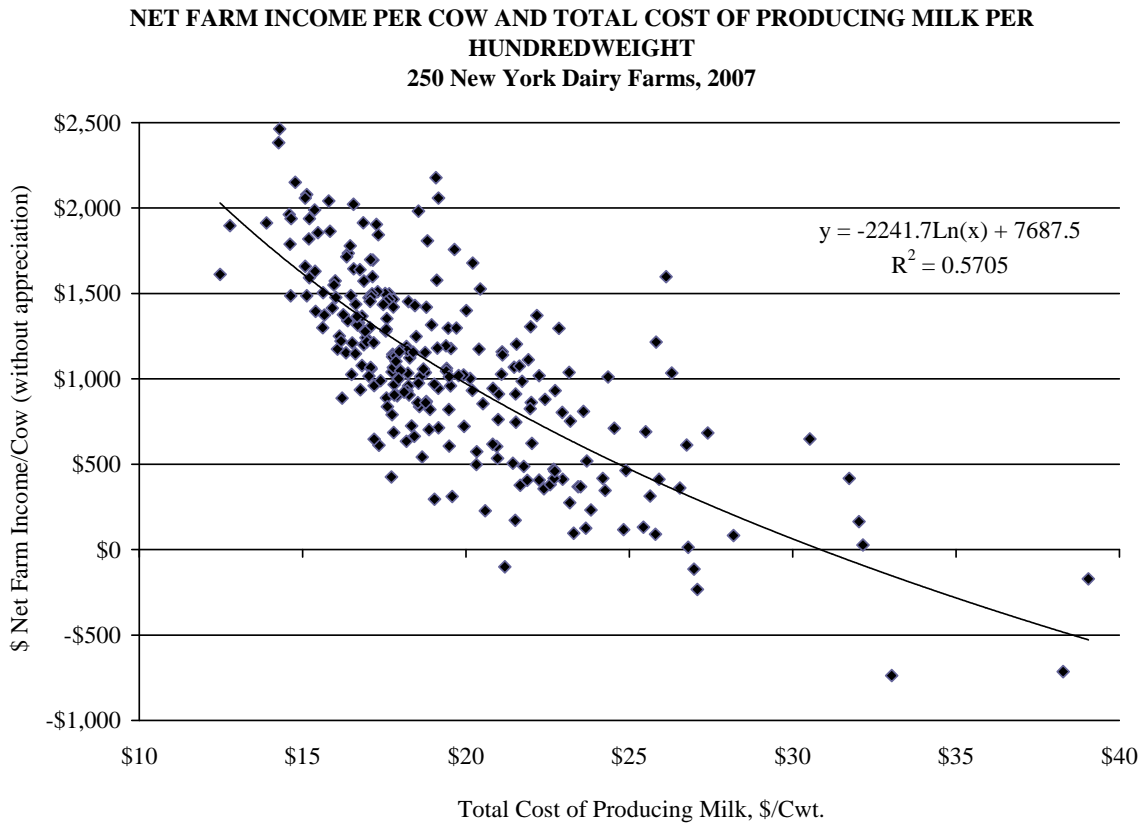
Chart 12.

PRODUCTION COST BY HERD SIZE
250 New York Dairy Farms, 2007



The importance of cost control and its impact on farm profitability are illustrated in Chart 13. As the total cost of producing milk per hundredweight increased, net farm income per cow fell. All farms had a positive net farm income per cow until the total cost of producing milk exceeded \$21 per hundredweight. The majority of the farms with costs greater than \$26 per hundredweight experienced negative net farm incomes per cow.

Chart 13.



Cost of Producing Milk (continued)

A ten-year comparison of the average costs and returns of producing milk per hundredweight is presented in Table 35 on page 36. Average individual operating and overhead expenses per hundredweight of milk sold are reported on all specialized dairy farms included in the New York State Summary from 1998 through 2007. In 2007, the average operating cost of producing milk increased 16.1 percent after decreasing one percent from 2005 to 2006. The average return per hundredweight to operator labor, management, and capital was \$4.49 higher in 2007, 1020 percent above 2006. In only three years during the last ten years has milk price exceeded the total cost of producing milk. The years were 1998, 2001, 2004, and 2007.

Hired labor expense per hundredweight has increased consistently from 1998 to 2005, remained constant in 2005, decreased three percent in 2006, and increased five percent in 2007. Hired labor expense was \$2.06 in 1998 and has risen to \$2.70 in 2007. Thus, even as pounds of milk sold per worker have increased from 821,565 in 1998 to 980,234 in 2007, labor expense per worker has increased even more rapidly. Some of this effect is due to increasing farm size where a larger portion of the labor force is comprised of hired workers. Another effect is an increase in hired labor cost per worker as shown by a 12 percent increase in hired labor expense per hired worker equivalent from 1998 to 2007.

Purchased feed expense per hundredweight of milk can fluctuate greatly, as much as \$1.30 per hundredweight. At \$3.91 in 2000, it was at its lowest in the past ten years. In 2007, purchased feed expense was at its highest in the past ten years at \$5.21, due mostly to demand for corn for ethanol and the U.S. dollar foreign exchange rate.

Interest paid on debt per hundredweight of milk sold has fluctuated over this period. In 1998, interest expense was \$0.89 per hundredweight. In 2003, interest expense was at a ten-year low of \$0.56 per hundredweight, increasing to \$0.83 in 2007. Property taxes per hundredweight of milk have decreased by 9 percent during this ten-year period. Property taxes were \$0.21 per hundredweight in 1998, and \$0.23 in 2007. This is due to productivity increases and more of the land resources being rented, rather than owned, and fewer acres per cow.

A ten-year comparison of selected average business factors for all specialized DFBS farms is presented in Table 36 on page 37. The reader is reminded that the same farms are not in the survey each year. Average cow numbers are up 70 percent, tillable acres have increased 53 percent, and milk sold per farm has jumped 87 percent since 1998. Capital investment per cow has increased 37 percent over the last ten years. Labor and management income per operator increased 704 percent in 2007 compared to 2006, farm net worth increased three percent, and percent equity increased 10 percent in 2007 compared to 2006.

Hay crop yields were 3.1 tons dry matter per acre in 1998 and 3.0 tons dry matter per acre in 2007. Corn silage yields, as fed, have varied more widely and were 18.9 tons per acre in 2007. As yields increased, fertilizer and lime expense increased \$9.00 per tillable acre, from \$31 to \$40 per acre. Pounds of milk sold per cow increased by 10 percent, from 20,900 pounds in 1998 to 22,983 pounds in 2007.

Average number of workers per farm increased by 3.05 and operators/managers per farm were stable. Cows per worker equivalent increased from 39 in 1998 to 43 in 2007, but labor cost per cow increased from \$609 to \$784 over the same time period.

The asset turnover ratio ranged from 0.61 to 0.67. Total accrual receipts as a proportion of total farm assets equals asset turnover ratio. Percent equity was 59 percent in 1998, was relatively constant over the next eight years, and increased to 68 percent in 2007.

Table 35.

TEN YEAR COMPARISON: AVERAGE COST OF PRODUCING MILK PER HUNDREDWEIGHT
New York Dairy Farms, 1998 to 2007

| Item | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <u>Operating Expenses</u> | | | | | | | | | | |
| Hired labor | \$2.06 | \$2.14 | \$2.25 | \$2.41 | \$2.44 | \$2.51 | \$2.67 | \$2.66 | \$2.58 | \$2.70 |
| Purchased feed | 4.18 | 3.96 | 3.91 | 4.25 | 4.10 | 4.29 | 4.88 | 4.37 | 4.30 | 5.21 |
| Machinery repair, vehicle expense & rent | 1.12 | 1.18 | 1.06 | 1.21 | 1.01 | .91 | 1.09 | 1.07 | 1.04 | 1.27 |
| Fuel, oil & grease | .25 | .24 | .34 | .32 | .28 | .33 | .41 | .53 | .58 | .67 |
| Replacement livestock | .24 | .24 | .23 | .20 | .16 | .15 | .16 | .11 | .07 | .07 |
| Breeding fees | .16 | .17 | .17 | .19 | .21 | .19 | .21 | .22 | .23 | .24 |
| Veterinary & medicine | .45 | .47 | .51 | .54 | .56 | .56 | .59 | .62 | .65 | .65 |
| Milk marketing | .53 | .49 | .69 | .63 | .65 | .69 | .72 | .76 | .80 | .80 |
| Other dairy expenses | 1.09 | 1.13 | 1.16 | 1.26 | 1.25 | 1.30 | 1.27 | 1.32 | 1.29 | 1.41 |
| Fertilizer & lime | .35 | .35 | .29 | .33 | .27 | .26 | .30 | .34 | .31 | .40 |
| Seeds & plants | .22 | .20 | .19 | .20 | .20 | .20 | .24 | .22 | .23 | .28 |
| Spray & other crop expense | .24 | .24 | .22 | .25 | .22 | .19 | .20 | .19 | .19 | .25 |
| Land, building & fence repair | .27 | .27 | .21 | .26 | .19 | .14 | .21 | .25 | .22 | .32 |
| Taxes | .21 | .21 | .20 | .21 | .20 | .21 | .22 | .23 | .21 | .23 |
| Insurance | .17 | .16 | .16 | .14 | .16 | .15 | .16 | .16 | .17 | .19 |
| Utilities (farm share) | .32 | .31 | .32 | .33 | .34 | .34 | .36 | .39 | .41 | .44 |
| Interest paid | .89 | .83 | .95 | .82 | .61 | .56 | .57 | .65 | .78 | .83 |
| Misc. (including rent) | .41 | .44 | .45 | .42 | .44 | .40 | .43 | .37 | .45 | .49 |
| Total Operating Expenses | \$13.15 | \$13.02 | \$13.31 | \$13.98 | \$13.27 | \$13.39 | \$14.67 | \$14.54 | \$14.51 | \$16.46 |
| Less: Nonmilk cash receipts | 1.18 | 1.44 | 1.83 | 1.49 | 1.91 | 1.57 | 1.70 | 1.96 | 1.94 | 1.75 |
| Increase in grown feed & supplies | .25 | .25 | .11 | .10 | .12 | .27 | .17 | .12 | .22 | .39 |
| Increase in livestock | .22 | .11 | .06 | .52 | .23 | .09 | .22 | .21 | .27 | .30 |
| OPERATING COST OF MILK PRODUCTION | \$11.50 | \$11.22 | \$11.31 | \$11.87 | \$11.01 | \$11.46 | \$12.58 | \$12.25 | \$12.08 | \$14.02 |
| <u>Overhead Expenses</u> | | | | | | | | | | |
| Depreciation: machinery & buildings | \$1.08 | \$1.14 | \$1.20 | \$1.30 | \$1.39 | \$1.23 | \$1.32 | \$1.32 | \$1.26 | \$1.32 |
| Unpaid labor | .11 | .11 | .10 | .10 | .08 | .10 | .07 | .06 | .07 | .07 |
| Operator(s) labor ³⁶ | .74 | .80 | .79 | .74 | .74 | .70 | .67 | .61 | .63 | .65 |
| Operator(s) management (5% of cash receipts) | .82 | .83 | .76 | .87 | .75 | .73 | .90 | .90 | .79 | 1.07 |
| Interest on farm equity capital (5%) | .85 | .86 | .88 | .91 | .89 | .85 | .92 | 1.02 | 1.06 | 1.20 |
| Total Overhead Expenses | \$3.60 | \$3.74 | \$3.73 | \$3.92 | \$3.85 | \$3.61 | \$3.88 | \$3.91 | \$3.81 | \$4.31 |
| TOTAL COST OF MILK PRODUCTION | \$15.10 | \$14.96 | \$15.04 | \$15.79 | \$14.86 | \$15.07 | \$16.46 | \$16.16 | \$15.89 | \$18.33 |
| AVERAGE FARM PRICE OF MILK | \$15.60 | \$14.91 | \$13.38 | \$15.98 | \$12.98 | \$13.24 | \$16.64 | \$15.98 | \$13.85 | \$20.34 |
| Return per cwt. to operator labor, capital & mgmt. | \$2.91 | \$2.44 | \$0.77 | \$2.71 | \$0.50 | \$0.45 | \$2.67 | \$2.35 | \$0.44 | \$4.93 |
| Rate of return on farm equity capital | 8.0% | 4.7% | -4.4% | 6.0% | -5.6% | -5.7% | 6.0% | 4.1% | -4.6% | 13.4% |

³⁶1998 = \$1,600/month, 1999 = \$1,800/month, 2000 = \$1,900/month, 2001 = \$2,000/month, 2002 = \$2,100/month, 2003 through 2005 = \$2,200/month, 2006 = \$2,300/month, and 2007 = \$2,400/month of operator labor.

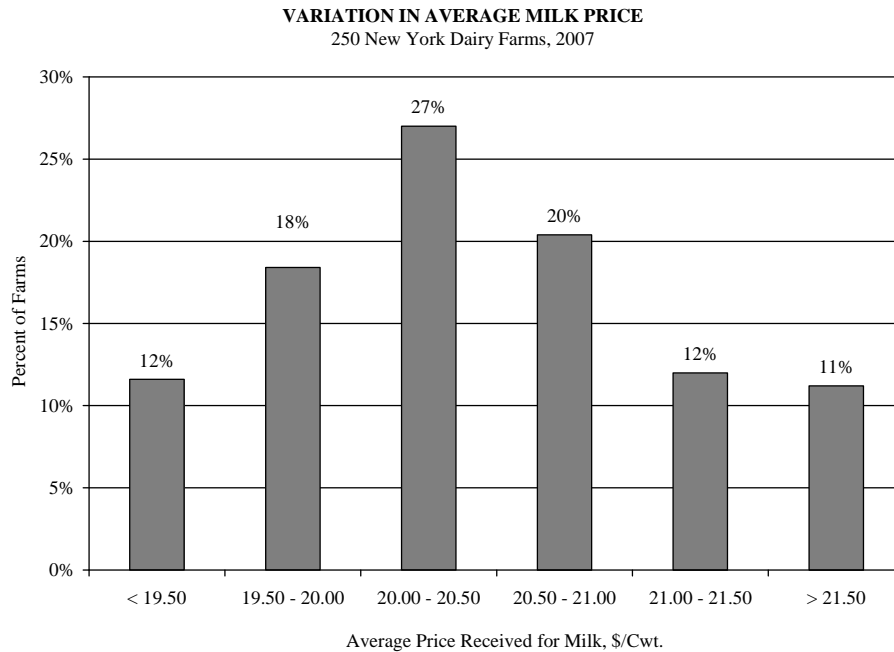
Table 36.

TEN YEAR COMPARISON: SELECTED BUSINESS FACTORS
New York Dairy Farms, 1998 to 2007

| Item | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|--|-----------|-----------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Number of farms | 305 | 314 | 294 | 228 | 219 | 201 | 200 | 225 | 240 | 250 |
| <u>Cropping Program</u> | | | | | | | | | | |
| Total tillable acres | 497 | 516 | 566 | 618 | 660 | 659 | 701 | 729 | 730 | 758 |
| Tillable acres rented | 232 | 234 | 262 | 290 | 337 | 323 | 345 | 365 | 360 | 385 |
| Hay crop acres | 239 | 248 | 274 | 302 | 323 | 321 | 339 | 361 | 366 | 364 |
| Corn silage acres | 175 | 186 | 192 | 210 | 232 | 233 | 245 | 246 | 249 | 258 |
| Hay crop, tons DM/acre | 3.1 | 2.9 | 3.3 | 2.8 | 3.1 | 3.2 | 3.5 | 3.2 | 3.2 | 3.0 |
| Corn silage, tons/acre | 18.0 | 16.3 | 15.1 | 16.5 | 15.4 | 17.2 | 17.7 | 18.8 | 18.4 | 18.9 |
| Fertilizer & lime exp./tillable acre | \$31 | \$32 | \$27 | \$32 | \$27 | \$28 | \$31 | \$33 | \$30 | \$40 |
| Machinery cost/cow | \$471 | \$502 | \$513 | \$554 | \$520 | \$497 | \$565 | \$624 | \$618 | \$708 |
| <u>Dairy Analysis</u> | | | | | | | | | | |
| Number of cows | 210 | 224 | 246 | 277 | 297 | 314 | 334 | 340 | 350 | 358 |
| Number of heifers | 155 | 164 | 186 | 207 | 226 | 240 | 260 | 270 | 283 | 289 |
| Milk sold, cwt. | 43,954 | 47,932 | 52,871 | 60,290 | 66,177 | 70,105 | 73,767 | 78,250 | 80,862 | 82,315 |
| Milk sold/cow, lbs. | 20,900 | 21,439 | 21,516 | 21,762 | 22,312 | 22,302 | 22,070 | 22,998 | 23,083 | 22,983 |
| Purchased dairy feed/cwt. milk | \$4.18 | \$3.96 | \$3.91 | \$4.25 | \$4.10 | \$4.27 | \$4.86 | \$4.37 | \$4.29 | \$5.20 |
| Purchased grain & concentrate as % of milk receipts | 26% | 25% | 27% | 25% | 30% | 30% | 27% | 26% | 29% | 24% |
| Purchased feed & crop exp/cwt.milk | \$5.00 | \$4.75 | \$4.61 | \$5.03 | \$4.79 | \$4.92 | \$5.60 | \$5.12 | \$5.02 | \$6.13 |
| <u>Capital Efficiency</u> | | | | | | | | | | |
| Farm capital/cow | \$6,161 | \$6,368 | \$6,535 | \$6,755 | \$6,794 | \$6,748 | \$7,010 | \$7,508 | \$7,762 | \$8,426 |
| Real estate/cow | \$2,537 | \$2,562 | \$2,615 | \$2,713 | \$2,612 | \$2,722 | \$2,809 | \$2,950 | \$3,030 | \$3,356 |
| Machinery investment/cow | \$1,118 | \$1,163 | \$1,225 | \$1,222 | \$1,261 | \$1,208 | \$1,226 | \$1,314 | \$1,384 | \$1,448 |
| Asset turnover ratio | 0.61 | 0.59 | 0.54 | 0.63 | 0.53 | 0.54 | 0.64 | 0.60 | 0.52 | 0.67 |
| <u>Labor Efficiency</u> | | | | | | | | | | |
| Worker equivalent | 5.35 | 5.71 | 6.11 | 6.72 | 7.21 | 7.50 | 7.97 | 8.18 | 8.19 | 8.40 |
| Operator/manager equivalent | 1.62 | 1.76 | 1.83 | 1.94 | 1.82 | 1.86 | 1.64 | 1.60 | 1.63 | 1.62 |
| Milk sold/worker, lbs. | 821,565 | 839,432 | 865,325 | 897,167 | 917,854 | 934,733 | 925,553 | 956,698 | 987,530 | 980,234 |
| Cows/worker | 39 | 39 | 40 | 41 | 41 | 42 | 42 | 42 | 43 | 43 |
| Labor cost/cow | \$609 | \$653 | \$674 | \$706 | \$725 | \$738 | \$752 | \$765 | \$757 | \$784 |
| Hired labor exp./hired worker equiv. | \$31,092 | \$27,910 | \$29,309 | \$31,448 | \$31,755 | \$32,659 | \$33,311 | \$33,539 | \$34,071 | \$34,924 |
| <u>Profitability & Financial Analysis</u> | | | | | | | | | | |
| Labor & mgmt. income/operator | \$55,917 | \$42,942 | \$-2,908 | \$45,479 | \$-14,243 | \$-15,360 | \$78,061 | \$64,745 | \$-31,269 | \$189,019 |
| Farm net worth, end year | \$798,297 | \$865,626 | \$942,881 | \$1,181,055 | \$1,173,836 | \$1,207,964 | \$1,466,674 | \$1,690,427 | \$1,736,505 | \$2,200,655 |
| Percent equity | 59% | 58% | 57% | 60% | 57% | 56% | 60% | 63% | 62% | 68% |

The average or mean price per hundredweight of milk sold is calculated by dividing gross milk receipts by total pounds of milk sold. The average price for the 250 farms was \$20.34 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 14.



Forty-seven percent of the farms received from \$20.00 to \$21.00 per hundredweight of milk sold. Twenty-three percent of the farms received \$21.00 or more and 30 percent received less than \$20.00 per hundredweight. Location and organization of markets are factors contributing to the difference in average 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 milk components are two variables that affect milk price. More milk price analysis by component can be found on pages 40 and 41.

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 37.

DAIRY RELATED ACCRUAL EXPENSES
250 New York Dairy Farms, 2007

| Item | Average 250 Farms | | Average Top 10% Farms ³⁷ | |
|---|-------------------|----------|-------------------------------------|----------|
| | Per Cow | Per Cwt. | Per Cow | Per Cwt. |
| Purchased dairy grain & concentrate | \$1,121 | \$4.88 | \$1,243 | \$4.92 |
| Purchased dairy roughage | 74 | .32 | 63 | .25 |
| Total Purchased Dairy Feed | \$1,195 | \$5.20 | \$1,306 | \$5.17 |
| Purchased grain & concentrate as % of milk receipts | | 24% | | 24% |
| Purchased feed & crop expense | \$1,408 | \$6.13 | \$1,505 | \$5.96 |
| Purchased feed & crop expense as % of milk receipts | | 31% | | 30% |
| Breeding | \$56 | \$.24 | \$52 | \$.21 |
| Veterinary & medicine | 149 | .65 | 134 | .53 |
| Milk marketing | 185 | .80 | 210 | .83 |
| Bedding | 72 | .31 | 79 | .31 |
| Milking Supplies | 93 | .40 | 93 | .37 |
| Cattle lease | 4 | .02 | 6 | .02 |
| Custom boarding | 65 | .28 | 63 | .25 |
| bST expense | 58 | .25 | 66 | .26 |
| Other livestock expense | 33 | .15 | 21 | .08 |

³⁷Average of 25 farms with highest rates of return to all capital (without appreciation).

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 included the amount spent for calf and heifer feed, it actually represents feed cost for one cow and associated replacements being raised (averaged 0.81 animals in 2007).

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. It does not represent total feed costs because machinery, labor and other costs of producing feed crops are excluded.

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, heifers fed, and milk prices can have an impact. 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 effect on farm profitability. The relationship between purchased feed and crop expense per hundredweight of milk and farm profitability is shown below. On average, farms with feed and crop expenses exceeding \$7.00 reported below average profits. Net milk income over purchased concentrate per cow shows a similar relationship when compared to rate of return on assets without appreciation (Chart 15).

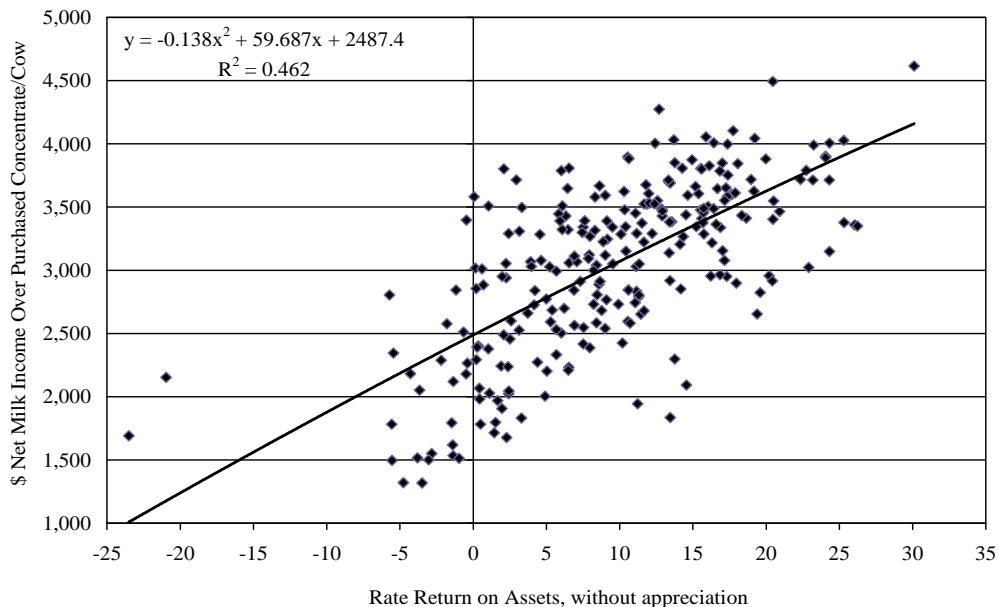
Table 38.

**PURCHASED FEED AND CROP EXPENSE PER HUNDREDWEIGHT
OF MILK AND FARM INCOME MEASURES
250 New York Dairy Farms, 2007**

| Feed & Crop Expense Per Cwt. of Milk | Number of Farms | Number of Cows | Forage Dry Matter Harvested Per Cow | Pounds Milk Per Cow | Net Farm Income Without Appreciation | Labor & Management Income Per Operator | Labor & Management Per Operator Per Cow |
|--------------------------------------|-----------------|----------------|-------------------------------------|---------------------|--------------------------------------|--|---|
| \$7.50 or more | 33 | 229 | 6.3 | 20,631 | \$139,817 | \$52,138 | \$228 |
| 7.00 to 7.49 | 31 | 308 | 8.4 | 24,290 | 398,650 | 182,206 | 591 |
| 6.50 to 6.99 | 34 | 442 | 7.6 | 21,616 | 448,781 | 208,692 | 472 |
| 6.00 to 6.49 | 34 | 386 | 8.3 | 23,664 | 402,760 | 170,129 | 441 |
| 5.50 to 5.99 | 55 | 445 | 8.3 | 23,518 | 558,199 | 239,140 | 537 |
| 5.00 to 5.49 | 23 | 403 | 7.8 | 23,791 | 531,548 | 284,869 | 707 |
| Less than 5.00 | 40 | 263 | 7.9 | 22,637 | 343,458 | 177,266 | 674 |

Chart 15.

**NET MILK INCOME OVER PURCHASED CONCENTRATE PER COW VERSUS
RETURN ON ASSETS
250 New York Dairy Farms, 2007**



Milk Income and Marketing Expense Breakdown

Starting January 1st, 2000, the Northeast switched to multiple component pricing, which changed the format of the milk check and how farmers received payment for their milk. To examine the breakdown of the gross milk income and the marketing expenses, 173 farms filled out a detailed form including all the different sources of income for milk sales and the milk marketing expenses on an accrual basis. This information is reported in the following two tables. The tables are divided into six different sections, each representing a different area of income or expense. The cumulative total for these six sections is the net price received on farms. MILC payments are not included as a milk receipt, but as a government receipt.

Table 39 reports the averages for the 173 farms providing the data. Table 40 on page 41 contains the quintile averages for each of the individual lines of the report. This table is in a farm business chart format with each item sorted independently and ranked by fifths. Numbers for the different sections will not add to the totals for that quintile or to the net price received because each item is sorted independently. This table shows the range of income and expenses received by farms for all the different sections. More milk price information was presented on page 38.

Table 39.

AVERAGE³⁸ MILK INCOME AND MARKETING REPORT 173 New York Dairy Farms, 2007

| | Pounds | Percent | Price/Pound | Total | \$/Cwt of Milk |
|--|---------------|---------|-------------|----------------|----------------|
| BASE FARM PRICE | | | | | |
| Butterfat | 376,288.39 | 3.64% | \$1.46 | \$548,934.03 | \$5.32 |
| Protein | 314,681.67 | 3.05% | \$3.49 | \$1,097,029.84 | \$10.62 |
| Solids | 593,434.01 | 5.75% | \$0.41 | \$242,934.71 | \$2.35 |
| Total Component Contribution | | | | | \$18.29 |
| PPD | 10,326,797.75 | | | \$100,758.86 | \$0.98 |
| Base Farm Price | | | | | \$19.27 |
| Premiums | | | | | |
| Quality | | | | \$20,235.22 | \$0.20 |
| Volume | | | | \$32,507.61 | \$0.31 |
| Market Premiums | | | | \$60,505.88 | \$0.59 |
| Total Premiums | | | | | \$1.10 |
| BASE FARM PRICE + PREMIUM | | | | | \$20.37 |
| Deductions | | | | | |
| Promotion | | | | \$16,043.82 | \$0.16 |
| Hauling + Stop Charges. | | | | \$52,801.78 | \$0.51 |
| Market Fees & Coop Dues | | | | \$12,944.55 | \$0.13 |
| Total Deductions | | | | | \$0.80 |
| BASE FARM PRICE + PREMIUMS – DEDUCTIONS | | | | | \$19.57 |
| Marketing Programs | | | | | |
| Futures Contracts, Forward Contracting, Etc. | | | | -\$8,916.26 | -\$0.09 |
| Total Marketing Income | | | | | -\$0.09 |
| Patronage Dividends | | | | \$9,105.64 | \$0.09 |
| NET PRICE RECEIVED ON FARM, ALL SOURCES | | | | | \$19.57 |
| PPD – Hauling, per cwt. | | | | | \$0.47 |
| PPD – Hauling + Market Premiums, per cwt. | | | | | \$1.06 |
| Net Marketing Value, per cwt. (PPD + Total Premiums - Total Deductions) | | | | | \$1.28 |

³⁸Each calculation of an average is independent of all others. Therefore, math operations on the detail will not result in the totals. However, detail in the “\$/Cwt of Milk” column will result in the totals. Average herd size for these 173 farms is 441 cows.

Table 40.

MILK PRICE INFORMATION BY QUINTILE³⁹
(Each Category Sorted Independently)
173 New York Dairy Farms, 2007

| | Lowest Quintile | ←—————→ | | | Highest Quintile |
|---|--------------------|----------------|----------------|----------------|---------------------|
| Butterfat, % | 3.47 | 3.60 | 3.67 | 3.76 | 4.12 |
| Protein, % | 2.94 | 3.01 | 3.05 | 3.11 | 3.26 |
| Other Solids, % | 5.60 | 5.71 | 5.74 | 5.76 | 5.82 |
| Butterfat, \$ per Cwt. | 4.54 | 5.28 | 5.40 | 5.53 | 6.01 |
| Protein, \$ per Cwt. | 8.93 | 10.53 | 10.71 | 10.97 | 11.56 |
| Other solids, \$ per Cwt. | 1.97 | 2.39 | 2.41 | 2.44 | 2.74 |
| Total Component Value per Cwt. | \$15.83 | \$18.22 | \$18.53 | \$18.86 | \$19.96 |
| PPD, \$ per Cwt. | 0.63 | 0.82 | 0.97 | 1.17 | 1.49 |
| Base Farm Price per Cwt. | \$16.63 | \$19.16 | \$19.54 | \$19.99 | \$21.17 |
| Quality, \$ per Cwt. | 0.02 | 0.10 | 0.17 | 0.25 | 0.44 |
| Volume, \$ per Cwt. | 0.00 | 0.03 | 0.15 | 0.30 | 0.62 |
| Market premium, \$ per Cwt. | 0.05 | 0.19 | 0.33 | 0.51 | 0.98 |
| Total Premium, \$ per Cwt. | 0.33 | 0.55 | 0.77 | 0.99 | 1.41 |
| Base Farm Price + Premiums per Cwt. | \$19.40 | \$19.91 | \$20.32 | \$20.82 | \$21.96 |
| Promotion, \$ per Cwt. | 0.15 | 0.15 | 0.15 | 0.15 | 0.26 |
| Hauling, \$ per Cwt. | 0.28 | 0.42 | 0.52 | 0.69 | 1.10 |
| Market fees & coop dues per Cwt. | 0.00 | 0.07 | 0.11 | 0.16 | 0.22 |
| Total Marketing Expenses per Cwt. | \$0.54 | \$0.70 | \$0.81 | \$0.98 | \$1.39 |
| Base + Premiums – Deductions per Cwt. | \$18.59 | \$19.13 | \$19.43 | \$19.92 | \$20.94 |
| Futures contract, forward contracting, \$ per Cwt. | -0.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Marketing Income, \$ per Cwt. | -\$0.17 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Patronage Dividends, \$ per Cwt. | \$0.00 | \$0.00 | \$0.00 | \$0.04 | \$0.40 |
| Net Price Received From All Sources, \$ per Cwt. | \$18.59 | \$19.18 | \$19.55 | \$19.97 | \$20.98 |
| PPD - Hauling, \$ per cwt. | 0.04 | 0.32 | 0.42 | 0.56 | 0.74 |
| PPD - Hauling + Market Premiums, \$ per cwt. | 0.30 | 0.60 | 0.78 | 0.99 | 1.54 |
| Net Marketing Value, \$ per cwt. (PPD + Total Premiums - Total Deductions) | 0.31 | 0.69 | 0.94 | 1.19 | 1.69 |

³⁹Data for each category are calculated independently of all others. Therefore, summation of individual categories will not equal total categories.

Capital and Labor Efficiency Analysis

Capital efficiency factors show how intensively capital is being used in the farm business. Capital efficiency can be measured as investment per worker and per cow. It can also be measured in terms of the relationship to farm receipts.

Table 41.

CAPITAL EFFICIENCY 250 New York Dairy Farms, 2007

| Item (Average for Year) | Per Worker | Per Cow | Per Tillable Acre | Per Tillable Acre Owned |
|--|-------------------|------------------|-------------------|-------------------------|
| Farm capital | \$359,251 | \$8,426 | \$3,980 | \$8,081 |
| Real estate | | \$3,356 | | \$3,219 |
| Machinery & equipment | \$61,758 | \$1,448 | \$684 | |
| <u>Ratios</u> | | | | |
| Asset turnover | Operating Expense | Interest Expense | | Depreciation Expense |
| 0.67 | 0.69 | 0.04 | | 0.06 |
| <u>Average Top 10% Farms:⁴⁰</u> | | | | |
| Farm capital | \$351,124 | \$7,746 | \$3,995 | \$9,573 |
| Real estate | | \$2,764 | | \$3,416 |
| Machinery & equipment | \$54,121 | \$1,194 | \$616 | |
| <u>Ratios</u> | | | | |
| Asset turnover ratio | Operating Expense | Interest Expense | | Depreciation Expense |
| 0.80 | 0.63 | 0.02 | | 0.05 |

⁴⁰Average of 25 farms with highest rates of return to all capital (without appreciation).

Asset turnover ratio measures the relationship between capital investment and farm receipts. It is computed by dividing the year's total farm accrual receipts including appreciation by the average farm assets. The relationship the asset turnover ratio has to farm profitability and other factors is shown in the following table. As a general rule, dairy farmers should aim for an asset turnover ratio of 0.6 or higher. The operational ratios reflect the relationship of expense categories to total farm receipts. The sum of the operating, interest, and depreciation expense ratios expresses total farm expenses per dollar of total farm receipts.

Table 42.

ASSET TURNOVER AND PROFITABILITY 250 New York Dairy Farms, 2007

| Ratio | Number of Farms | Number of Cows | Farm Capital (average for year) | | Labor & Management Income Per Operator | Net Farm Income (without appreciation) |
|---------------|-----------------|----------------|---------------------------------|------------|--|--|
| | | | Per Cow | Per Worker | | |
| ≥ .80 | 32 | 702 | \$6,470 | \$301,648 | \$367,228 | \$755,288 |
| .70 to .79 | 45 | 580 | 7,852 | 328,615 | 310,956 | 716,350 |
| .60 to .69 | 50 | 424 | 8,812 | 393,981 | 208,996 | 483,316 |
| .50 to .59 | 40 | 280 | 9,933 | 420,222 | 136,585 | 350,916 |
| .40 to .49 | 37 | 133 | 11,432 | 409,326 | 52,490 | 142,206 |
| Less than .40 | 46 | 79 | 13,683 | 425,856 | 6,719 | 59,139 |

Measures of labor efficiency are key indicators of the work accomplished by an average worker. The 25 farms with the highest rates of return on all capital (without appreciation) were above the average of all 250 farms in all measures of labor efficiency except tillable acres per worker. The top 10 percent averaged two more cows per worker and sold 17 percent more milk per worker than the average of all farms.

Table 43.

LABOR EFFICIENCY 250 New York Dairy Farms, 2007

| Labor Efficiency | Average | Farms | Average Top 10% Farms ⁴² | |
|----------------------|-----------|--------------------------|-------------------------------------|--------------------------|
| | Total | Per Worker ⁴¹ | Total | Per Worker ⁴¹ |
| Cows, average number | 358 | 43 | 612 | 45 |
| Milk sold, pounds | 8,231,516 | 980,234 | 15,444,527 | 1,144,463 |
| Tillable acres | 758 | 90 | 1,187 | 88 |

⁴¹The method used to calculate worker equivalent incorporates the number of hours actually worked by the owner/operators, instead of using a standard 12 months for each full-time owner/operator of the business. A full-time month is specified to be 230 hours of labor per month.

⁴²Average of 25 farms with highest rates of return to all capital (without appreciation).

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 250 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 46.

FARM BUSINESS CHART FOR FARM MANAGEMENT COOPERATORS 250 New York Dairy Farms, 2007

| Size of Business | | | Rates of Production | | | Labor Efficiency | |
|----------------------------|-----------------------------------|-------------------------------|---------------------------------------|------------------------------------|--|-----------------------|-----------------------------------|
| Worker Equiv- alent | No. of Cows | Pounds Milk Sold | Pounds Milk Sold Per Cow | Tons Hay Crop DM/Acre | Tons Corn Silage Per Acre | Cows Per Worker | Pounds Milk Sold Per Worker |
| 28.1 | 1,314 | 32,322,710 | 26,645 | 5.2 | 26 | 61 | 1,309,445 |
| 17.1 | 773 | 18,291,548 | 24,891 | 4.0 | 23 | 50 | 1,121,656 |
| 11.9 | 494 | 11,182,833 | 23,916 | 3.5 | 21 | 46 | 1,026,711 |
| 8.1 | 346 | 7,739,127 | 23,029 | 3.1 | 20 | 43 | 943,700 |
| 5.2 | 217 | 4,765,001 | 21,916 | 2.8 | 19 | 40 | 849,317 |
| 4.0 | 149 | 2,798,701 | 20,742 | 2.6 | 18 | 36 | 764,401 |
| 3.2 | 108 | 2,051,550 | 19,708 | 2.4 | 17 | 34 | 662,962 |
| 2.7 | 80 | 1,444,394 | 18,062 | 2.1 | 16 | 30 | 569,954 |
| 2.2 | 60 | 1,035,063 | 15,732 | 1.8 | 15 | 25 | 454,811 |
| 1.6 | 41 | 684,234 | 12,412 | 1.2 | 12 | 20 | 314,396 |
| Cost Control | | | | | | | |
| Grain Bought Per Cow | % Grain is of Milk Receipts | Machinery Costs Per Cow | Labor & Machinery Costs Per Cow | Feed & Crop Expenses Per Cow | Feed & Crop Expenses Per Cwt. Milk | | |
| \$515 | 15% | \$430 | \$1,088 | \$705 | \$4.28 | | |
| 726 | 19 | 551 | 1,294 | 948 | 4.96 | | |
| 814 | 20 | 605 | 1,373 | 1,067 | 5.45 | | |
| 894 | 22 | 648 | 1,436 | 1,160 | 5.77 | | |
| 991 | 23 | 700 | 1,513 | 1,262 | 5.95 | | |
| 1,066 | 25 | 757 | 1,595 | 1,341 | 6.22 | | |
| 1,134 | 26 | 821 | 1,693 | 1,426 | 6.60 | | |
| 1,205 | 27 | 899 | 1,817 | 1,511 | 7.00 | | |
| 1,305 | 29 | 995 | 2,020 | 1,609 | 7.44 | | |
| 1,492 | 35 | 1,251 | 2,388 | 1,831 | 9.03 | | |

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.

Farm Business Charts for farms with freestall barns and 150 cows or less, 150 to 300 cows, and more than 300 cows, and farms with conventional barns with 60 cows or less and more than 60 cows are discussed in the supplemental section on pages 66-70.

Table 46. (continued)

**FARM BUSINESS CHART FOR
FARM MANAGEMENT COOPERATORS
250 New York Dairy Farms, 2007**

| Milk Receipts Per Cow | Milk Receipts Per Cwt. | Operating Cost Milk Production Per Cow | Operating Cost Milk Production Per Cwt. | Total Cost Milk Production Per Cow | Total Cost Milk Production Per Cwt. | |
|--------------------------------------|------------------------|--|---|------------------------------------|-------------------------------------|--------------|
| \$5,473 | \$22.53 | \$1,631 | \$9.70 | \$2,801 | \$14.86 | |
| 5,036 | 21.38 | 2,096 | 11.55 | 3,306 | 16.34 | |
| 4,850 | 20.97 | 2,385 | 12.46 | 3,536 | 16.99 | |
| 4,689 | 20.70 | 2,632 | 12.97 | 3,708 | 17.60 | |
| 4,473 | 20.48 | 2,812 | 13.56 | 3,885 | 18.16 | |
| ----- | | | | | | |
| 4,247 | 20.32 | 2,990 | 14.03 | 4,024 | 18.91 | |
| 4,002 | 20.12 | 3,139 | 14.57 | 4,173 | 19.99 | |
| 3,719 | 19.87 | 3,353 | 15.44 | 4,351 | 21.53 | |
| 3,252 | 19.62 | 3,627 | 16.41 | 4,566 | 23.15 | |
| 2,599 | 19.04 | 4,077 | 19.13 | 5,111 | 28.29 | |
| ----- | | | | | | |
| Profitability | | | | | | |
| Net Farm Income Without Appreciation | | | Net Farm Income With Appreciation | | Labor & Management Income | |
| Total | Per Cow | Operations Ratio | Total | Per Cow | Per Farm | Per Operator |
| \$1,658,164 | \$1,985 | 0.37 | \$2,258,907 | \$2,580 | \$1,350,735 | \$828,820 |
| 881,033 | 1,602 | 0.31 | 1,159,819 | 2,039 | 690,457 | 422,319 |
| 593,261 | 1,424 | 0.28 | 786,149 | 1,861 | 459,165 | 250,521 |
| 385,119 | 1,262 | 0.26 | 537,897 | 1,674 | 267,642 | 163,957 |
| 227,152 | 1,131 | 0.23 | 323,558 | 1,540 | 154,444 | 94,290 |
| ----- | | | | | | |
| 142,549 | 1,021 | 0.21 | 182,217 | 1,407 | 91,721 | 57,044 |
| 102,171 | 909 | 0.19 | 131,539 | 1,231 | 56,345 | 42,053 |
| 68,086 | 722 | 0.16 | 97,870 | 987 | 30,338 | 23,345 |
| 43,034 | 467 | 0.11 | 63,898 | 733 | 2,284 | 1,427 |
| 3,007 | 67 | 0.01 | 21,902 | 280 | -41,030 | -36,506 |

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 47.

A FARM FINANCE CHECKLIST 250 New York Dairy Farms, 2007

| | Average 250 Farms | | Average Top 10% Farms ⁴⁵ | |
|---|-------------------|----------------|-------------------------------------|----------------|
| <u>How farm assets are being used (average for the year):</u> | | | | |
| Total assets (capital) per cow | \$8,426 | | \$7,746 | |
| Farm assets in livestock | 27% | | 28% | |
| Farm assets in farm real estate | 40% | | 36% | |
| Farm assets in machinery | 17% | | 15% | |
| <u>Measures of debt capacity & debt structure:</u> | | | | |
| Equity in the business | 68% | | 72% | |
| Farm debt per cow | \$2,878 | | \$2,348 | |
| Long term debt/asset ratio ⁴⁶ | 0.32 | | 0.31 | |
| Intermediate & current term debt/asset ratio ⁴⁶ | 0.32 | | 0.27 | |
| Intermediate & current term debt as % of total | 61% | | 62% | |
| <u>Debt repayment ability:</u> ⁴⁷ | | | | |
| Cash flow coverage ratio | 1.63 | | 2.26 | |
| Debt coverage ratio | 2.86 | | 4.12 | |
| Debt payments made per cow | \$751 | | \$1,002 | |
| Debt payments made as % of milk receipts | 16% | | 19% | |
| <u>Indicators of annual financial progress:</u> | | | | |
| | <u>Amount</u> | <u>Percent</u> | <u>Amount</u> | <u>Percent</u> |
| Annual change in farm assets | +\$449,563 | +16.1% | +\$948,370 | +22.2% |
| Annual change in farm debt | -\$3,962 | -0.4% | -\$10,514 | -0.7% |
| Annual change in farm net worth | +\$453,525 | +26.0% | +\$958,883 | +34.5% |

⁴⁵Twenty-five farms with highest rates of return on all capital (without appreciation).

⁴⁶Long or intermediate and current term debt divided by long or intermediate and current term assets.

⁴⁷Average of 217 farms that participated in DFBS both in 2006 and 2007. Twenty-five top 10 percent farms that participated both years.

The most profitable farms carried \$530 less debt per cow, the average equity in their businesses was four percent higher than that of the average of all 250 farms, and they had a greater ability to make 2008 debt payments. Because, with higher income they were able to pay down debt, it does not mean that lower debt farms are more profitable.

Average farm debt grew 16.5 percentage points faster than assets during 2007 on the 250 dairy farms. Average farm net worth increased 26 percent.

The farm financial analysis chart is designed just like the farm business chart on pages 44-45 and may be used to measure the financial health of the farm business. Most of the financial measures are defined on pages 16, 18, 22, and 42 in this publication.

Table 48.

FINANCIAL ANALYSIS CHART
250 New York Dairy Farms, 2007

| Liquidity/Repayment | | | | | | | |
|-------------------------------|------------------------------------|------------------------------|---------------------------|---------------------------------------|--|--|----------------------------|
| Planned Debt Payments Per Cow | Available for Debt Service Per Cow | Cash Flow Coverage Ratio | Debt Coverage Ratio | Debt | | Working Capital as % of Total Expenses | Current Ratio |
| | | | | Payments as Percent of Milk Sales | Debt Per Cow | | |
| \$92 | \$1,522 | 6.22 | 9.80 | 2% | \$203 | 55% | 36.91 |
| 233 | 1,106 | 2.82 | 4.47 | 6 | 992 | 38 | 5.77 |
| 315 | 977 | 2.24 | 3.60 | 8 | 1,678 | 30 | 4.12 |
| 387 | 881 | 1.91 | 3.09 | 10 | 2,100 | 26 | 3.23 |
| 454 | 813 | 1.65 | 2.74 | 11 | 2,515 | 23 | 2.59 |
| ----- | | | | | | | |
| 517 | 737 | 1.44 | 2.29 | 12 | 2,881 | 19 | 2.21 |
| 566 | 655 | 1.26 | 1.88 | 13 | 3,265 | 14 | 1.83 |
| 626 | 534 | 1.08 | 1.60 | 15 | 3,711 | 10 | 1.52 |
| 735 | 377 | 0.84 | 1.11 | 19 | 4,170 | 4 | 1.07 |
| 1,007 | -5 | -0.08 | 0.02 | 28 | 5,777 | -12 | 0.49 |
| Solvency | | | | Operational Ratios | | | |
| Leverage Ratio ⁴⁸ | Percent Equity | Debt/Asset Ratio | | | Operating Expense Ratio | Interest Expense Ratio | Depreciation Expense Ratio |
| | | Current & Intermediate | Long Term | | | | |
| 0.02 | 98% | 0.01 | 0.00 | 0.54 | 0.00 | 0.02 | |
| 0.11 | 90 | 0.09 | 0.00 | 0.59 | 0.01 | 0.03 | |
| 0.19 | 84 | 0.15 | 0.01 | 0.62 | 0.02 | 0.04 | |
| 0.29 | 78 | 0.20 | 0.10 | 0.65 | 0.03 | 0.05 | |
| 0.36 | 74 | 0.25 | 0.21 | 0.67 | 0.03 | 0.05 | |
| ----- | | | | | | | |
| 0.45 | 69 | 0.29 | 0.29 | 0.69 | 0.04 | 0.06 | |
| 0.54 | 65 | 0.34 | 0.39 | 0.71 | 0.05 | 0.07 | |
| 0.67 | 60 | 0.42 | 0.50 | 0.73 | 0.05 | 0.08 | |
| 0.94 | 52 | 0.53 | 0.63 | 0.78 | 0.06 | 0.10 | |
| 1.68 | 39 | 0.70 | 0.89 | 0.87 | 0.09 | 0.14 | |
| Efficiency (Capital) | | | | Profitability | | | |
| Asset Turnover (ratio) | Real Estate Investment Per Cow | Machinery Investment Per Cow | Total Farm Assets Per Cow | Change in Net Worth With Appreciation | Percent Rate of Return with Appreciation on: | | |
| | | | | | Equity | Investment ⁴⁹ | |
| 0.95 | \$1,504 | \$634 | \$5,726 | \$1,980,666 | 55% | 29% | |
| 0.78 | 2,240 | 876 | 6,959 | 969,490 | 36 | 24 | |
| 0.72 | 2,696 | 1,111 | 7,431 | 612,376 | 29 | 21 | |
| 0.68 | 3,012 | 1,358 | 7,894 | 396,561 | 23 | 18 | |
| 0.62 | 3,388 | 1,559 | 8,452 | 238,455 | 19 | 15 | |
| ----- | | | | | | | |
| 0.57 | 3,752 | 1,792 | 9,113 | 137,890 | 14 | 12 | |
| 0.50 | 4,339 | 2,003 | 10,060 | 98,507 | 11 | 10 | |
| 0.44 | 5,105 | 2,256 | 11,046 | 69,452 | 7 | 7 | |
| 0.37 | 6,374 | 2,599 | 12,687 | 37,054 | 3 | 4 | |
| 0.26 | 10,220 | 3,766 | 16,830 | -5,198 | -7 | -2 | |

⁴⁸Dollars of debt per dollar of equity, computed by dividing total liabilities by total equity.

⁴⁹Return on all farm capital (no deduction for interest paid) divided by total farm assets.

Herd Size Comparisons

The 250 New York dairy farms have been sorted into eight herd size categories and averages for the farms in each category are presented in Tables 49 through 53. Note that after the less than 50 cow category, the herd size categories increase by 25 cows up to 100 cows, by 100 cows up to 400 cows, and by 200 cows up to 600 cows.

As herd size increases, the net farm income increases (Table 49). Net farm income without appreciation averaged \$36,257 per farm for the less than 50 cow farms and \$1,156,991 per farm for those with more than 600 cows. Return to all capital without appreciation also generally increased as herd size increased.

It is more than size of herd that determines profitability on dairy farms. Farms with 600 and more cows averaged \$1,136 net farm income per cow while 50 cow dairy farms averaged \$879 net farm income per cow. The 300 to 399 herd size category had the highest net farm income per cow at \$1,376, while the 400 to 599 herd size category had the second highest net farm income per cow at \$1,287. Other factors that affect profitability and their relationship to the size classifications are shown in Table 50.

Table 49.

COWS PER FARM AND FARM FAMILY INCOME MEASURES 250 New York Dairy Farms, 2007

| Number of Cows | Number of Farms | Average Number of Cows | Net Farm Income Without Appreciation | Net Farm Income Per Cow | Labor & Management Income Per Operator | Return to All Capital Without Appreciation |
|----------------|-----------------|------------------------|--------------------------------------|-------------------------|--|--|
| Under 50 | 26 | 41 | \$36,257 | \$879 | \$6,234 | 1.0% |
| 50 to 74 | 32 | 63 | 55,492 | 878 | 18,162 | 2.9% |
| 75 to 99 | 23 | 88 | 90,893 | 1,039 | 38,548 | 5.8% |
| 100 to 199 | 54 | 142 | 132,264 | 929 | 47,317 | 6.9% |
| 200 to 299 | 20 | 252 | 300,000 | 1,189 | 116,014 | 11.2% |
| 300 to 399 | 17 | 351 | 483,595 | 1,376 | 228,039 | 17.1% |
| 400 to 599 | 25 | 469 | 603,860 | 1,287 | 217,138 | 14.6% |
| 600 & over | 53 | 1,019 | 1,156,991 | 1,136 | 474,094 | 15.3% |

This year, net farm income per cow did not exhibit the usual increase as herd size increased. Most herd size categories saw an increase in operating cost of producing milk from a year earlier (Table 50). Net farm income per cow will increase as farms become larger if the costs of increased purchased inputs are offset by greater and more efficient output.

The farms with more than 600 cows averaged more milk sold per cow than any other size category (Table 50). With 24,024 pounds of milk sold per cow, farms in the largest herd size group averaged 17.6 percent more milk output per cow than the average of all herds in the summary with less than 600 cows.

Many dairy farmers who have been willing and able to employ and manage the labor required to milk 3 times per day have been successful. Only one percent of the 81 DFBS farms with less than 100 cows used a milking frequency greater than 2 times per day. As herd size increased, the percent of herds using a higher milking frequency increased. Farms with 100 to 200 cows reported 11 percent of the herds milking more often than 2 times per day, the 200-299 cow herds reported 35 percent, 300-399 cow herds reported 47 percent, 400-599 cow herds reported 52 percent, and the 600 cow and larger herds reported 72 percent exceeding the 2 times per day milking frequency.

Table 50.

COWS PER FARM AND RELATED FARM FACTORS
250 New York Dairy Farms, 2007

| Number of Cows | Average Number of Cows | Milk Sold Per Cow (lbs.) | Milk Sold Per Worker (cwt.) | Tillable Acres Per Cow | Forage DM Per Cow (tons) | Farm Capital Per Cow | Cost of Producing Milk Per Cwt. | |
|-------------------|---------------------------------|-----------------------------------|--------------------------------------|------------------------------|-----------------------------------|-------------------------------|---------------------------------------|---------|
| | | | | | | | Operating | Total |
| Under 50 | 41 | 17,977 | 4,118 | 4.0 | 7.8 | \$13,618 | \$13.52 | \$23.73 |
| 50 to 74 | 63 | 17,842 | 4,747 | 3.4 | 7.7 | 10,328 | 13.87 | 21.56 |
| 75 to 99 | 88 | 18,538 | 5,505 | 2.9 | 8.8 | 9,863 | 13.54 | 20.43 |
| 100 to 199 | 142 | 19,369 | 7,368 | 2.7 | 8.5 | 9,675 | 14.20 | 19.71 |
| 200 to 299 | 252 | 22,571 | 9,460 | 2.5 | 8.9 | 9,270 | 13.83 | 17.83 |
| 300 to 399 | 351 | 22,902 | 9,058 | 2.1 | 7.9 | 7,712 | 13.47 | 16.80 |
| 400 to 599 | 469 | 22,886 | 9,316 | 2.4 | 8.9 | 8,772 | 13.39 | 17.01 |
| 600 & over | 1,019 | 24,024 | 11,310 | 1.9 | 7.5 | 7,945 | 14.23 | 17.04 |

Bovine somatotropin (bST), was used to a greater extent on the large herd farms. bST was used consistently during 2007 on 12 percent of the herds with less than 100 cows, 30 percent of the farms with 100 to 299 cows and on 63 percent of the farms with 300 cows and more.

Milk output per worker has always shown a strong correlation with net farm income. The farms with 100 cows or more averaged over 930,240 pounds of milk sold per worker while the farms with less than 100 cows averaged less than 479,000 pounds per worker.

In achieving the highest productivity per cow and per worker, the largest farms had the fewest crop acres per cow and below average forage dry matter harvested per cow. However, the larger farms generally purchased more roughage per cow. The largest farms had the most efficient use of farm capital with an average investment of \$7,945 per cow.

The 17 farms with 300-399 cows had the lowest total cost of producing milk at \$16.80 per hundredweight. The 53 farms with more than 600 cows held their average total costs of producing milk to \$17.04 per hundredweight, \$2.54 below the \$19.58 average for the remaining 197 dairy farms.

Tables 51 through 53 show progress of the farm businesses that have participated in DFBS in each of the last five years for three herd size groups.

A detailed list of accrual expenses, receipts and a profitability analysis is presented in Table 54, on pages 53 and 54 for the eight herd size categories. Purchased feed is the largest expense on all farms, regardless of size. However, larger farms find hired labor expense as the second largest expense category.

Assets, liabilities and financial measures are presented in Table 55 on pages 55-58. All herd size categories saw an increase in net worth during 2007. The largest herd size category experienced an increase in net worth of \$1,301,770. However, percent equity went down as assets increased. The largest herds had the lowest percent equity; while the smaller herds averaged 79 percent.

Selected business factors by herd size group are presented in Table 56 on pages 59 and 60. George Warren, father of farm business management at Cornell, said in his 1918 farm management text that larger farms are, on average, more profitable; but no farm is large enough to guarantee a profit. For a more detailed analysis of large herd farms, see Dairy Farm Business Summary, New York Large Herd Farms, 300 Cows or Larger, 2007. For analysis of smaller herds, see Dairy Farm Business Summary, New York Small Herd Farms, 80 Cows or Fewer, 2007. Both publications are available from Linda Putnam, Department of Applied Economics and Management, Cornell University, 305 Warren Hall, Ithaca, New York 14853-7801; phone 607-255-8429; e-mail ldp2@cornell.edu. Visit the Department of Applied Economics and Management website <http://aem.cornell.edu> for a list of all department publications and a publication order form.

Table 51.

PROGRESS OF FARM BUSINESSES WITH LESS THAN 100 COWS
Same 41 New York Dairy Farms, 2003 - 2007

| Selected Factors | 2003 | 2004 | 2005 | 2006 | 2007 |
|--|-----------|-----------|-----------|-----------|-----------|
| Milk receipts per cwt. milk | \$13.14 | \$16.89 | \$15.85 | \$13.84 | \$20.53 |
| <u>Size of Business</u> | | | | | |
| Average number of cows | 61 | 60 | 61 | 61 | 62 |
| Average number of heifers | 46 | 46 | 49 | 52 | 54 |
| Milk sold, cwt. | 11,089 | 10,937 | 11,484 | 11,328 | 11,554 |
| Worker equivalent | 2.26 | 2.21 | 2.31 | 2.25 | 2.30 |
| Total tillable acres | 190 | 192 | 191 | 190 | 190 |
| <u>Rates of Production</u> | | | | | |
| Milk sold per cow, lbs. | 18,215 | 18,244 | 18,878 | 18,660 | 18,687 |
| Hay DM per acre, tons | 2.2 | 2.4 | 2.2 | 2.3 | 2.0 |
| Corn silage per acre, tons | 15 | 16 | 16 | 14 | 16 |
| <u>Labor Efficiency</u> | | | | | |
| Cows per worker | 27 | 27 | 26 | 27 | 27 |
| Milk sold per worker, lbs. | 490,670 | 494,897 | 497,124 | 503,475 | 502,348 |
| <u>Cost Control</u> | | | | | |
| Grain & concn. purchased as % of milk sales | 33% | 27% | 28% | 33% | 24% |
| Dairy feed & crop expense per cwt. milk | \$5.47 | \$5.86 | \$5.61 | \$5.87 | \$6.45 |
| Operating cost of producing cwt. milk | \$10.20 | \$12.12 | \$11.40 | \$11.58 | \$13.78 |
| Total cost of producing cwt. milk | \$16.68 | \$18.93 | \$17.97 | \$18.60 | \$20.83 |
| Hired labor cost per cwt. | \$0.74 | \$0.77 | \$0.86 | \$0.78 | \$0.97 |
| Interest paid per cwt. | \$0.53 | \$0.56 | \$0.62 | \$0.77 | \$0.78 |
| Labor & machinery costs per cow | \$1,493 | \$1,594 | \$1,596 | \$1,632 | \$1,735 |
| Replacement livestock expense | \$2,585 | \$3,798 | \$2,380 | \$1,834 | \$1,542 |
| Expansion livestock expense | \$504 | \$749 | \$1,352 | \$156 | \$59 |
| <u>Capital Efficiency</u> | | | | | |
| Farm capital per cow | \$8,487 | \$8,999 | \$9,401 | \$9,886 | \$10,272 |
| Machinery & equipment per cow | \$1,755 | \$1,843 | \$1,949 | \$2,065 | \$2,136 |
| Real estate per cow | \$3,925 | \$4,179 | \$4,299 | \$4,541 | \$4,662 |
| Livestock investment per cow | \$1,810 | \$1,897 | \$2,032 | \$2,166 | \$2,237 |
| Asset turnover ratio | 0.37 | 0.43 | 0.42 | 0.34 | 0.45 |
| <u>Profitability</u> | | | | | |
| Net farm income without appreciation | \$20,893 | \$37,647 | \$36,926 | \$11,623 | \$64,243 |
| Net farm income with appreciation | \$31,101 | \$55,093 | \$59,310 | \$19,859 | \$82,770 |
| Labor & management income per operator/manager | \$-8,482 | \$6,957 | \$4,917 | \$-18,282 | \$24,475 |
| Rate return on: | | | | | |
| Equity capital with appreciation | -2.6% | 3.8% | 4.6% | -5.0% | 8.1% |
| All capital with appreciation | -0.8% | 4.0% | 4.7% | -2.3% | 7.7% |
| All capital without appreciation | -2.7% | 0.7% | 0.8% | -3.7% | 4.8% |
| <u>Financial Summary, End Year</u> | | | | | |
| Farm net worth | \$388,875 | \$420,176 | \$453,494 | \$457,551 | \$522,076 |
| Change in net worth with appreciation | \$9,083 | \$33,258 | \$35,491 | \$-2,717 | \$61,024 |
| Debt to asset ratio | 0.26 | 0.24 | 0.23 | 0.24 | 0.21 |
| Farm debt per cow | \$2,232 | \$2,195 | \$2,200 | \$2,422 | \$2,211 |

Table 52.

PROGRESS OF FARM BUSINESSES WITH 100-499 COWS
Same 59 New York Dairy Farms, 2003 - 2007

| Selected Factors | 2003 | 2004 | 2005 | 2006 | 2007 |
|--|-------------|-------------|-------------|-------------|-------------|
| Milk receipts per cwt. milk | \$13.33 | \$16.91 | \$16.17 | \$13.93 | \$20.54 |
| <u>Size of Business</u> | | | | | |
| Average number of cows | 241 | 244 | 249 | 258 | 267 |
| Average number of heifers | 184 | 185 | 199 | 212 | 217 |
| Milk sold, cwt. | 50,644 | 51,294 | 53,482 | 55,652 | 58,072 |
| Worker equivalent | 6.31 | 6.48 | 6.52 | 6.64 | 6.77 |
| Total tillable acres | 571 | 579 | 609 | 622 | 635 |
| <u>Rates of Production</u> | | | | | |
| Milk sold per cow, lbs. | 21,038 | 21,029 | 21,491 | 21,545 | 21,752 |
| Hay DM per acre, tons | 3.32 | 3.5 | 3.1 | 3.2 | 3.1 |
| Corn silage per acre, tons | 17 | 18 | 19 | 17 | 19 |
| <u>Labor Efficiency</u> | | | | | |
| Cows per worker | 38 | 38 | 38 | 39 | 39 |
| Milk sold per worker, lbs. | 802,594 | 791,577 | 820,281 | 838,140 | 857,779 |
| <u>Cost Control</u> | | | | | |
| Grain & concn. purchased as % of milk sales | 31% | 27% | 26% | 29% | 24% |
| Dairy feed & crop expense per cwt. milk | \$5.02 | \$5.66 | \$5.18 | \$5.04 | \$6.24 |
| Operating cost of producing cwt. milk | \$11.30 | \$12.66 | \$12.08 | \$12.13 | \$13.95 |
| Total cost of producing cwt. milk | \$14.92 | \$16.41 | \$15.95 | \$15.84 | \$17.79 |
| Hired labor cost per cwt. | \$2.40 | \$2.54 | \$2.53 | \$2.53 | \$2.57 |
| Interest paid per cwt. | \$0.52 | \$0.54 | \$0.64 | \$0.76 | \$0.75 |
| Labor & machinery costs per cow | \$1,283 | \$1,380 | \$1,421 | \$1,404 | \$1,519 |
| Replacement livestock expense | \$9,133 | \$8,781 | \$10,105 | \$7,068 | \$5,624 |
| Expansion livestock expense | \$2,221 | \$4,198 | \$5,796 | \$4,159 | \$4,814 |
| <u>Capital Efficiency</u> | | | | | |
| Farm capital per cow | \$7,153 | \$7,482 | \$7,946 | \$8,080 | \$8,618 |
| Machinery & equipment per cow | \$1,412 | \$1,457 | \$1,543 | \$1,579 | \$1,629 |
| Real estate per cow | \$2,887 | \$3,016 | \$3,187 | \$3,245 | \$3,420 |
| Livestock investment per cow | \$1,784 | \$1,858 | \$1,972 | \$2,039 | \$2,163 |
| Asset turnover ratio | 0.49 | 0.57 | 0.55 | 0.47 | 0.64 |
| <u>Profitability</u> | | | | | |
| Net farm income without appreciation | \$36,734 | \$146,405 | \$141,988 | \$30,777 | \$309,161 |
| Net farm income with appreciation | \$83,106 | \$204,805 | \$217,325 | \$88,562 | \$415,762 |
| Labor & management income per operator/manager | \$-13,701 | \$55,678 | \$43,961 | \$-26,610 | \$135,569 |
| Rate return on: | | | | | |
| Equity capital with appreciation | 2.0% | 12.0% | 11.5% | 1.6% | 21.5% |
| All capital with appreciation | 2.8% | 9.4% | 9.5% | 3.1% | 17.0% |
| All capital without appreciation | 0.1% | 6.2% | 5.7% | 0.3% | 12.3% |
| <u>Financial Summary, End Year</u> | | | | | |
| Farm net worth | \$1,134,090 | \$1,261,648 | \$1,406,471 | \$1,432,423 | \$1,782,219 |
| Change in net worth with appreciation | \$39,014 | \$125,227 | \$130,331 | \$20,458 | \$338,929 |
| Debt to asset ratio | 0.36 | 0.33 | 0.31 | 0.32 | 0.28 |
| Farm debt per cow | \$2,588 | \$2,517 | \$2,586 | \$2,638 | \$2,519 |

Table 53.

PROGRESS OF FARM BUSINESSES WITH MORE THAN 500 COWS
Same 43 New York Dairy Farms, 2003 - 2007

| Selected Factors | 2003 | 2004 | 2005 | 2006 | 2007 |
|--|-------------|-------------|-------------|-------------|-------------|
| Milk receipts per cwt. milk | \$13.29 | \$16.53 | \$15.96 | \$13.86 | \$20.31 |
| <u>Size of Business</u> | | | | | |
| Average number of cows | 848 | 903 | 937 | 987 | 978 |
| Average number of heifers | 656 | 702 | 751 | 795 | 785 |
| Milk sold, cwt. | 201,409 | 210,299 | 226,657 | 238,472 | 237,251 |
| Worker equivalent | 18.25 | 19.55 | 20.17 | 20.84 | 21.16 |
| Total tillable acres | 1,524 | 1,633 | 1,692 | 1,758 | 1,789 |
| <u>Rates of Production</u> | | | | | |
| Milk sold per cow, lbs. | 23,739 | 23,288 | 24,202 | 24,158 | 24,267 |
| Hay DM per acre, tons | 3.5 | 4.0 | 3.9 | 3.6 | 3.4 |
| Corn silage per acre, tons | 18 | 18 | 19 | 20 | 19 |
| <u>Labor Efficiency</u> | | | | | |
| Cows per worker | 46 | 46 | 46 | 47 | 46 |
| Milk sold per worker, lbs. | 1,103,608 | 1,075,696 | 1,123,733 | 1,144,301 | 1,121,224 |
| <u>Cost Control</u> | | | | | |
| Grain & concn. purchased as % of milk sales | 30% | 28% | 25% | 29% | 24% |
| Dairy feed & crop expense per cwt. milk | \$4.96 | \$5.53 | \$5.03 | \$5.00 | \$6.10 |
| Operating cost of producing cwt. milk | \$11.58 | \$12.44 | \$12.27 | \$12.27 | \$14.14 |
| Total cost of producing cwt. milk | \$13.99 | \$14.95 | \$14.91 | \$14.90 | \$16.96 |
| Hired labor cost per cwt. | \$2.75 | \$2.88 | \$2.82 | \$2.78 | \$2.91 |
| Interest paid per cwt. | \$0.53 | \$0.52 | \$0.61 | \$0.77 | \$0.82 |
| Labor & machinery costs per cow | \$1,198 | \$1,267 | \$1,337 | \$1,332 | \$1,455 |
| Replacement livestock expense | \$23,768 | \$29,463 | \$25,278 | \$11,062 | \$15,508 |
| Expansion livestock expense | \$64,344 | \$67,534 | \$37,636 | \$66,504 | \$24,526 |
| <u>Capital Efficiency</u> | | | | | |
| Farm capital per cow | \$6,240 | \$6,399 | \$6,899 | \$7,178 | \$7,825 |
| Machinery & equipment per cow | \$1,005 | \$1,016 | \$1,117 | \$1,168 | \$1,285 |
| Real estate per cow | \$2,431 | \$2,421 | \$2,515 | \$2,655 | \$2,841 |
| Livestock investment per cow | \$1,787 | \$1,851 | \$2,008 | \$2,105 | \$2,258 |
| Asset turnover ratio | 0.61 | 0.73 | 0.69 | 0.59 | 0.75 |
| <u>Profitability</u> | | | | | |
| Net farm income without appreciation | \$105,753 | \$596,537 | \$538,939 | \$79,561 | \$1,152,178 |
| Net farm income with appreciation | \$244,770 | \$815,059 | \$857,416 | \$315,102 | \$1,538,060 |
| Labor & management income per operator/manager | \$-18,645 | \$231,204 | \$179,570 | \$-63,129 | \$453,969 |
| Rate return on: | | | | | |
| Equity capital with appreciation | 5.1% | 22.8% | 19.9% | 4.7% | 30.3% |
| All capital with appreciation | 4.6% | 14.1% | 13.6% | 5.3% | 21.0% |
| All capital without appreciation | 2.0% | 10.3% | 8.7% | 2.0% | 16.0% |
| <u>Financial Summary, End Year</u> | | | | | |
| Farm net worth | \$2,805,543 | \$3,413,602 | \$4,047,475 | \$4,130,852 | \$5,290,671 |
| Change in net worth with appreciation | \$117,549 | \$628,872 | \$630,630 | \$51,620 | \$1,241,265 |
| Debt to asset ratio | 0.49 | 0.44 | 0.40 | 0.44 | 0.36 |
| Farm debt per cow | \$3,099 | \$2,900 | \$2,893 | \$3,119 | \$3,023 |

Table 54.

FARM BUSINESS SUMMARY BY HERD SIZE
250 New York Dairy Farms, 2007

| Item | Farm Size: | Less than 50 Cows | 50 to 74 Cows | 75 to 99 Cows | 100 to 199 Cows |
|--|------------|----------------------|------------------|------------------|--------------------|
| Number of farms | | 26 | 32 | 23 | 54 |
| <u>ACCRUAL EXPENSES</u> | | | | | |
| Hired labor | | \$6,400 | \$12,211 | \$23,597 | \$50,791 |
| Dairy grain & concentrate | | 35,121 | 54,718 | 86,295 | 138,284 |
| Dairy roughage | | 3,979 | 7,315 | 4,135 | 5,589 |
| Nondairy feed | | 11 | 4 | 0 | 535 |
| Professional nutritional services | | 0 | 105 | 87 | 71 |
| Machine hire, rent & lease | | 2,401 | 4,401 | 5,320 | 16,655 |
| Machine repairs & farm vehicle expense | | 10,320 | 15,676 | 20,813 | 34,765 |
| Fuel, oil & grease | | 6,450 | 8,533 | 13,136 | 24,090 |
| Replacement livestock | | 1,290 | 1,137 | 872 | 2,796 |
| Breeding | | 2,830 | 3,125 | 3,860 | 6,564 |
| Veterinary & medicine | | 4,153 | 5,307 | 8,196 | 14,809 |
| Milk marketing | | 9,223 | 10,785 | 16,827 | 26,573 |
| Bedding | | 1,960 | 1,554 | 3,127 | 6,668 |
| Milking supplies | | 3,561 | 6,787 | 6,783 | 11,169 |
| Cattle lease & rent | | 0 | 0 | 290 | 47 |
| Custom boarding | | 92 | 2,210 | 3,402 | 3,785 |
| bST expense | | 323 | 772 | 1,494 | 2,708 |
| Livestock professional fees | | 935 | 1,016 | 1,444 | 1,740 |
| Other livestock expense | | 2,137 | 3,058 | 3,807 | 4,970 |
| Fertilizer & lime | | 3,196 | 4,325 | 7,496 | 16,168 |
| Seeds & plants | | 1,316 | 2,220 | 3,982 | 7,763 |
| Spray & other crop expense | | 1,350 | 2,054 | 3,669 | 6,787 |
| Crop professional fees | | 133 | 34 | 280 | 466 |
| Land, building & fence repair | | 2,119 | 3,154 | 4,976 | 8,349 |
| Taxes & rent | | 5,330 | 8,553 | 9,745 | 19,961 |
| Utilities | | 5,938 | 8,813 | 11,401 | 15,333 |
| Interest paid | | 7,326 | 10,367 | 16,844 | 21,072 |
| Other professional fees | | 757 | 855 | 1,197 | 1,778 |
| Misc. (including insurance) | | 4,424 | 5,567 | 7,709 | 12,460 |
| Total Operating Expenses | | \$123,074 | \$184,655 | \$270,786 | \$462,747 |
| Expansion livestock | | 0 | 0 | 104 | 2,383 |
| Extraordinary expense | | 294 | 31 | 341 | 259 |
| Machinery depreciation | | 11,022 | 11,646 | 15,889 | 28,694 |
| Building depreciation | | 4,717 | 4,158 | 8,409 | 11,948 |
| Total Accrual Expenses | | \$139,107 | \$200,490 | \$295,529 | \$506,031 |
| <u>ACCRUAL RECEIPTS</u> | | | | | |
| Milk sales | | \$152,516 | \$227,688 | \$335,277 | \$564,735 |
| Dairy cattle | | 9,028 | 8,854 | 21,846 | 24,221 |
| Dairy calves | | 420 | 4,103 | 1,921 | 5,094 |
| Other livestock | | 1,220 | 1,538 | 24 | 1,060 |
| Crops | | 3,873 | 2,576 | 12,458 | 15,067 |
| Miscellaneous receipts | | 8,308 | 11,224 | 14,894 | 28,118 |
| Total Accrual Receipts | | \$175,365 | \$255,983 | \$386,422 | \$638,295 |
| <u>PROFITABILITY ANALYSIS</u> | | | | | |
| Net farm income (without appreciation) | | \$36,257 | \$55,492 | \$90,893 | \$132,264 |
| Net farm income (with appreciation) | | \$51,301 | \$75,667 | \$121,429 | \$174,924 |
| Labor & management income | | \$6,546 | \$24,518 | \$48,570 | \$74,287 |
| Number of operators | | 1.05 | 1.35 | 1.26 | 1.57 |
| Labor & management income/operator | | \$6,234 | \$18,162 | \$38,548 | \$47,317 |
| Rates of return on: Equity capital w/o apprec. | | -0.4% | 1.8% | 5.6% | 7.0% |
| Equity capital with appreciation | | 3.1% | 6.0% | 10.8% | 11.1% |
| All capital without appreciation | | 1.0% | 2.9% | 5.8% | 6.9% |
| All capital with appreciation | | 3.7% | 6.0% | 9.4% | 10.0% |

Table 54. (continued)

FARM BUSINESS SUMMARY BY HERD SIZE
250 New York Dairy Farms, 2007

| Item | Farm Size: | 200 to 299 Cows | 300 to 399 Cows | 400 to 599 Cows | 600 or More Cows |
|--|------------|--------------------|--------------------|--------------------|---------------------|
| Number of farms | | 20 | 17 | 25 | 53 |
| <u>ACCRUAL EXPENSES</u> | | | | | |
| Hired labor | | \$131,072 | \$206,506 | \$280,494 | \$726,944 |
| Dairy grain & concentrate | | 265,450 | 397,246 | 500,644 | 1,201,404 |
| Dairy roughage | | 18,166 | 36,105 | 25,369 | 81,366 |
| Nondairy feed | | 933 | 0 | 2,042 | 340 |
| Professional nutritional services | | 202 | 153 | 592 | 1,017 |
| Machine hire, rent & lease | | 45,111 | 34,447 | 42,531 | 84,859 |
| Machine repairs & farm vehicle expense | | 56,560 | 69,607 | 101,149 | 187,091 |
| Fuel, oil & grease | | 42,968 | 55,675 | 77,602 | 150,686 |
| Replacement livestock | | 2,448 | 13,495 | 411 | 18,900 |
| Breeding | | 12,756 | 17,925 | 27,461 | 59,339 |
| Veterinary & medicine | | 33,350 | 50,009 | 75,613 | 164,047 |
| Milk marketing | | 44,091 | 71,820 | 80,900 | 188,862 |
| Bedding | | 19,223 | 28,088 | 28,166 | 82,544 |
| Milking supplies | | 22,891 | 29,163 | 46,310 | 96,768 |
| Cattle lease & rent | | 645 | 318 | 1,229 | 5,367 |
| Custom boarding | | 18,058 | 20,745 | 22,671 | 79,399 |
| bST expense | | 10,497 | 14,670 | 18,893 | 75,615 |
| Livestock professional services | | 4,161 | 4,597 | 6,350 | 11,979 |
| Other livestock expense | | 4,535 | 3,956 | 7,581 | 17,758 |
| Fertilizer & lime | | 30,095 | 25,549 | 59,311 | 85,707 |
| Seeds & plants | | 19,152 | 20,980 | 34,278 | 67,169 |
| Spray & other crop expense | | 16,913 | 15,702 | 22,087 | 51,412 |
| Crop professional fees | | 1,677 | 994 | 3,810 | 6,344 |
| Land, building & fence repair | | 13,627 | 19,034 | 37,997 | 80,745 |
| Taxes & rent | | 29,045 | 39,125 | 45,873 | 122,037 |
| Utilities | | 26,580 | 35,729 | 46,137 | 99,365 |
| Interest paid | | 38,486 | 61,098 | 96,986 | 202,144 |
| Other professional fees | | 5,973 | 6,639 | 12,143 | 22,986 |
| Misc. (including insurance) | | 17,536 | 23,136 | 30,138 | 70,616 |
| Total Operating Expenses | | \$932,178 | \$1,302,513 | \$1,734,768 | \$4,042,810 |
| Expansion livestock | | 7,324 | 10,282 | 27,467 | 27,692 |
| Extraordinary expense | | 2,472 | 88 | 685 | 886 |
| Machinery depreciation | | 43,002 | 53,327 | 94,187 | 194,710 |
| Building depreciation | | 22,154 | 43,132 | 57,895 | 122,839 |
| Total Accrual Expenses | | \$1,007,131 | \$1,409,343 | \$1,915,002 | \$4,388,938 |
| <u>ACCRUAL RECEIPTS</u> | | | | | |
| Milk sales | | \$1,155,069 | \$1,663,984 | \$2,193,715 | \$4,959,474 |
| Dairy cattle | | 55,763 | 96,166 | 134,087 | 287,890 |
| Dairy calves | | 4,181 | 17,125 | 19,946 | 29,493 |
| Other livestock | | 2,950 | 1,608 | 10,722 | 6,318 |
| Crops | | 34,240 | 59,053 | 87,073 | 135,250 |
| Misc. receipts | | 54,928 | 55,002 | 73,320 | 127,504 |
| Total Accrual Receipts | | \$1,307,131 | \$1,892,938 | \$2,518,863 | \$5,545,929 |
| <u>PROFITABILITY ANALYSIS</u> | | | | | |
| Net farm income (without appreciation) | | \$300,000 | \$483,595 | \$603,860 | \$1,156,991 |
| Net farm income (with appreciation) | | \$393,498 | \$622,254 | \$864,958 | \$1,566,561 |
| Labor & management income | | \$213,466 | \$387,666 | \$464,676 | \$905,520 |
| Number of operators | | 1.84 | 1.70 | 2.14 | 1.91 |
| Labor & management income/operator | | \$116,014 | \$228,039 | \$217,138 | \$474,094 |
| Rates of return on: Equity capital w/o apprec. | | 13.3% | 22.5% | 18.6% | 20.8% |
| Equity capital with appreciation | | 18.8% | 30.2% | 28.2% | 29.0% |
| All capital without appreciation | | 11.2% | 17.1% | 14.6% | 15.3% |
| All capital with appreciation | | 15.2% | 22.2% | 20.9% | 20.4% |

Table 55.

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
250 New York Dairy Farms, 2007

| Item | Farms with: | | 50 to 74 Cows | |
|---|--------------------------|-----------|----------------------|-----------|
| | Less than 50 Cows | | Jan. 1 | Dec. 31 |
| | Jan. 1 | Dec. 31 | Jan. 1 | Dec. 31 |
| ASSETS | | | | |
| Farm cash, checking & savings | \$3,478 | \$4,980 | \$3,589 | \$6,922 |
| Accounts receivable | 7,923 | 11,333 | 13,291 | 21,445 |
| Prepaid expenses | 73 | 216 | 14 | 193 |
| Feed & supplies | 23,409 | 28,026 | 35,225 | 41,425 |
| Livestock ⁵⁰ | 100,758 | 105,921 | 139,005 | 149,610 |
| Machinery & equipment ⁵⁰ | 94,678 | 100,841 | 119,164 | 134,605 |
| Farm Credit stock | 271 | 258 | 377 | 489 |
| Other stock & certificates | 903 | 1,040 | 5,490 | 5,951 |
| Land & buildings ⁵⁰ | 315,410 | 323,419 | 307,350 | 321,080 |
| Total Farm Assets | \$546,903 | \$576,034 | \$623,504 | \$681,719 |
| Personal cash, checking & savings | \$24,104 | \$25,580 | \$8,633 | \$10,258 |
| Cash value of life insurance | 10,513 | 10,700 | 11,491 | 11,453 |
| Nonfarm real estate | 21,667 | 21,667 | 11,765 | 11,765 |
| Auto (personal share) | 6,833 | 6,098 | 8,888 | 7,892 |
| Stocks & bonds | 25,107 | 24,863 | 22,275 | 24,724 |
| Household furnishings | 13,467 | 13,467 | 13,294 | 13,353 |
| All other | 1,293 | 1,133 | 1,176 | 1,303 |
| Nonfarm Assets ⁵¹ | \$102,985 | \$103,507 | \$77,523 | \$80,747 |
| Farm & Nonfarm Assets | \$649,888 | \$679,541 | \$701,027 | \$762,466 |
| LIABILITIES | | | | |
| Accounts payable | \$2,955 | \$3,369 | \$10,734 | \$9,547 |
| Operating debt | 5,113 | 2,652 | 8,485 | 7,283 |
| Short term | 15 | 923 | 2,140 | 1,520 |
| Advanced government receipt | 0 | 0 | 0 | 0 |
| Current Portion: | | | | |
| Intermediate | 7,708 | 8,819 | 8,696 | 12,105 |
| Long Term | 3,465 | 3,753 | 4,739 | 5,080 |
| Intermediate ⁵² | 54,009 | 51,734 | 58,440 | 56,852 |
| Long term ⁵⁰ | 54,300 | 49,882 | 78,853 | 72,987 |
| Total Farm Liabilities | \$127,565 | \$121,132 | \$172,086 | \$165,373 |
| Nonfarm Liabilities ⁵¹ | 1,743 | 1,087 | 2,344 | 1,679 |
| Farm & Nonfarm Liabilities | \$129,308 | \$122,219 | \$174,430 | \$167,052 |
| Farm Net Worth (Equity Capital) | \$419,337 | \$454,902 | \$451,418 | \$516,346 |
| Farm & Nonfarm Net Worth | \$520,580 | \$557,322 | \$526,597 | \$595,414 |
| FINANCIAL MEASURES | | | | |
| | <u>Less than 50 Cows</u> | | <u>50 to 74 Cows</u> | |
| Percent Equity | 79% | | 76% | |
| Debt/asset ratio-long term | 0.15 | | 0.23 | |
| Debt/asset ratio-intermediate & current | 0.28 | | 0.26 | |
| Change in net worth with appreciation | \$35,565 | | \$64,928 | |
| Total farm debt per cow | \$2,949 | | \$2,593 | |
| Debt payments made per cow | \$657 | | \$705 | |
| Debt payments as % of milk sales | 17% | | 19% | |
| Amount available for debt service | \$35,207 | | \$41,346 | |
| Cash flow coverage ratio for 2007 | 1.64 | | 1.45 | |
| Debt coverage ratio for 2007 | 2.14 | | 2.16 | |

⁵⁰Includes discounted lease payments.

⁵¹Average of farms reporting nonfarm assets and liabilities for 2007.

⁵²Includes Farm Credit stock & discounted lease payments for cattle & machinery.

Table 55. (cont'd)

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
250 New York Dairy Farms, 2007

| Item | Farms with: 75 to 99 Cows | | 100 to 199 Cows | |
|---|---------------------------|----------------|-----------------|----------------|
| | Jan. 1 | Dec. 31 | Jan. 1 | Dec. 31 |
| ASSETS | | | | |
| Farm cash, checking & savings | \$5,207 | \$8,435 | \$9,989 | \$14,866 |
| Accounts receivable | 16,118 | 26,191 | 33,045 | 51,398 |
| Prepaid expenses | 109 | 369 | 515 | 771 |
| Feed & supplies | 52,609 | 69,469 | 87,744 | 113,706 |
| Livestock ⁵³ | 197,843 | 220,315 | 308,845 | 333,068 |
| Machinery & equipment ⁵³ | 167,402 | 170,955 | 276,858 | 300,861 |
| Farm Credit stock | 823 | 827 | 1278 | 1,120 |
| Other stock & certificates | 10,925 | 12,013 | 17,163 | 19,217 |
| Land & buildings ⁵³ | <u>375,277</u> | <u>391,533</u> | <u>574,800</u> | <u>610,026</u> |
| Total Farm Assets | \$826,313 | \$900,107 | \$1,310,235 | \$1,445,034 |
| Personal cash, checking & savings | \$799 | \$903 | \$18,896 | \$19,160 |
| Cash value of life insurance | 22,346 | 37,368 | 14,469 | 15,488 |
| Nonfarm real estate | 36,804 | 29,077 | 81,300 | 85,000 |
| Auto (personal share) | 6,700 | 10,177 | 7,754 | 8,500 |
| Stocks & bonds | 36,361 | 41,841 | 64,177 | 82,381 |
| Household furnishings | 6,692 | 6,692 | 8,650 | 8,500 |
| All other | <u>11,665</u> | <u>12,614</u> | <u>25,416</u> | <u>29,103</u> |
| Nonfarm Assets ⁵⁴ | \$121,367 | \$138,672 | \$220,662 | \$248,131 |
| Farm & Nonfarm Assets | \$947,680 | \$1,038,779 | \$1,530,897 | \$1,693,165 |
| LIABILITIES | | | | |
| Accounts payable | \$30,995 | \$12,742 | \$18,032 | \$10,312 |
| Operating debt | 10,028 | 13,473 | 20,081 | 16,823 |
| Short term | 464 | 396 | 1050 | 3,811 |
| Advanced government receipt | 0 | 211 | 0 | 0 |
| Current Portion: | | | | |
| Intermediate | 18,957 | 21,432 | 29,544 | 34,923 |
| Long Term | 5,955 | 6,057 | 9,932 | 11,615 |
| Intermediate ⁵⁵ | 107,217 | 88,072 | 133,729 | 130,383 |
| Long term ⁵³ | <u>109,244</u> | <u>115,420</u> | <u>120,966</u> | <u>125,935</u> |
| Total Farm Liabilities | \$282,860 | \$257,803 | \$333,334 | \$333,801 |
| Nonfarm Liabilities ⁵⁴ | <u>2,077</u> | <u>4,110</u> | <u>1,310</u> | <u>1,863</u> |
| Farm & Nonfarm Liabilities | \$284,937 | \$261,913 | \$334,644 | \$335,664 |
| Farm Net Worth (Equity Capital) | \$543,453 | \$642,304 | \$976,900 | \$1,111,233 |
| Farm & Nonfarm Net Worth | \$662,743 | \$776,866 | \$1,196,253 | \$1,357,501 |
| FINANCIAL MEASURES | | | | |
| Percent equity | 71% | | 77% | |
| Debt/asset ratio-long term | 0.29 | | 0.21 | |
| Debt/asset ratio-intermediate & current | 0.28 | | 0.25 | |
| Change in net worth with appreciation | \$98,851 | | \$134,333 | |
| Total farm debt per cow | \$2,855 | | \$2,343 | |
| Debt payments made per cow | \$747 | | \$595 | |
| Debt payments as % of milk sales | 19% | | 15% | |
| Amount available for debt service | \$53,440 | | \$98,001 | |
| Cash flow coverage ratio for 2007 | 1.43 | | 1.60 | |
| Debt coverage ratio for 2007 | 2.67 | | 2.51 | |

⁵³Includes discounted lease payments.⁵⁴Average of farms reporting nonfarm assets and liabilities for 2007.⁵⁵Includes Farm Credit stock & discounted lease payments for cattle & machinery.

Table 55. (cont'd)

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
250 New York Dairy Farms, 2007

| Item | Farms with: 200 to 299 Cows | | 300 to 399 Cows | |
|---|-----------------------------|----------------|-----------------|------------------|
| | Jan. 1 | Dec. 31 | Jan. 1 | Dec. 31 |
| ASSETS | | | | |
| Farm cash, checking & savings | \$11,006 | \$21,413 | \$8,583 | \$14,476 |
| Accounts receivable | 67,853 | 114,673 | 86,562 | 161,596 |
| Prepaid expenses | 480 | 1,014 | 2,404 | 5,344 |
| Feed & supplies | 203,634 | 243,006 | 231,190 | 357,521 |
| Livestock ⁵⁶ | 556,148 | 613,185 | 675,974 | 779,628 |
| Machinery & equipment ⁵⁶ | 409,101 | 456,632 | 486,062 | 564,747 |
| Farm Credit stock | 2,040 | 1,218 | 2,215 | 1,391 |
| Other stock & certificates | 54,854 | 60,131 | 45,444 | 51,163 |
| Land & buildings ⁵⁶ | <u>902,966</u> | <u>958,165</u> | <u>922,570</u> | <u>1,022,603</u> |
| Total Farm Assets | \$2,208,082 | \$2,469,437 | \$2,461,004 | \$2,958,469 |
| Personal cash, checking & savings | \$6,944 | \$7,406 | \$2,990 | \$3,380 |
| Cash value of life insurance | 16,781 | 21,085 | 39,154 | 42,921 |
| Nonfarm real estate | 690,889 | 692,650 | 39,111 | 5,278 |
| Auto (personal share) | 10,556 | 12,500 | 7,944 | 5,278 |
| Stocks & bonds | 46,774 | 59,868 | 84,738 | 96,795 |
| Household furnishings | 5,889 | 5,889 | 3,278 | 2,889 |
| All other | <u>2,889</u> | <u>2,889</u> | <u>6,802</u> | <u>262</u> |
| Nonfarm Assets ⁵⁷ | \$780,722 | \$802,287 | \$184,017 | \$192,914 |
| Farm & Nonfarm Assets | \$2,988,804 | \$3,271,724 | \$2,645,021 | \$3,151,383 |
| LIABILITIES | | | | |
| Accounts payable | \$38,858 | \$22,102 | \$52,176 | \$28,225 |
| Operating debt | 34,271 | 33,760 | 56,415 | 66,275 |
| Short term | 9,036 | 6,983 | 4,331 | 7,475 |
| Advanced government receipt | 0 | 0 | 0 | 0 |
| Current Portion: | | | | |
| Intermediate | 50,819 | 57,691 | 71,539 | 77,147 |
| Long Term | 16,223 | 18,463 | 19,506 | 23,123 |
| Intermediate ⁵⁸ | 246,839 | 241,437 | 439,179 | 413,986 |
| Long term ⁵⁶ | <u>263,483</u> | <u>260,682</u> | <u>292,520</u> | <u>292,463</u> |
| Total Farm Liabilities | \$659,529 | \$641,117 | \$935,667 | \$908,694 |
| Nonfarm Liabilities ⁵⁷ | <u>1,495</u> | <u>2,672</u> | <u>6,181</u> | <u>5,945</u> |
| Farm & Nonfarm Liabilities | \$661,024 | \$643,789 | \$941,848 | \$914,639 |
| Farm Net Worth (Equity Capital) | \$1,548,553 | \$1,828,320 | \$1,525,337 | \$2,049,775 |
| Farm & Nonfarm Net Worth | \$2,327,780 | \$2,627,935 | \$1,703,173 | \$2,236,744 |
| FINANCIAL MEASURES | | | | |
| Percent equity | 200 to 299 Cows | | 300 to 399 Cows | |
| | 74% | | 69% | |
| Debt/asset ratio-long term | 0.27 | | 0.29 | |
| Debt/asset ratio-intermediate & current | 0.25 | | 0.32 | |
| Change in net worth with appreciation | \$279,767 | | \$524,438 | |
| Total farm debt per cow | \$2,509 | | \$2,516 | |
| Debt payments made per cow | \$576 | | \$679 | |
| Debt payments as % of milk sales | 12.6% | | 14.3% | |
| Amount available for debt service | \$196,615 | | \$308,843 | |
| Cash flow coverage ratio for 2007 | 1.77 | | 1.91 | |
| Debt coverage ratio for 2007 | 2.90 | | 3.54 | |

⁵⁶Includes discounted lease payments.⁵⁷Average of farms reporting nonfarm assets and liabilities for 2007.⁵⁸Includes Farm Credit stock & discounted lease payments for cattle & machinery.

Table 55. (cont'd)

FARM FAMILY FINANCIAL SITUATION BY HERD SIZE
250 New York Dairy Farms, 2007

| Item | Farms with: 400 to 599 Cows | | More than 600 Cows | |
|---|-----------------------------|------------------|---------------------------|------------------|
| | Jan. 1 | Dec. 31 | Jan. 1 | Dec. 31 |
| ASSETS | | | | |
| Farm cash, checking & savings | \$30,013 | \$16,421 | \$47,114 | \$40,020 |
| Accounts receivable | 117,314 | 196,832 | 218,215 | 407,436 |
| Prepaid expenses | 1,324 | 5,181 | 6,396 | 16,108 |
| Feed & supplies | 328,306 | 487,212 | 714,335 | 1,015,371 |
| Livestock ⁵⁹ | 971,487 | 1,153,315 | 2,117,341 | 2,438,282 |
| Machinery & equipment ⁵⁹ | 678,861 | 741,866 | 1,191,253 | 1,384,259 |
| Farm Credit stock | 3,262 | 1,000 | 11,975 | 1,331 |
| Other stock & certificates | 65,637 | 69,832 | 174,142 | 210,534 |
| Land & buildings ⁵⁹ | <u>1,582,969</u> | <u>1,778,658</u> | <u>2,949,875</u> | <u>3,244,310</u> |
| Total Farm Assets | \$3,779,174 | \$4,450,317 | \$7,430,645 | \$8,757,653 |
| Personal cash, checking & savings | \$23,333 | \$25,000 | \$7,028 | \$15,302 |
| Cash value of life insurance | 13,779 | 14,450 | 67,229 | 71,434 |
| Nonfarm real estate | 13,333 | 13,333 | 444,095 | 452,429 |
| Auto (personal share) | 38,577 | 38,577 | 4,528 | 8,583 |
| Stocks & bonds | 88,000 | 78,833 | 71,981 | 66,668 |
| Household furnishings | 8,333 | 5,333 | 7,111 | 7,167 |
| All other | <u>0</u> | <u>0</u> | <u>12,570</u> | <u>16,302</u> |
| Nonfarm Assets ⁶⁰ | \$185,356 | \$178,527 | \$614,542 | \$637,884 |
| Farm & Nonfarm Assets | \$3,964,530 | \$4,628,844 | \$8,045,187 | \$9,395,537 |
| LIABILITIES | | | | |
| Accounts payable | \$51,671 | \$28,198 | \$150,621 | \$105,932 |
| Operating debt | 87,797 | 82,067 | 163,010 | 183,812 |
| Short term | 7,711 | 6,977 | 19,871 | 6,048 |
| Advanced government receipts | 0 | 0 | 0 | 0 |
| Current Portion: | | | | |
| Intermediate | 96,872 | 122,274 | 217,010 | 251,865 |
| Long Term | 41,079 | 44,971 | 65,122 | 74,654 |
| Intermediate ⁶¹ | 561,968 | 493,362 | 1,380,013 | 1,319,262 |
| Long term ⁵⁹ | <u>568,964</u> | <u>614,483</u> | <u>1,090,611</u> | <u>1,169,922</u> |
| Total Farm Liabilities | \$1,418,063 | \$1,395,332 | \$3,086,257 | \$3,111,495 |
| Nonfarm Liabilities ⁶⁰ | <u>2,063</u> | <u>0</u> | <u>1,028</u> | <u>2,621</u> |
| Farm & Nonfarm Liabilities | \$1,420,126 | \$1,395,332 | \$3,087,285 | \$3,114,116 |
| Farm Net Worth (Equity Capital) | 2,361,111 | 3,054,985 | 4,344,388 | 5,646,158 |
| Farm & Nonfarm Net Worth | \$2,554,404 | \$3,233,512 | \$4,957,902 | \$6,281,421 |
| FINANCIAL MEASURES | | | | |
| | <u>400 to 599 Cows</u> | | <u>More than 600 Cows</u> | |
| Percent equity | 69% | | 64% | |
| Debt/asset ratio-long term | 0.35 | | 0.36 | |
| Debt/asset ratio-intermediate & current | 0.29 | | 0.35 | |
| Change in net worth with appreciation | \$693,874 | | \$1,301,770 | |
| Total farm debt per cow | \$2,918 | | \$3,030 | |
| Debt payments made per cow | \$802 | | \$787 | |
| Debt payments as % of milk sales | 17% | | 16% | |
| Amount available for debt service | \$405,188 | | \$822,759 | |
| Cash flow coverage ratio for 2007 | 1.64 | | 1.60 | |
| Debt coverage ratio for 2007 | 2.85 | | 2.86 | |

⁵⁹Includes discounted lease payments.⁶⁰Average of farms reporting nonfarm assets and liabilities for 2007.⁶¹Includes Farm Credit stock & discounted lease payments for cattle & machinery.

Table 56.

SELECTED BUSINESS FACTORS BY HERD SIZE
250 New York Dairy Farms, 2007

| Item | Farms with: | Less than 50 Cows | 50 to 74 Cows | 75 to 99 Cows | 100 to 199 Cows |
|--|-------------|----------------------|------------------|------------------|--------------------|
| Number of farms | | 26 | 32 | 23 | 54 |
| <u>Cropping Program Analysis</u> | | | | | |
| Total Tillable acres | | 156 | 204 | 245 | 385 |
| Tillable acres rented ⁶² | | 80 | 67 | 122 | 185 |
| Hay crop acres ⁶² | | 122 | 149 | 169 | 226 |
| Corn silage acres ⁶² | | 15 | 27 | 63 | 99 |
| Hay crop, tons DM/acre | | 1.8 | 2.1 | 2.2 | 2.7 |
| Corn silage, tons/acre | | 18 | 16 | 17 | 18 |
| Oats, bushels/acre | | 0 | 38 | 0 | 48 |
| Forage DM per cow, tons | | 7.8 | 7.7 | 8.8 | 8.5 |
| Tillable acres/cow | | 4.0 | 3.4 | 2.9 | 2.7 |
| Fertilizer & lime expense/tillable acre | | \$22.48 | \$26.62 | \$35.88 | \$42.54 |
| Total machinery costs | | \$32,412 | \$47,711 | \$65,670 | \$119,933 |
| Machinery cost/tillable acre | | \$218 | \$221 | \$256 | \$306 |
| <u>Dairy Analysis</u> | | | | | |
| Number of cows | | 41 | 63 | 88 | 142 |
| Number of heifers | | 34 | 49 | 79 | 115 |
| Milk sold, lbs. | | 741,186 | 1,127,428 | 1,622,453 | 2,757,919 |
| Milk sold/cow, lbs. | | 17,977 | 17,842 | 18,538 | 19,369 |
| Operating cost of producing milk/cwt. | | \$13.52 | \$13.87 | \$13.54 | \$14.20 |
| Total cost of producing milk/cwt. | | \$23.73 | \$21.56 | \$20.43 | \$19.71 |
| Price/cwt. milk sold | | \$20.58 | \$20.20 | \$20.66 | \$20.48 |
| Purchased dairy feed/cow | | \$948 | \$982 | \$1,033 | \$1,010 |
| Purchased dairy feed/cwt. milk | | \$5.28 | \$5.50 | \$5.57 | \$5.22 |
| Purchased grain & concentrate as % of milk receipts | | 23% | 24% | 26% | 25% |
| Purchased feed & crop expense/cwt. milk | | \$6.08 | \$6.27 | \$6.52 | \$6.35 |
| Cull rate | | 26.7% | 25.9% | 27.8% | 26.9% |
| <u>Capital Efficiency</u> | | | | | |
| Farm capital/worker | | \$311,927 | \$274,207 | \$292,614 | \$368,351 |
| Farm capital/cow | | \$13,618 | \$10,328 | \$9,863 | \$9,675 |
| Farm capital/tillable acre owned | | \$7,369 | \$4,798 | \$6,996 | \$6,868 |
| Real estate/cow | | \$7,747 | \$4,973 | \$4,381 | \$4,160 |
| Machinery investment/cow | | \$2,371 | \$2,008 | \$1,933 | \$2,029 |
| Asset turnover ratio | | 0.34 | 0.42 | 0.48 | 0.49 |
| <u>Labor Efficiency</u> | | | | | |
| Worker equivalent | | 1.80 | 2.38 | 2.95 | 3.74 |
| Operator/manager equivalent | | 1.05 | 1.35 | 1.26 | 1.57 |
| Milk sold/worker, lbs. | | 411,770 | 474,707 | 550,451 | 736,755 |
| Cows/worker | | 23 | 27 | 30 | 38 |
| Labor cost/cow | | \$1,202 | \$998 | \$905 | \$761 |
| Labor cost/tillable acre | | \$317 | \$310 | \$323 | \$281 |

⁶²Average of all farms, not only those reporting data.

Table 56. (cont'd)

SELECTED BUSINESS FACTORS BY HERD SIZE
250 New York Dairy Farms, 2007

| Item | Farms with: | 200 to 299 Cows | 300 to 399 Cows | 400 to 599 Cows | 600 or More Cows |
|--|-------------|--------------------|--------------------|--------------------|---------------------|
| Number of farms | | 20 | 17 | 25 | 53 |
| <u>Cropping Program Analysis</u> | | | | | |
| Total Tillable acres | | 603 | 734 | 1,143 | 1,877 |
| Tillable acres rented ⁶³ | | 315 | 436 | 577 | 963 |
| Hay crop acres ⁶³ | | 259 | 366 | 512 | 808 |
| Corn silage acres ⁶³ | | 193 | 248 | 403 | 724 |
| Hay crop, tons DM/acre | | 3.1 | 3.0 | 3.2 | 3.4 |
| Corn silage, tons/acre | | 20 | 20 | 19 | 19 |
| Oats, bushels/acre | | 0 | 58 | 60 | 82 |
| Forage DM per cow, tons | | 8.9 | 7.9 | 8.9 | 7.5 |
| Tillable acres/cow | | 2.5 | 2.1 | 2.4 | 1.9 |
| Fertilizer & lime exp./tillable acre | | \$50.92 | \$32.58 | \$51.37 | \$47.91 |
| Total machinery costs | | \$210,806 | \$239,326 | \$350,987 | \$681,250 |
| Machinery cost/tillable acre | | \$339 | \$326 | \$307 | 362 |
| <u>Dairy Analysis</u> | | | | | |
| Number of cows | | 252 | 351 | 469 | 1,019 |
| Number of heifers | | 196 | 275 | 394 | 816 |
| Milk sold, lbs. | | 5,694,738 | 8,046,476 | 10,735,437 | 24,475,767 |
| Milk sold/cow, lbs. | | 22,571 | 22,902 | 22,886 | 24,024 |
| Operating cost of producing milk/cwt. | | \$13.83 | \$13.47 | \$13.39 | \$14.23 |
| Total cost of producing milk/cwt. | | \$17.83 | \$16.80 | \$17.01 | \$17.04 |
| Price/cwt. milk sold | | \$20.28 | \$20.68 | \$20.43 | \$20.26 |
| Purchased dairy feed/cow | | \$1,124 | \$1,233 | \$1,121 | \$1,259 |
| Purchased dairy feed/cwt. milk | | \$4.98 | \$5.39 | \$4.90 | \$5.24 |
| Purchased grain & concentrate as % of milk receipts | | 23% | 24% | 23% | 24% |
| Purchased feed & crop expense/cwt. milk | | \$6.17 | \$6.17 | \$6.01 | \$6.10 |
| Cull rate | | 32.7% | 28.4% | 32.1% | 31.9% |
| <u>Capital Efficiency</u> | | | | | |
| Farm capital/worker | | \$388,498 | \$305,151 | \$357,183 | \$374,036 |
| Farm capital/cow | | \$9,270 | \$7,712 | \$8,772 | \$7,945 |
| Farm capital/tillable acre owned | | \$8,136 | \$9,118 | \$7,275 | \$8,861 |
| Real estate/cow | | \$3,688 | \$2,768 | \$3,583 | \$3,040 |
| Machinery investment/cow | | \$1,716 | \$1,495 | \$1,514 | \$1,264 |
| Asset turnover ratio | | 0.60 | 0.75 | 0.68 | 0.74 |
| <u>Labor Efficiency</u> | | | | | |
| Worker equivalent | | 6.02 | 8.88 | 11.52 | 21.64 |
| Operator/manager equivalent | | 1.84 | 1.70 | 2.14 | 1.91 |
| Milk sold/worker, lbs. | | 945,970 | 905,795 | 931,626 | 1,130,956 |
| Cows/worker | | 42 | 40 | 41 | 47 |
| Labor cost/cow | | \$773 | \$766 | \$753 | \$776 |
| Labor cost/tillable acre | | \$324 | \$367 | \$309 | \$421 |

⁶³Average of all farms, not only those reporting data.

SUPPLEMENTAL INFORMATION

Comparisons of business performance by farms buying or growing forages, types of housing and herd size, bST usage, rotational grazers, milking frequency, same farms over 10 years, and dairy region are presented in this section. Farm receipts and expenses per cow and per hundredweight of milk sold for different levels of milk output and herd size groups, plus additional data, are included.

A word of caution to the reader on the interpretation of these data: It is the combination of resources and practices, and implementation of business management strategies by farmers that determine business performance. Examining one factor, while not holding all others constant, can lead to erroneous conclusions of cause and effect relationships. As an example, farms using bST have higher pounds of milk sold per cow. Is it exclusively bST or is it that farms using bST would have higher milk production per cow without bST? Keep this distinction in mind when reviewing the following data.

Comparison for Farms That Buy All Feed Versus Farms That Grow Forages

Farms specializing in only milk production are a growing trend in New York. In 2007, 11 participating farms, including owners and renters, purchased the majority of their feed, including all forages. Less than 10 acres of crops were harvested by the average farm. Table 57 highlights the income and expenses for these 11 farms compared to the income and expenses for 136 farms of similar size that grew their forages. Table 58 compares selected business factors for the two groups of farms. In 2007, the 11 farms buying forages had, on average, higher measures of profitability than the similar size farms growing forages. While pounds of milk sold per cow and milk receipts per cow were higher, operating costs of producing milk were also \$1.01 per hundredweight higher.

Comparison 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 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. Conventional housing includes stanchion and tiestall barns. Within each group, is a further classification by size of the dairy herd. Table 59 on page 65 includes the average values for the resulting five groups of dairy farms. The average size in the five groups ranges from 45 cows on the small conventional farms to 765 cows on the largest freestall farms. The largest freestall farms averaged the highest milk output per cow and per worker, the lowest total cost of production and investment per cow, and the greatest returns to labor, management and capital.

Farm business charts have been computed for each of the five housing and herd size categories and are on pages 66-70. 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. Each column of the farm business chart is independent of the others.

Comparison of Farms by bST Usage

Farms adopting bovine somatotropin (bST) sold more milk per cow and had larger herds (Table 65). Farms using bST were also more profitable in 2007. Operating costs of producing a hundredweight of milk were \$0.09 lower on farms using bST.

Farms not using bST showed a 2.1 percent increase in pounds of milk sold per cow, from 18,785 pounds in 2003 to 19,181 pounds in 2007. Farms using bST increased milk sold per cow 3.7 percent, from 23,708 pounds per cow in 2003 to 24,586 pounds per cow in 2007. Farms that used bST in 2003 through 2007 were larger, and increased in size more rapidly than did farms not supplementing with bST. Farms not using bST increased by 16 cows, from an average of 148 cows in 2003 to 164 in 2007. Farms adopting bST increased by 117 cows, up to 589 cows in 2007. Both those using bST and those not using bST saw an increase in net worth. Debt to asset ratio and debt per cow changed very little over the study period. The reader is again reminded that bST is not solely responsible for the total changes; size and other factors are also significant.

Comparison of Data, Same Farms, 1998 - 2007

Follow ten years of growth, change and progress made by 54 New York DFBS farms in Table 66, pages 72 and 73. Milk receipts per hundredweight are higher by \$4.62. Profitability is significantly higher in 2007 when compared to 1998. Care should be exercised in using these data to indicate change in the dairy industry since the composition of the sample of farms is different from the state as a whole, and there is considerable year-to-year variability in milk prices.

Receipts and Expenses per Hundredweight of Milk and Per Cow

Average accrual receipts and expenses per cow and per hundredweight of milk sold are listed for 63 dairy farms selling less than 18,000 pounds of milk per cow, 76 farms with 18,000 to 21,999 pounds of milk sold per cow, and 111 dairy farms selling 22,000 pounds and more in Table 67 on page 74. Table 68 on page 75 provides the same list of average accrual receipts and expenses for 61 farms averaging less than 80 cows per farm, 68 farms with 80 to 180 cows and 121 farms with 180 cows or more.

These data are very useful for forward planning or budgeting when a farmer or planner does not have complete and accurate data from his or her own farm business. It is important to use the costs and returns per unit of output that most closely fit the level of production and herd size that is included in the plan. For example, an expansion budget for a 20,000 pound herd should include higher feed costs per cow than a budget for an 18,000 pound herd. Herds with more than 180 cows must budget for higher hired labor costs per cow than smaller herds. These data should also be adjusted to the operating characteristics of the farm being budgeted. Most farms are not average. It is always better to have data on the specific farm being budgeted.

Intensive Grazing Farms vs. Non-Grazing Farms

In 2007, 36 of the DFBS cooperators practiced intensive grazing. Intensive grazing means the dairy herd was on pasture for three months or more and was moved to a new paddock every third day or less and at least 30 percent of the forage was from pasture. The farms using intensive grazing are compared with a control group of non-grazing farms in Table 69. The control group is a selection of non-grazing dairy farms of similar size. In 2007, average profitability was higher on intensive grazing farms. Operating costs of producing milk were \$0.45 per hundredweight lower while total costs were \$0.02 per hundredweight higher than the costs of production on the control farms. Table 69 also includes a comparison of 18 profitable grazing farms to 47 profitable non-grazing farms. A publication containing detailed information on New York farms using intensive grazing is available from the Department of Applied Economics and Management. An order form is included in the department website: <http://aem.cornell.edu/order/index.htm> or contact Linda Putnam (e-mail: ldp2@cornell.edu, phone: 607-255-8429).

Comparison of Farms by Milking Frequency

Twenty-nine percent of the 250 DFBS farms utilized three times per day (3X) milking in 2007. Most of the remaining farms milked twice per day (2X). Two years of selected average business and cost of milk production factors from the two milking frequency groups are compared in Table 70.

In 2007, the 3X farms averaged 28 more cows per farm, sold 0.3 percent more milk per cow, and had an average of \$781,921 increase in net farm income, but showed an increase in total cost of producing milk by 13.9 percent compared to the 3X farm averages for 2006. The 2X farms decreased milk output per cow 0.4 percent and increased averaged net farm income by \$181,139, but increased total production costs \$2.07 per hundredweight in 2007 compared to 2006.

The 3X farms averaged 21.2 percent more milk per cow and 33.7 percent additional milk per worker in 2007 compared with the 2X farms. Similar differences were found in 2006. In 2007, the average total cost of producing milk was 6 percent lower on 3X farms than on 2X dairies. On the average, farmers milking 3X sold more milk per cow and per worker, produced milk at lower costs per hundredweight and received higher returns for their labor, management and capital than the average dairy farmer milking 2X. However, milking frequency was not the only, and probably not the most important, factor that contributed to financial success on these dairy farms. Comparison of herd size, crop yields, labor and capital efficiency indicates there are other important management differences contributing to higher profits.

Comparison of Dairy Farm Business Data by Region

Average farm business summary data from five regions of the State are compared in Tables 71 and 72. The Western and Central Plain Region averaged the highest profitability, the largest average farm size and highest average rate of milk production. Dairy farmers in this region have increased milk production 25.3 percent from 1997-2007 and they produced milk for an average total cost of \$17.16 per hundredweight in 2007. Total milk production has declined 9.8 percent from 1997-2007 in the Central Valleys Region (Figure 2). However, this is the region with the highest return per hundredweight to labor, management and capital with \$5.98. Western and Central Plateau Region had the second highest return per hundredweight to labor, management and capital with \$5.50.

Other Comparisons

Twenty-one dairy renter farms were smaller, on average, and averaged lower labor and management incomes than the average for 250 owned dairy farms (Table 73). A forthcoming publication contains detailed information on New York dairy renters (see <http://aem.cornell.edu/order/index.htm>). Data for the top 10 percent of farms by rate of return on all capital without appreciation is presented in Table 74. Additional data for the top 10 percent of farms is presented in many of the first 46 tables of this publication. Summary data for the 250 specialized dairy farms are presented in Table 75.

Table 57.

INCOME & EXPENSE COMPARISON FOR

FARMS BUYING MAJORITY OF FORAGES VERSUS SIMILAR SIZE FARMS GROWING FORAGES, 2007

| Item | 11 Farms Buying Majority of Forages | | 136 Similar Size Farms Growing Forages | |
|--|--|-----------------|---|-----------------|
| Number of cows per farm | 154 | | 145 | |
| Pounds of milk sold | 3,627,312 | | 3,013,254 | |
| <u>Income</u> | <u>Per Cow</u> | <u>Per Cwt.</u> | <u>Per Cow</u> | <u>Per Cwt.</u> |
| Milk sold | \$4,853 | \$20.66 | \$4,253 | \$20.46 |
| Dairy cattle | 390 | 1.66 | 199 | 0.95 |
| Dairy calves | 35 | 0.15 | 34 | 0.17 |
| Other livestock | 1 | 0.00 | 11 | 0.05 |
| Crops | 4 | 0.02 | 161 | 0.78 |
| Miscellaneous | <u>97</u> | <u>0.41</u> | <u>196</u> | <u>0.94</u> |
| Total Accrual Receipts | \$5,380 | \$22.90 | \$4,855 | \$23.35 |
| <u>Expenses</u> | | | | |
| Hired labor | \$ 421 | \$ 1.79 | \$ 428 | \$ 2.06 |
| Dairy grain & concentrate | 1,138 | 4.85 | 1,023 | 4.92 |
| Dairy roughage | 627 | 2.67 | 31 | 0.15 |
| Nondairy | 2 | 0.01 | 2 | 0.01 |
| Professional nutritional services | 9 | 0.04 | 1 | 0.00 |
| Machinery hire, rent/lease | 32 | 0.14 | 107 | 0.51 |
| Machinery repairs/vehicle expense. | 172 | 0.73 | 241 | 1.16 |
| Fuel, oil & grease | 113 | 0.48 | 172 | .83 |
| Replacement livestock | 15 | 0.07 | 10 | 0.05 |
| Breeding | 38 | 0.16 | 51 | 0.25 |
| Veterinary & medicine | 148 | 0.63 | 118 | 0.57 |
| Milk marketing | 193 | 0.82 | 190 | 0.91 |
| Bedding | 53 | 0.22 | 56 | 0.27 |
| Milking supplies | 61 | 0.26 | 86 | 0.41 |
| Cattle lease/rent | 0 | 0.00 | 1 | 0.01 |
| Custom boarding | 141 | 0.60 | 48 | 0.23 |
| bST expense | 48 | 0.20 | 31 | 0.15 |
| Livestock professional fees | 26 | 0.11 | 14 | 0.07 |
| Other livestock expenses | 22 | 0.09 | 29 | 0.14 |
| Fertilizer & lime | 5 | 0.02 | 110 | 0.53 |
| Seeds & plants | 4 | 0.02 | 65 | 0.31 |
| Spray, other crop expenses | 3 | 0.01 | 56 | 0.27 |
| Crop professional fees | 3 | 0.01 | 5 | 0.02 |
| Land/bldg/fence repair | 78 | 0.33 | 57 | 0.28 |
| Taxes | 39 | 0.17 | 67 | 0.32 |
| Rent & lease | 39 | 0.17 | 76 | 0.36 |
| Insurance | 32 | 0.14 | 52 | 0.25 |
| Utilities | 113 | 0.48 | 115 | 0.55 |
| Interest paid | 210 | 0.89 | 149 | 0.72 |
| Other professional fees | 19 | 0.08 | 19 | 0.09 |
| Miscellaneous | <u>36</u> | <u>0.15</u> | <u>26</u> | <u>0.13</u> |
| Total Operating Expenses | \$3,839 | \$16.35 | \$3,437 | \$16.53 |
| Expansion livestock | 150 | 0.64 | 20 | 0.09 |
| Extraordinary expense | 3 | 0.01 | 3 | 0.02 |
| Machinery depreciation | 122 | 0.52 | 185 | 0.89 |
| Building depreciation | <u>179</u> | <u>0.76</u> | <u>87</u> | <u>0.42</u> |
| Total Accrual Expenses | \$4,293 | \$18.28 | \$3,732 | \$17.95 |
| Net Farm Income (without appreciation) | \$1,087 | \$ 4.62 | \$1,123 | \$ 5.40 |

Table 58.

**SELECTED BUSINESS FACTORS FOR FARMS BUYING MAJORITY OF FORAGES
VERSUS SIMILAR SIZE FARMS GROWING FORAGES, 2007**

| Selected Factors | 11 Farms Buying Majority of Forages | 136 Similar Size Farms Growing Forages |
|---|--|---|
| <u>Size of Business</u> | | |
| Average number of cows | 154 | 145 |
| Average number of heifers | 128 | 119 |
| Milk sold, lbs. | 3,627,312 | 3,013,254 |
| Worker equivalent | 3.94 | 4.06 |
| Total tillable acres | 68 | 405 |
| Tillable acres harvested | 56 | 394 |
| <u>Rates of Production</u> | | |
| Milk sold per cow, lbs. | 23,485 | 20,794 |
| Hay DM per acre, tons | 2.2 | 2.6 |
| Corn silage per acre, tons | 0.0 | 18.3 |
| <u>Labor Efficiency & Costs</u> | | |
| Cows per worker | 39 | 36 |
| Milk sold/worker, lbs. | 921,222 | 742,486 |
| Hired labor cost/cwt. | \$1.79 | \$2.06 |
| Hired labor cost/worker | \$32,985 | \$29,418 |
| Hired labor cost as % of milk sales | 8.7% | 10.1% |
| <u>Cost Control</u> | | |
| Grain & concentrate purchased as % of milk sales | 24% | 24% |
| Grain & concentrate per cwt. milk | \$4.85 | \$4.92 |
| Dairy feed & crop expense per cwt. milk | \$7.58 | \$6.21 |
| Labor & machinery costs/cow | \$1,272 | \$1,614 |
| Total farm operating costs per cwt. sold | \$16.35 | \$16.53 |
| Interest costs per cwt. milk | \$0.89 | \$0.72 |
| Milk marketing costs per cwt. milk sold | \$0.82 | \$0.91 |
| Operating cost of producing cwt. of milk | \$14.74 | \$13.73 |
| <u>Capital Efficiency(average for the year)</u> | | |
| Farm capital per cow | \$7,396 | \$9,248 |
| Machinery & equipment per cow | \$928 | \$1,881 |
| Asset turnover ratio | 0.80 | 0.56 |
| <u>Income Generation</u> | | |
| Gross milk sales per cow | \$4,853 | \$4,253 |
| Gross milk sales per cwt. | \$20.66 | \$20.46 |
| Net milk sales per cwt. | \$19.84 | \$19.54 |
| Dairy cattle sales per cow | \$390 | \$199 |
| Dairy calf sales per cow | \$36 | \$34 |
| <u>Profitability</u> | | |
| Net farm income without appreciation | \$168,384 | \$162,680 |
| Net farm income with appreciation | \$247,958 | \$212,349 |
| Labor & management income per operator/manager | \$93,665 | \$71,028 |
| Rate of return on equity capital without appreciation | 18.2% | 10.5% |
| Rate of return on all capital without appreciation | 12.5% | 9.4% |
| <u>Cash flow</u> | | |
| Principal & interest payments per cow, 2007 | \$983 | \$610 |
| Net cash flow | \$155,226 | \$151,918 |
| <u>Financial Summary</u> | | |
| Farm net worth, end year | \$714,629 | \$1,070,349 |
| Farm net worth change from last year, % | 44% | 18% |
| Debt to asset ratio | 0.43 | 0.25 |
| Farm debt per cow | \$3,135 | \$2,365 |

Table 59.

SELECTED BUSINESS FACTORS BY TYPE OF BARN AND HERD SIZE
235 New York Dairy Farms, 2007

| Item | Farms with: | Conventional | | Freestall | | |
|---|-------------|--------------|-----------|------------|--------------|------------|
| | | <= 60 Cows | >60 Cows | <=150 Cows | 151-300 Cows | ≥300 Cows |
| Number of farms | | 32 | 35 | 41 | 36 | 91 |
| <u>Cropping Program Analysis</u> | | | | | | |
| Total Tillable acres | | 173 | 264 | 256 | 546 | 1,502 |
| Tillable acres rented ⁶⁴ | | 81 | 107 | 131 | 260 | 782 |
| Hay crop acres ⁶⁴ | | 134 | 177 | 165 | 259 | 663 |
| Corn silage acres ⁶⁴ | | 18 | 54 | 63 | 163 | 572 |
| Hay crop, tons DM/acre | | 1.9 | 2.5 | 2.5 | 2.7 | 3.3 |
| Corn silage, tons/acre | | 17 | 17.5 | 17.0 | 18.8 | 19.0 |
| Oats, bushels/acre | | 25 | 60.5 | 0 | 48 | 71 |
| Forage DM per cow, tons | | 8.3 | 8.8 | 8.3 | 8.3 | 7.9 |
| Tillable acres/cow | | 4.0 | 3.1 | 2.7 | 2.6 | 2.0 |
| Fertilizer & lime expense/tillable acre | | \$29.91 | \$27.65 | \$36.31 | \$52.78 | \$45.47 |
| Total machinery costs | | \$37,126 | \$69,721 | \$85,153 | \$178,009 | \$524,509 |
| Machinery cost/tillable acre | | \$208 | \$265 | \$301 | \$321 | \$349 |
| <u>Dairy Analysis</u> | | | | | | |
| Number of cows | | 45 | 86 | 102 | 215 | 765 |
| Number of heifers | | 36 | 72 | 84 | 170 | 617 |
| Milk sold, lbs. | | 803,437 | 1,540,743 | 1,907,152 | 4,669,673 | 18,323,557 |
| Milk sold/cow, lbs. | | 18,055 | 17,999 | 18,676 | 21,759 | 23,957 |
| Operating cost of producing milk/cwt. | | \$13.22 | \$14.03 | \$13.90 | \$13.98 | \$14.03 |
| Total cost of producing milk/cwt. | | \$22.57 | \$21.09 | \$20.39 | \$18.35 | \$16.98 |
| Price/cwt. milk sold | | \$20.32 | \$20.46 | \$20.85 | \$20.31 | \$20.30 |
| Purchased dairy feed/cow | | \$938 | \$942 | \$1,076 | \$1,087 | \$1,244 |
| Purchased dairy feed/cwt. milk | | \$5.19 | \$5.23 | \$5.76 | \$5.00 | \$5.19 |
| Purchased grain & concentrate as % of milk receipts | | 24% | 25% | 25% | 23% | 24% |
| Purchased feed & crop expense/cwt milk | | \$6.12 | \$6.11 | \$6.81 | \$6.18 | \$6.08 |
| <u>Capital Efficiency</u> | | | | | | |
| Farm capital/worker | | \$303,979 | \$310,146 | \$341,029 | \$384,576 | \$364,434 |
| Farm capital/cow | | \$12,842 | \$10,507 | \$9,818 | \$9,282 | \$8,086 |
| Farm capital/tillable acre owned | | \$6,210 | \$5,749 | \$8,013 | \$6,970 | \$8,588 |
| Real estate/cow | | \$6,988 | \$4,728 | \$4,296 | \$3,825 | \$3,118 |
| Machinery investment/cow | | \$2,426 | \$2,310 | \$2,058 | \$1,707 | \$1,328 |
| Asset turnover ratio | | 0.35 | 0.43 | 0.48 | 0.58 | 0.73 |
| <u>Labor Efficiency</u> | | | | | | |
| Worker equivalent | | 1.88 | 2.90 | 2.94 | 5.18 | 16.97 |
| Operator/manager equivalent | | 1.09 | 1.34 | 1.45 | 1.65 | 1.96 |
| Milk sold/worker, lbs. | | 427,929 | 530,986 | 649,796 | 901,336 | 1,079,497 |
| Cows/worker | | 24 | 30 | 35 | 41 | 45 |
| Labor cost/cow | | \$1,136 | 915 | \$829 | \$747 | \$776 |
| Labor cost/tillable acre | | \$292 | \$297 | \$331 | \$294 | \$395 |
| <u>Profitability & Balance Sheet Analysis</u> | | | | | | |
| Net farm income (without appreciation) | | \$43,748 | \$76,448 | \$100,892 | \$233,622 | \$909,264 |
| Labor & management income/operator | | \$11,942 | \$25,590 | \$37,718 | \$94,556 | \$363,992 |
| Rate return on all capital with appreciation | | 4.2% | 7.0% | 9.1% | 14.0% | 20.7% |
| Farm debt/cow | | \$2,310 | \$2,473 | \$2,505 | \$2,393 | \$2,985 |
| Percent equity | | 82% | 77% | 75% | 75% | 65% |

⁶⁴Average of all farms, not only those reporting data.

Table 60.

FARM BUSINESS CHART FOR SMALL CONVENTIONAL STALL DAIRY FARMS
32 Conventional Stall Dairy Farms with 60 or Less Cows, New York, 2007

| Size of Business | | | Rates of Production | | | Labor Efficiency | |
|------------------------------|--|--------------------------------|--------------------------------------|------------------------------|------------------------------------|------------------------------------|-----------------------------|
| Worker Equivalent | No. of Cows | Pounds of Milk Sold | Pounds Milk Sold Per Cow | Tons Hay Crop DM/Acre | Tons Corn Silage Per Acre | Cows Per Worker | Pounds Milk Sold Per Worker |
| 2.86 | 58 | 1,099,232 | 24,446 | 2.9 | 25 | 39 | 810,088 |
| 2.40 | 53 | 1,036,401 | 22,911 | 3.6 | 22 | 33 | 707,891 |
| 2.16 | 51 | 996,659 | 21,564 | 2.4 | 20 | 29 | 588,257 |
| 2.03 | 48 | 941,296 | 20,915 | 2.3 | 18 | 26 | 488,972 |
| 1.95 | 47 | 874,710 | 20,045 | 2.1 | 18 | 25 | 438,230 |
| ----- | | | | | | | |
| 1.88 | 45 | 833,652 | 17,757 | 1.9 | 16 | 23 | 397,870 |
| 1.70 | 43 | 816,327 | 16,563 | 1.8 | 15 | 20 | 365,041 |
| 1.55 | 40 | 727,982 | 15,284 | 1.6 | 14 | 20 | 337,736 |
| 1.44 | 36 | 574,365 | 13,818 | 1.3 | 14 | 19 | 300,938 |
| 1.20 | 31 | 358,434 | 10,386 | 0.8 | 12 | 17 | 217,459 |
| ----- | | | | | | | |
| Cost Control | | | | | | | |
| Grain Bought Per Cow | % Grain is of Milk Receipts | Machinery Costs Per Cow | Labor & Machinery Costs Per Cow | Feed & Crop Expenses Per Cow | Feed & Crop Expenses Per Cwt. Milk | | |
| \$487 | 16% | \$471 | \$1,355 | \$662 | \$4.41 | | |
| 669 | 20 | 621 | 1,669 | 863 | 5.12 | | |
| 706 | 21 | 680 | 1,762 | 906 | 5.46 | | |
| 777 | 23 | 721 | 1,830 | 962 | 5.64 | | |
| 829 | 24 | 772 | 1,881 | 996 | 5.81 | | |
| ----- | | | | | | | |
| 895 | 25 | 832 | 2,103 | 1,171 | 6.08 | | |
| 963 | 25 | 937 | 2,245 | 1,280 | 6.51 | | |
| 1,028 | 27 | 1,019 | 2,364 | 1,335 | 7.09 | | |
| 1,119 | 28 | 1,125 | 2,425 | 1,418 | 7.79 | | |
| 1,239 | 31 | 1,371 | 2,646 | 1,548 | 9.10 | | |
| ----- | | | | | | | |
| Value and Cost of Production | | | Profitability | | | | |
| Milk Receipts Per Cow | Operating Cost Producing Milk Per Cwt. | Total Cost Production Per Cwt. | Net Farm Income Without Appreciation | | Labor & Mgmt. Income Per Operator | Change in Net Worth w/Appreciation | |
| | | | Total | Per Cow | | | |
| \$4,908 | \$9.25 | \$16.77 | \$103,687 | \$2,080 | \$71,795 | \$104,731 | |
| 4,584 | 10.36 | 19.62 | 77,384 | 1,791 | 39,495 | 71,980 | |
| 4,528 | 12.16 | 20.88 | 66,142 | 1,398 | 33,110 | 54,915 | |
| 4,199 | 12.44 | 21.86 | 55,982 | 1,195 | 27,372 | 49,040 | |
| 3,957 | 12.83 | 22.67 | 49,561 | 1,103 | 21,721 | 41,663 | |
| ----- | | | | | | | |
| 3,596 | 13.51 | 23.35 | 40,986 | 1,024 | 11,107 | 30,723 | |
| 3,396 | 14.23 | 24.80 | 36,123 | 874 | 3,731 | 27,089 | |
| 3,166 | 14.85 | 25.92 | 28,950 | 695 | -3,995 | 23,231 | |
| 2,875 | 16.16 | 29.89 | 15,510 | 388 | -21,220 | 17,838 | |
| 2,181 | 21.36 | 34.70 | -9,637 | -162 | -30,844 | -18,866 | |

Table 61.

FARM BUSINESS CHART FOR LARGE CONVENTIONAL STALL DAIRY FARMS
35 Conventional Stall Dairy Farms with More Than 60 Cows, New York, 2007

| Size of Business | | | Rates of Production | | | Labor Efficiency | |
|------------------------------|--|--------------------------------|--------------------------------------|------------------------------|------------------------------------|------------------------------------|-----------------------------|
| Worker Equivalent | No. of Cows | Pounds of Milk Sold | Pounds Milk Sold Per Cow | Tons Hay Crop DM/Acre | Tons Corn Silage Per Acre | Cows Per Worker | Pounds Milk Sold Per Worker |
| 4.27 | 136 | 2,417,111 | 26,067 | 4.6 | 24 | 48 | 831,609 |
| 3.76 | 118 | 2,153,052 | 22,077 | 3.6 | 22 | 43 | 741,411 |
| 3.28 | 104 | 1,991,129 | 21,085 | 3.2 | 21 | 40 | 675,874 |
| 3.21 | 92 | 1,737,093 | 19,592 | 2.9 | 19 | 35 | 659,682 |
| 3.11 | 86 | 1,572,605 | 18,910 | 2.7 | 17 | 33 | 627,227 |
| ----- | | | | | | | |
| 2.99 | 78 | 1,463,017 | 18,038 | 2.5 | 17 | 29 | 576,019 |
| 2.75 | 72 | 1,331,867 | 17,037 | 2.2 | 17 | 27 | 512,065 |
| 2.46 | 69 | 1,251,344 | 16,032 | 2.1 | 16 | 24 | 443,686 |
| 2.30 | 66 | 1,102,026 | 14,590 | 1.8 | 15 | 22 | 354,283 |
| 1.67 | 63 | 930,008 | 12,554 | 1.3 | 11 | 20 | 295,072 |
| ----- | | | | | | | |
| Cost Control | | | | | | | |
| Grain Bought Per Cow | % Grain is of Milk Receipts | Machinery Costs Per Cow | Labor & Machinery Costs Per Cow | Feed & Crop Expenses Per Cow | Feed & Crop Expenses Per Cwt. Milk | | |
| \$380 | 13% | \$425 | \$1,230 | \$567 | \$3.84 | | |
| 580 | 17 | 569 | 1,335 | 780 | 4.53 | | |
| 753 | 19 | 608 | 1,443 | 955 | 4.91 | | |
| 822 | 21 | 723 | 1,530 | 1,046 | 5.43 | | |
| 911 | 24 | 808 | 1,684 | 1,100 | 5.87 | | |
| ----- | | | | | | | |
| 983 | 26 | 859 | 1,840 | 1,189 | 6.48 | | |
| 1,102 | 28 | 937 | 1,954 | 1,252 | 7.01 | | |
| 1,145 | 32 | 992 | 2,072 | 1,364 | 7.68 | | |
| 1,272 | 35 | 1,049 | 2,258 | 1,516 | 8.71 | | |
| 1,605 | 42 | 1,278 | 2,555 | 1,765 | 9.77 | | |
| ----- | | | | | | | |
| Value and Cost of Production | | | Profitability | | | | |
| Milk Receipts Per Cow | Operating Cost Producing Milk Per Cwt. | Total Cost Production Per Cwt. | Net Farm Income Without Appreciation | | Labor & Mgmt. Income Per Operator | Change in Net Worth w/Appreciation | |
| | | | Total | Per Cow | | | |
| \$5,152 | \$9.81 | \$16.75 | \$150,946 | \$1,927 | \$96,499 | \$210,929 | |
| 4,540 | 11.49 | 18.01 | 129,912 | 1,443 | 65,644 | 133,891 | |
| 4,215 | 12.26 | 19.10 | 118,299 | 1,353 | 55,584 | 119,683 | |
| 4,048 | 12.85 | 20.21 | 114,228 | 1,259 | 50,698 | 101,908 | |
| 3,896 | 13.78 | 21.15 | 99,121 | 1,055 | 44,709 | 91,344 | |
| ----- | | | | | | | |
| 3,749 | 14.89 | 22.07 | 80,009 | 962 | 25,060 | 82,915 | |
| 3,476 | 15.59 | 22.79 | 60,271 | 803 | 14,508 | 66,619 | |
| 3,308 | 16.81 | 24.10 | 51,427 | 499 | 2,785 | 39,546 | |
| 3,086 | 17.81 | 26.26 | 24,184 | 332 | -18,266 | 21,345 | |
| 2,526 | 20.92 | 28.74 | -6,350 | -77 | -39,115 | 4,583 | |

Table 62.

FARM BUSINESS CHART FOR SMALL FREESTALL DAIRY FARMS
41 Freestall Barn Dairy Farms with 150 or Less Cows, New York, 2007

| Size of Business | | | Rates of Production | | | Labor Efficiency | |
|------------------------------|--|--------------------------------|--------------------------------------|------------------------------|------------------------------------|------------------------------------|-----------------------------|
| Worker Equivalent | No. of Cows | Pounds of Milk Sold | Pounds Milk Sold Per Cow | Tons Hay Crop DM/Acre | Tons Corn Silage Per Acre | Cows Per Worker | Pounds Milk Sold Per Worker |
| 4.33 | 145 | 3,038,782 | 24,012 | 5.0 | 26 | 54 | 1,049,507 |
| 4.00 | 136 | 2,651,052 | 22,366 | 3.9 | 21 | 45 | 833,822 |
| 3.63 | 127 | 2,331,685 | 21,003 | 3.6 | 20 | 41 | 774,651 |
| 3.26 | 113 | 2,253,098 | 19,918 | 2.9 | 19 | 37 | 687,389 |
| 3.00 | 106 | 2,097,298 | 19,204 | 2.5 | 18 | 35 | 659,654 |
| ----- | | | | | | | |
| 2.81 | 99 | 1,908,138 | 18,480 | 2.3 | 17 | 34 | 615,421 |
| 2.50 | 94 | 1,654,700 | 17,724 | 2.2 | 16 | 32 | 581,302 |
| 2.31 | 86 | 1,420,979 | 16,048 | 2.0 | 15 | 31 | 537,002 |
| 2.18 | 71 | 1,184,373 | 14,658 | 1.6 | 14 | 29 | 483,454 |
| 1.66 | 57 | 806,565 | 12,031 | 1.1 | 12 | 24 | 387,904 |
| ----- | | | | | | | |
| Cost Control | | | | | | | |
| Grain Bought Per Cow | % Grain is of Milk Receipts | Machinery Costs Per Cow | Labor & Machinery Costs Per Cow | Feed & Crop Expenses Per Cow | Feed & Crop Expenses Per Cwt. Milk | | |
| \$566 | 17% | \$412 | \$1,101 | \$724 | \$4.63 | | |
| 705 | 19 | 552 | 1,307 | 956 | 5.48 | | |
| 796 | 22 | 585 | 1,364 | 1,078 | 6.01 | | |
| 848 | 24 | 637 | 1,441 | 1,116 | 6.15 | | |
| 923 | 25 | 686 | 1,527 | 1,187 | 6.77 | | |
| ----- | | | | | | | |
| 999 | 26 | 758 | 1,582 | 1,314 | 6.98 | | |
| 1,085 | 27 | 830 | 1,708 | 1,387 | 7.11 | | |
| 1,158 | 29 | 935 | 1,856 | 1,533 | 7.29 | | |
| 1,264 | 30 | 1,143 | 2,084 | 1,625 | 8.03 | | |
| 1,449 | 39 | 1,397 | 2,414 | 1,744 | 11.20 | | |
| ----- | | | | | | | |
| Value and Cost of Production | | | Profitability | | | | |
| Milk Receipts Per Cow | Operating Cost Producing Milk Per Cwt. | Total Cost Production Per Cwt. | Net Farm Income Without Appreciation | | Labor & Mgmt. Income Per Operator | Change in Net Worth w/Appreciation | |
| | | | Total | Per Cow | | | |
| \$4,904 | \$9.62 | \$16.89 | \$204,925 | \$1,633 | \$101,149 | \$240,026 | |
| 4,606 | 11.45 | 18.02 | 160,620 | 1,466 | 78,127 | 152,756 | |
| 4,427 | 12.27 | 18.70 | 148,490 | 1,387 | 58,021 | 141,631 | |
| 4,228 | 12.86 | 19.04 | 130,702 | 1,214 | 52,201 | 127,558 | |
| 4,034 | 13.32 | 19.48 | 112,330 | 1,144 | 46,071 | 112,525 | |
| ----- | | | | | | | |
| 3,832 | 13.84 | 20.74 | 94,681 | 1,049 | 38,670 | 97,598 | |
| 3,622 | 14.70 | 21.83 | 82,277 | 921 | 28,098 | 81,001 | |
| 3,323 | 16.46 | 23.25 | 62,049 | 665 | 10,720 | 73,081 | |
| 3,058 | 18.00 | 25.06 | 35,857 | 377 | -2,391 | 49,312 | |
| 2,610 | 19.88 | 29.84 | 1,774 | -60 | -29,731 | 23,250 | |

Table 63.

FARM BUSINESS CHART FOR MEDIUM FREESTALL DAIRY FARMS
36 Freestall Barn Dairy Farms with 151-300 Cows, New York, 2007

| Size of Business | | Rates of Production | | | | Labor Efficiency | |
|------------------------------|--|--------------------------------|--------------------------------------|------------------------------|------------------------------------|------------------------------------|-----------------------------|
| Worker Equivalent | No. of Cows | Pounds Milk Sold | Pounds Milk Sold Per Cow | Tons Hay Crop DM/Acre | Tons Corn Silage Per Acre | Cows Per Worker | Pounds Milk Sold Per Worker |
| 7.83 | 294 | 6,792,548 | 26,424 | 4.8 | 28 | 65 | 1,236,400 |
| 6.89 | 284 | 6,372,431 | 24,496 | 3.9 | 23 | 57 | 1,068,408 |
| 6.52 | 252 | 6,016,780 | 24,111 | 3.6 | 22 | 54 | 1,029,794 |
| 5.91 | 247 | 5,602,690 | 23,628 | 3.3 | 19 | 48 | 1,016,717 |
| 5.47 | 233 | 5,215,650 | 23,159 | 3.2 | 18 | 43 | 972,076 |
| ----- | | | | | | | |
| 4.95 | 210 | 4,627,626 | 22,198 | 2.8 | 18 | 39 | 919,212 |
| 4.67 | 189 | 4,093,227 | 20,680 | 2.3 | 17 | 38 | 885,395 |
| 4.41 | 173 | 3,762,683 | 19,839 | 2.1 | 17 | 37 | 800,010 |
| 3.87 | 165 | 3,351,085 | 19,235 | 1.8 | 15 | 35 | 751,921 |
| 2.90 | 155 | 2,388,376 | 14,614 | 1.5 | 12 | 30 | 606,594 |
| ----- | | | | | | | |
| Cost Control | | | | | | | |
| Grain Bought Per Cow | % Grain is of Milk Receipts | Machinery Costs Per Cow | Labor & Machinery Costs Per Cow | Feed & Crop Expenses Per Cow | Feed & Crop Expenses Per Cwt. Milk | | |
| \$540 | 14% | \$511 | \$1,067 | \$723 | \$3.91 | | |
| 743 | 18 | 586 | 1,281 | 1,042 | 5.00 | | |
| 823 | 20 | 685 | 1,366 | 1,132 | 5.75 | | |
| 924 | 22 | 745 | 1,457 | 1,271 | 5.89 | | |
| 1,069 | 24 | 818 | 1,567 | 1,352 | 6.02 | | |
| ----- | | | | | | | |
| 1,127 | 26 | 884 | 1,676 | 1,459 | 6.37 | | |
| 1,199 | 26 | 911 | 1,744 | 1,537 | 6.82 | | |
| 1,278 | 27 | 977 | 1,808 | 1,598 | 7.11 | | |
| 1,353 | 29 | 1,137 | 2,018 | 1,660 | 7.56 | | |
| 1,384 | 31 | 1,347 | 2,150 | 1,806 | 8.28 | | |
| ----- | | | | | | | |
| Value and Cost of Production | | | Profitability | | | | |
| Milk Receipts Per Cow | Operating Cost Producing Milk Per Cwt. | Total Cost Production Per Cwt. | Net Farm Income Without Appreciation | | Labor & Mgmt. Income Per Operator | Change in Net Worth w/Appreciation | |
| | | | Total | Per Cow | | | |
| \$5,199 | \$10.03 | \$14.97 | \$522,171 | \$2,072 | \$221,725 | \$468,328 | |
| 4,985 | 11.52 | 16.51 | 424,140 | 1,874 | 196,716 | 388,206 | |
| 4,923 | 12.70 | 17.26 | 344,509 | 1,578 | 176,569 | 358,154 | |
| 4,861 | 13.67 | 17.85 | 288,759 | 1,246 | 157,837 | 329,288 | |
| 4,690 | 14.06 | 18.30 | 254,690 | 1,142 | 137,360 | 260,976 | |
| ----- | | | | | | | |
| 4,501 | 15.29 | 19.15 | 215,859 | 1,031 | 84,888 | 222,178 | |
| 4,291 | 15.81 | 20.29 | 189,827 | 859 | 60,076 | 195,828 | |
| 4,068 | 16.05 | 21.31 | 136,788 | 634 | 40,883 | 138,575 | |
| 3,938 | 16.69 | 22.05 | 74,094 | 433 | 8,882 | 94,801 | |
| 2,876 | 19.07 | 23.32 | 46,657 | 278 | -32,490 | 49,839 | |

Table 64.

FARM BUSINESS CHART FOR LARGE FREESTALL DAIRY FARMS
91 Freestall Barn Dairy Farms with 300 or More Cows, New York, 2007

| Size of Business | | | Rates of Production | | | Labor Efficiency | |
|------------------------------|--|--------------------------------------|---|------------------------------------|--|--|-----------------------------------|
| Worker Equiv- Alent | No. of Cows | Pounds Milk Sold | Pounds Milk Sold Per Cow | Tons Hay Crop DM/Acre | Tons Corn Silage Per Acre | Cows Per Worker | Pounds Milk Sold Per Worker |
| 35.08 | 1,745 | 43,004,232 | 27,708 | 5.7 | 26 | 60 | 1,442,799 |
| 25.81 | 1,128 | 27,970,111 | 25,873 | 4.6 | 23 | 53 | 1,228,772 |
| 21.66 | 995 | 23,835,953 | 25,285 | 3.9 | 22 | 50 | 1,175,249 |
| 18.59 | 865 | 20,478,846 | 24,607 | 3.6 | 20 | 47 | 1,134,274 |
| 15.92 | 695 | 17,089,191 | 24,064 | 3.3 | 20 | 46 | 1,090,405 |
| ----- | | | | | | | |
| 14.17 | 599 | 13,917,572 | 23,604 | 3.1 | 19 | 44 | 1,040,403 |
| 12.37 | 500 | 11,748,180 | 22,960 | 2.9 | 18 | 42 | 991,802 |
| 10.60 | 436 | 9,928,631 | 22,459 | 2.6 | 17 | 41 | 940,420 |
| 9.32 | 396 | 8,949,216 | 21,325 | 2.4 | 16 | 37 | 868,410 |
| 7.29 | 337 | 7,514,627 | 19,524 | 2.0 | 14 | 31 | 722,816 |
| ----- | | | | | | | |
| Cost Control | | | | | | | |
| Grain Bought Per Cow | % Grain is of Milk Receipts | Machinery Costs Per Cow | Labor & Machinery Costs Per Cow | Feed & Crop Expenses Per Cow | Feed & Crop Expenses Per Cwt. Milk | | |
| \$790 | 18% | \$479 | \$1,110 | \$1,053 | \$4.69 | | |
| 914 | 20 | 558 | 1,285 | 1,192 | 5.23 | | |
| 1,012 | 21 | 612 | 1,356 | 1,267 | 5.57 | | |
| 1,053 | 22 | 643 | 1,403 | 1,339 | 5.73 | | |
| 1,125 | 23 | 673 | 1,442 | 1,412 | 5.89 | | |
| ----- | | | | | | | |
| 1,173 | 24 | 720 | 1,496 | 1,459 | 6.11 | | |
| 1,222 | 25 | 764 | 1,560 | 1,500 | 6.39 | | |
| 1,281 | 26 | 817 | 1,620 | 1,582 | 6.68 | | |
| 1,373 | 27 | 900 | 1,710 | 1,698 | 7.10 | | |
| 1,578 | 31 | 989 | 1,899 | 1,958 | 7.58 | | |
| ----- | | | | | | | |
| Value and Cost of Production | | | Profitability | | | | |
| Milk Receipts Per Cow | Operating Cost Producing Milk Per Cwt. | Total Cost Production Per Cwt. | Net Farm Income Without Appreciation | | Labor & Mgmt. Income Per Operator | Change in Net Worth w/Appreciation | |
| | | | Total | Per Cow | | | |
| \$5,766 | \$10.81 | \$14.51 | \$2,337,300 | \$2,043 | \$1,103,132 | \$2,686,277 | |
| 5,344 | 12.31 | 15.59 | 1,362,553 | 1,708 | 746,602 | 1,778,284 | |
| 5,125 | 12.83 | 16.14 | 1,144,933 | 1,530 | 566,178 | 1,286,712 | |
| 5,010 | 13.31 | 16.57 | 969,379 | 1,430 | 461,248 | 1,058,420 | |
| 4,860 | 13.78 | 16.88 | 829,297 | 1,308 | 395,098 | 935,098 | |
| ----- | | | | | | | |
| 4,788 | 14.11 | 17.13 | 719,767 | 1,167 | 313,715 | 774,985 | |
| 4,700 | 14.39 | 17.55 | 618,874 | 1,042 | 257,134 | 645,479 | |
| 4,538 | 14.89 | 17.83 | 519,316 | 937 | 197,335 | 543,433 | |
| 4,314 | 15.79 | 18.29 | 416,726 | 788 | 152,336 | 421,480 | |
| 3,985 | 16.81 | 20.23 | 247,977 | 442 | 46,295 | 205,528 | |

Table 65.

bST NON-USERS VS. USERS
Same 82 Farms, 2003 - 2007

| Selected Factors | 49 Farms Not Using bST in 2003 - 2007 | | | | | 33 Farms Using bST in 2003 - 2007 | | | | |
|---|---------------------------------------|-----------|-----------|-------------|-------------|-----------------------------------|-------------|-------------|-------------|-------------|
| | 2003 | 2004 | 2005 | 2006 | 2007 | 2003 | 2004 | 2005 | 2006 | 2007 |
| Size of Business | | | | | | | | | | |
| Average number of cows | 148 | 148 | 151 | 158 | 164 | 472 | 514 | 543 | 561 | 589 |
| Average number of heifers | 114 | 116 | 122 | 131 | 134 | 366 | 385 | 419 | 438 | 453 |
| Milk sold, cwt. | 27,733 | 28,668 | 29,244 | 30,248 | 31,472 | 111,846 | 119,170 | 132,042 | 137,918 | 144,914 |
| Worker equivalent | 3.91 | 3.99 | 4.05 | 4.06 | 4.14 | 11.43 | 12.32 | 12.74 | 13.07 | 13.73 |
| Total tillable acres | 386 | 393 | 404 | 396 | 405 | 974 | 1,030 | 1,084 | 1,110 | 1,185 |
| Rates of Production | | | | | | | | | | |
| Milk sold per cow, lbs. | 18,785 | 19,405 | 19,398 | 19,090 | 19,181 | 23,708 | 23,204 | 24,327 | 24,568 | 24,586 |
| Hay DM per acre, tons | 2.8 | 2.9 | 2.5 | 2.7 | 2.7 | 3.5 | 3.5 | 3.3 | 3.4 | 3.0 |
| Corn silage per acre, tons | 17 | 18 | 18 | 18 | 18 | 17 | 18 | 19 | 19 | 19 |
| Labor Efficiency | | | | | | | | | | |
| Cows per worker | 38 | 37 | 37 | 39 | 40 | 41 | 42 | 43 | 43 | 43 |
| Milk sold per worker, lbs. | 709,281 | 718,495 | 722,076 | 745,027 | 760,195 | 978,530 | 967,286 | 1,036,440 | 1,055,228 | 1,055,454 |
| Cost Control | | | | | | | | | | |
| Grain & concentrate purchased as percent of milk sales | 30% | 27% | 26% | 29% | 24% | 31% | 27% | 24% | 28% | 23% |
| Dairy feed and crop expense per cwt. milk | \$5.08 | \$5.55 | \$5.33 | \$5.15 | \$6.43 | \$4.95 | \$5.36 | \$4.81 | \$4.80 | \$5.84 |
| Labor and mach. costs per cow | \$1,220 | \$1,340 | \$1,376 | \$1,321 | \$1,439 | \$1,278 | \$1,331 | \$1,399 | \$1,416 | \$1,490 |
| Operating cost of producing milk per cwt. | \$10.60 | \$11.88 | \$11.69 | \$11.27 | \$13.81 | \$11.53 | \$12.35 | \$11.93 | \$12.09 | \$13.72 |
| Capital Efficiency (avg. for year) | | | | | | | | | | |
| Farm capital per cow | \$7,693 | \$8,082 | \$8,549 | \$8,717 | \$9,190 | \$6,765 | \$6,838 | \$7,244 | \$7,637 | \$8,204 |
| Machinery and equip. per cow | \$1,466 | \$1,580 | \$1,720 | \$1,747 | \$1,798 | \$1,182 | \$1,184 | \$1,258 | \$1,312 | \$1,410 |
| Asset turnover ratio | 0.42 | 0.50 | 0.49 | 0.40 | 0.53 | 0.57 | 0.69 | 0.66 | 0.56 | 0.71 |
| Profitability | | | | | | | | | | |
| Net farm income without apprec. | \$43,178 | \$107,603 | \$85,122 | \$48,466 | \$177,482 | \$61,079 | \$361,581 | \$377,031 | \$79,857 | \$792,906 |
| Net farm income with apprec. | \$68,739 | \$142,349 | \$152,213 | \$82,087 | \$241,841 | \$162,898 | \$511,456 | \$531,428 | \$224,904 | \$943,622 |
| Labor & management income per operator/manager | \$-3,287 | \$43,313 | \$22,016 | \$-7,663 | \$76,938 | \$-21,939 | \$141,461 | \$134,140 | \$-33,937 | \$340,270 |
| Rate return on equity capital with appreciation | 2.2% | 10.7% | 10.7% | 2.5% | 16.4% | 4.1% | 19.9% | 17.5% | 4.9% | 26.4% |
| Rate return on all capital with appreciation | 2.9% | 8.9% | 9.2% | 3.5% | 13.9% | 4.1% | 13.7% | 13.1% | 5.3% | 19.7% |
| Financial Summary (end of year) | | | | | | | | | | |
| Farm net worth | \$812,376 | \$899,977 | \$989,659 | \$1,023,984 | \$1,207,685 | \$1,954,616 | \$2,327,667 | \$2,709,415 | \$2,823,554 | \$3,598,331 |
| Debt to asset ratio | 0.29 | 0.27 | 0.27 | 0.28 | 0.24 | 0.41 | 0.37 | 0.34 | 0.36 | 0.31 |
| Farm debt per cow | \$2,285 | \$2,207 | \$2,393 | \$2,459 | \$2,376 | \$2,860 | \$2,591 | \$2,564 | \$2,731 | \$2,781 |

Table 66.

COMPARISON OF FARM BUSINESS SUMMARY DATA
Same 54 New York Dairy Farms, 1998 - 2007

| Selected Factors | 1998 | 1999 | 2000 | 2001 |
|--|-------------|-------------|-------------|-------------|
| Milk receipts per cwt. milk | \$15.73 | \$15.22 | \$13.41 | \$15.92 |
| <u>Size of Business</u> | | | | |
| Average number of cows | 289 | 307 | 325 | 351 |
| Average number of heifers | 224 | 230 | 245 | 266 |
| Milk sold, cwt. | 62,788 | 68,828 | 72,884 | 78,470 |
| Worker equivalent | 7.01 | 7.37 | 7.58 | 8.17 |
| Total tillable acres | 615 | 645 | 665 | 698 |
| <u>Rates of Production</u> | | | | |
| Milk sold per cow, lbs. | 21,693 | 22,409 | 22,403 | 22,337 |
| Hay DM per acre, tons | 3.5 | 3.3 | 3.8 | 3.2 |
| Corn silage per acre, tons | 23 | 17 | 16 | 17 |
| <u>Labor Efficiency</u> | | | | |
| Cows per worker | 41 | 42 | 43 | 43 |
| Milk sold per worker, lbs. | 895,694 | 933,892 | 961,528 | 960,463 |
| <u>Cost Control</u> | | | | |
| Grain & concentrate purchased as % of milk sales | 25% | 24% | 27% | 25% |
| Dairy feed & crop expense per cwt. milk | \$4.96 | \$4.69 | \$4.54 | \$4.90 |
| Operating cost of producing cwt. milk | \$11.36 | \$11.07 | \$11.23 | \$12.31 |
| Total cost of producing cwt. milk | \$14.27 | \$14.01 | \$14.18 | \$15.38 |
| Hired labor cost per cwt. | \$2.26 | \$2.33 | \$2.39 | \$2.60 |
| Interest paid per cwt. | \$0.88 | \$0.77 | \$0.91 | \$0.80 |
| Labor & machinery costs per cow | \$1,115 | \$1,190 | \$1,206 | \$1,286 |
| Replacement livestock expense | \$13,446 | \$14,798 | \$19,061 | \$13,785 |
| Expansion livestock expense | \$19,795 | \$18,402 | \$31,469 | \$36,592 |
| <u>Capital Efficiency</u> | | | | |
| Farm capital per cow | \$6,343 | \$6,531 | \$6,633 | \$6,653 |
| Machinery & equipment per cow | \$1,220 | \$1,256 | \$1,288 | \$1,268 |
| Real estate per cow | \$2,489 | \$2,505 | \$2,488 | \$2,508 |
| Livestock investment per cow | \$1,517 | \$1,541 | \$1,602 | \$1,689 |
| Asset turnover ratio | 0.63 | 0.62 | 0.56 | 0.65 |
| <u>Profitability</u> | | | | |
| Net farm income without appreciation | \$200,089 | \$201,962 | \$68,769 | \$177,610 |
| Net farm income with appreciation | \$244,451 | \$245,480 | \$120,631 | \$281,345 |
| Labor & management income per operator/manager | \$93,506 | \$87,181 | \$1,007 | \$62,132 |
| Rate return on: | | | | |
| Equity capital with appreciation | 18.0% | 15.7% | 4.6% | 15.7% |
| All capital with appreciation | 13.3% | 11.9% | 5.8% | 11.9% |
| All capital without appreciation | 10.9% | 9.7% | 3.4% | 7.5% |
| <u>Financial Summary, End Year</u> | | | | |
| Farm net worth | \$1,134,504 | \$1,249,460 | \$1,271,138 | \$1,462,927 |
| Change in net worth with appreciation | \$171,007 | \$129,660 | \$16,515 | \$179,895 |
| Debt to asset ratio | 0.41 | 0.41 | 0.40 | 0.40 |
| Farm debt per cow | \$2,671 | \$2,720 | \$2,732 | \$2,747 |

Table 66. (continued)

COMPARISON OF FARM BUSINESS SUMMARY DATA
Same 54 New York Dairy Farms, 1998 - 2007

| 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|-------------|-------------|-------------|-------------|-------------|-------------|
| \$12.96 | \$13.24 | \$16.57 | \$16.04 | \$13.89 | \$20.35 |
| 369 | 389 | 400 | 412 | 425 | 426 |
| 287 | 302 | 312 | 333 | 346 | 351 |
| 84,823 | 88,895 | 90,308 | 96,441 | 98,595 | 99,037 |
| 8.55 | 9.08 | 9.46 | 9.58 | 9.58 | 9.79 |
| 726 | 760 | 815 | 844 | 873 | 884 |
| 22,960 | 22,824 | 22,576 | 23,426 | 23,218 | 23,230 |
| 3.4 | 3.2 | 3.5 | 3.6 | 3.3 | 3.2 |
| 16 | 18 | 18 | 20 | 19 | 19 |
| 43 | 43 | 42 | 43 | 44 | 44 |
| 992,087 | 979,019 | 954,629 | 1,006,688 | 1,029,179 | 1,011,610 |
| 30% | 30% | 27% | 26% | 30% | 25% |
| \$4.77 | \$5.01 | \$5.26 | \$5.18 | \$5.05 | \$6.23 |
| \$11.15 | \$11.49 | \$12.45 | \$12.17 | \$12.17 | \$14.23 |
| \$14.20 | \$14.30 | \$15.36 | \$15.22 | \$15.19 | \$17.51 |
| \$2.66 | \$2.68 | \$2.80 | \$2.69 | \$2.72 | \$2.90 |
| \$0.61 | \$0.53 | \$0.55 | \$0.61 | \$0.79 | \$0.80 |
| \$1,292 | \$1,255 | \$1,322 | \$1,379 | \$1,381 | \$1,519 |
| \$11,031 | \$16,173 | \$14,146 | \$14,649 | \$9,705 | \$13,173 |
| \$14,918 | \$15,252 | \$18,632 | \$15,401 | \$23,678 | \$4,691 |
| \$6,738 | \$6,589 | \$6,874 | \$7,281 | \$7,515 | \$8,175 |
| \$1,279 | \$1,227 | \$1,263 | \$1,345 | \$1,378 | \$1,495 |
| \$2,527 | \$2,496 | \$2,572 | \$2,653 | \$2,765 | \$2,940 |
| \$1,779 | \$1,773 | \$1,851 | \$1,961 | \$2,053 | \$2,236 |
| 0.54 | 0.56 | 0.66 | 0.63 | 0.54 | 0.70 |
| \$32,484 | \$44,235 | \$255,811 | \$241,313 | \$43,061 | \$471,387 |
| \$83,116 | \$107,244 | \$374,740 | \$356,409 | \$125,186 | \$643,289 |
| \$-26,854 | \$-21,676 | \$111,819 | \$92,100 | \$-38,968 | \$221,206 |
| 1.3% | 2.9% | 19.2% | 15.4% | 2.7% | 25.0% |
| 2.8% | 3.5% | 13.1% | 11.5% | 4.1% | 18.5% |
| 0.8% | 1.2% | 8.7% | 7.7% | 1.5% | 13.6% |
| \$1,446,864 | \$1,486,533 | \$1,752,054 | \$1,991,647 | \$2,005,569 | \$2,516,182 |
| \$-27,066 | \$35,852 | \$278,514 | \$246,462 | \$13,631 | \$496,199 |
| 0.42 | 0.44 | 0.39 | 0.36 | 0.39 | 0.33 |
| \$2,817 | \$2,942 | \$2,766 | \$2,713 | \$2,908 | \$2,858 |

Table 67.

**FARM RECEIPTS AND EXPENSES PER COW AND PER
HUNDREDWEIGHT FOR THREE LEVELS OF MILK PRODUCTION
250 New York Dairy Farms, 2007**

| Item | 63 Dairy Farms Milk/Cow <18,000# | | 76 Dairy Farms Milk/Cow 18,000-21,999# | | 111 Dairy Farms Milk/Cow ≥22,000# | |
|---|-------------------------------------|----------------|---|----------------|--------------------------------------|----------------|
| | Per Cow | Per Cwt. | Per Cow | Per Cwt. | Per Cow | Per Cwt. |
| <u>ACCRUAL RECEIPTS</u> | | | | | | |
| Milk sales | \$3,107 | \$21.21 | \$4,205 | \$20.40 | \$5,009 | \$20.26 |
| Dairy cattle | 183 | 1.25 | 269 | 1.31 | 272 | 1.10 |
| Dairy calves | 32 | 0.22 | 15 | 0.07 | 38 | 0.15 |
| Other livestock | 18 | 0.12 | 13 | 0.07 | 7 | 0.03 |
| Crops | 83 | 0.57 | 149 | 0.72 | 140 | 0.57 |
| Government receipts | 99 | 0.67 | 76 | 0.37 | 64 | 0.26 |
| All other | <u>85</u> | <u>0.59</u> | <u>57</u> | <u>0.27</u> | <u>82</u> | <u>0.33</u> |
| TOTAL ACCRUAL RECEIPTS | \$3,606 | \$24.62 | \$4,785 | \$23.22 | \$5,612 | \$22.70 |
| <u>ACCRUAL EXPENSES</u> | | | | | | |
| <u>Labor:</u> Hired | \$ 294 | \$ 2.01 | \$ 521 | \$ 2.53 | \$ 690 | \$ 2.79 |
| <u>Feed:</u> Dairy grain & concentrate | 757 | 5.17 | 992 | 4.81 | 1,205 | 4.88 |
| Dairy roughage | 67 | 0.46 | 76 | 0.37 | 75 | 0.30 |
| Nondairy | 9 | 0.06 | 0 | 0.00 | 1 | 0.00 |
| Professional nutritional services | 1 | 0.01 | 1 | 0.00 | 1 | 0.00 |
| <u>Machinery:</u> Mach. hire, rent & lease | 66 | 0.45 | 93 | 0.45 | 95 | 0.38 |
| Machinery repairs & vehicle expense | 193 | 1.31 | 186 | 0.90 | 205 | 0.83 |
| Fuel, oil & grease | 130 | 0.89 | 153 | 0.74 | 157 | 0.63 |
| <u>Livestock:</u> Replacement livestock | 11 | 0.07 | 8 | 0.04 | 21 | 0.08 |
| Breeding | 37 | 0.25 | 54 | 0.26 | 59 | 0.24 |
| Vet & medicine | 80 | 0.54 | 151 | 0.73 | 157 | 0.63 |
| Milk marketing | 145 | 0.99 | 163 | 0.79 | 196 | 0.79 |
| Bedding | 32 | 0.22 | 57 | 0.28 | 82 | 0.33 |
| Milking supplies | 64 | 0.44 | 89 | 0.43 | 97 | 0.39 |
| Cattle lease & rent | 0 | 0.00 | 4 | 0.02 | 4 | 0.02 |
| Custom boarding | 22 | 0.15 | 77 | 0.37 | 66 | 0.27 |
| bST expense | 7 | 0.05 | 20 | 0.10 | 76 | 0.31 |
| Livestock professional fees | 9 | 0.06 | 11 | 0.05 | 14 | 0.06 |
| Other livestock expense | 25 | 0.17 | 22 | 0.11 | 19 | 0.08 |
| <u>Crops:</u> Fertilizer & lime | 86 | 0.59 | 101 | 0.49 | 91 | 0.37 |
| Seeds & plants | 39 | 0.27 | 68 | 0.33 | 66 | 0.27 |
| Spray & other crop expense | 36 | 0.24 | 47 | 0.23 | 52 | 0.21 |
| Crop professional fees | 7 | 0.05 | 4 | 0.02 | 6 | 0.03 |
| <u>Real Estate:</u> Land, building & fence repair | 29 | 0.20 | 63 | 0.30 | 82 | 0.33 |
| Taxes | 80 | 0.55 | 54 | 0.26 | 49 | 0.20 |
| Rent & lease | 37 | 0.26 | 69 | 0.34 | 67 | 0.27 |
| <u>Other:</u> Insurance | 46 | 0.31 | 42 | 0.20 | 44 | 0.18 |
| Utilities (farm share) | 96 | 0.66 | 101 | 0.49 | 102 | 0.41 |
| Interest paid | 165 | 1.13 | 171 | 0.83 | 199 | 0.80 |
| Other professional fees | 15 | 0.10 | 16 | 0.08 | 24 | 0.10 |
| Miscellaneous | <u>28</u> | <u>0.19</u> | <u>23</u> | <u>0.11</u> | <u>29</u> | <u>0.12</u> |
| TOTAL OPERATING EXPENSES | \$2,610 | \$17.82 | \$3,436 | \$16.67 | \$4,032 | \$16.31 |
| Expansion livestock | 2 | 0.01 | 27 | 0.13 | 33 | 0.13 |
| Extraordinary expense | 0 | 0.00 | 4 | 0.02 | 1 | 0.00 |
| Machinery depreciation | 171 | 1.17 | 193 | 0.94 | 191 | 0.77 |
| Building depreciation | <u>82</u> | <u>0.56</u> | <u>101</u> | <u>0.49</u> | <u>122</u> | <u>0.49</u> |
| TOTAL ACCRUAL EXPENSES | \$2,865 | \$19.56 | \$3,762 | \$18.25 | \$4,379 | \$17.72 |

Table 68.

**FARM RECEIPTS AND EXPENSES PER COW AND PER
HUNDREDWEIGHT FOR THREE HERD SIZE CATEGORIES
250 New York Dairy Farms, 2007**

| Item | 61 Dairy Farms with <80 Cows | | 68 Dairy Farms with 80-180 Cows | | 121 Dairy Farms with ≥ 180 Cows | |
|---|---------------------------------|----------------|------------------------------------|----------------|------------------------------------|----------------|
| | Per Cow | Per Cwt. | Per Cow | Per Cwt. | Per Cow | Per Cwt. |
| <u>ACCRUAL RECEIPTS</u> | | | | | | |
| Milk sales | \$3,628 | \$20.35 | \$3,890 | \$20.57 | \$4,803 | \$20.32 |
| Dairy cattle | 176 | 0.99 | 177 | 0.94 | 278 | 1.17 |
| Dairy calves | 47 | 0.27 | 32 | 0.17 | 32 | 0.13 |
| Other livestock | 27 | 0.15 | 6 | 0.03 | 9 | 0.04 |
| Crops | 66 | 0.37 | 113 | 0.60 | 143 | 0.61 |
| Government receipts | 106 | 0.59 | 121 | 0.64 | 62 | 0.26 |
| All other | <u>76</u> | <u>0.43</u> | <u>79</u> | <u>0.43</u> | <u>76</u> | <u>0.32</u> |
| TOTAL ACCRUAL RECEIPTS | \$4,126 | \$23.14 | \$4,419 | \$23.37 | \$5,403 | \$22.86 |
| <u>ACCRUAL EXPENSES</u> | | | | | | |
| Labor: Hired | \$ 184 | \$ 1.03 | \$ 338 | \$ 1.79 | \$ 669 | \$ 2.83 |
| Feed: Dairy grain & concentrate | 874 | 4.90 | 950 | 5.03 | 1,150 | 4.86 |
| Dairy roughage | 102 | 0.57 | 42 | 0.22 | 77 | 0.32 |
| Nondairy | 0 | 0.00 | 3 | 0.02 | 1 | 0.00 |
| Professional nutritional services | 1 | 0.01 | 0 | 0.00 | 1 | 0.00 |
| Machinery: Mach. hire, rent & lease | 65 | 0.37 | 91 | 0.48 | 94 | 0.40 |
| Mach. repairs & vehicle expense | 246 | 1.38 | 246 | 1.30 | 193 | 0.82 |
| Fuel, oil & grease | 139 | 0.78 | 170 | 0.90 | 153 | 0.65 |
| Livestock: Replacement livestock | 25 | 0.14 | 19 | 0.10 | 17 | 0.07 |
| Breeding | 54 | 0.31 | 44 | 0.23 | 57 | 0.24 |
| Vet & medicine | 87 | 0.49 | 103 | 0.54 | 157 | 0.66 |
| Milk marketing | 190 | 1.06 | 189 | 1.00 | 184 | 0.78 |
| Bedding | 30 | 0.17 | 42 | 0.22 | 77 | 0.33 |
| Milking supplies | 99 | 0.55 | 76 | 0.40 | 94 | 0.40 |
| Cattle lease & rent | 0 | 0.00 | 1 | 0.01 | 4 | 0.02 |
| Custom boarding | 22 | 0.12 | 33 | 0.17 | 71 | 0.30 |
| bST expense | 10 | 0.06 | 20 | 0.11 | 64 | 0.27 |
| Livestock professional fees | 17 | 0.10 | 14 | 0.07 | 12 | 0.05 |
| Other livestock expense | 48 | 0.27 | 40 | 0.21 | 17 | 0.07 |
| Crops: Fertilizer & lime | 74 | 0.42 | 98 | 0.52 | 93 | 0.39 |
| Seeds & plants | 33 | 0.19 | 55 | 0.29 | 67 | 0.28 |
| Spray & other crop expense | 32 | 0.18 | 50 | 0.27 | 50 | 0.21 |
| Crop professional fees | 3 | 0.01 | 2 | 0.01 | 6 | 0.03 |
| Real Estate: Land, building & fence repair | 51 | 0.29 | 62 | 0.33 | 75 | 0.32 |
| Taxes | 105 | 0.59 | 75 | 0.40 | 48 | 0.20 |
| Rent & lease | 32 | 0.18 | 51 | 0.27 | 68 | 0.29 |
| Other: Insurance | 61 | 0.34 | 55 | 0.29 | 42 | 0.18 |
| Utilities (farm share) | 139 | 0.78 | 113 | 0.59 | 99 | 0.42 |
| Interest paid | 169 | 0.95 | 158 | 0.83 | 194 | 0.82 |
| Other professional fees | 15 | 0.08 | 14 | 0.07 | 23 | 0.10 |
| Miscellaneous | <u>34</u> | <u>0.19</u> | <u>27</u> | <u>0.14</u> | <u>27</u> | <u>0.11</u> |
| TOTAL OPERATING EXPENSES | \$2,941 | \$16.50 | \$3,182 | \$16.83 | \$3,884 | \$16.43 |
| Expansion livestock | 0 | 0.00 | 12 | 0.06 | 32 | 0.14 |
| Extraordinary expense | 3 | 0.01 | 3 | 0.01 | 1 | 0.01 |
| Machinery depreciation | 207 | 1.16 | 208 | 1.10 | 187 | 0.79 |
| Building depreciation | <u>82</u> | <u>0.46</u> | <u>90</u> | <u>0.47</u> | <u>118</u> | <u>0.50</u> |
| TOTAL ACCRUAL EXPENSES | \$3,233 | \$18.13 | \$3,495 | \$18.48 | \$4,223 | \$17.86 |

Table 69.

INTENSIVE GRAZING FARMS VS. NON-GRAZING FARMS
New York State Dairy Farms, 2007

| Item | All Intensive Grazing Farms ⁶⁵ | Non-Grazing Farms ⁶⁶ | Profitable Grazing Farms ⁶⁷ | Profitable Non- Grazing Farms ⁶⁸ |
|--|--|------------------------------------|---|--|
| Number of farms | 36 | 131 | 18 | 47 |
| <u>Business Size & Production</u> | | | | |
| Number of cows | 110 | 114 | 107 | 103 |
| Number of heifers | 87 | 92 | 87 | 86 |
| Milk sold, lbs. | 1,824,273 | 2,261,969 | 1,784,418 | 2,188,578 |
| Milk sold/cow, lbs. | 16,627 | 19,811 | 16,625 | 21,195 |
| Milk plant test, % butterfat | 3.4% | 3.5% | 4.0% | 3.6% |
| Cull rate | 24.0% | 29.0% | 25.0% | 28.0% |
| Tillable acres, total | 273 | 322 | 223 | 275 |
| Hay crop, tons DM/acre | 2.0 | 2.5 | 2.3 | 2.7 |
| Corn silage, tons/acre | 17.6 | 17.8 | 19.4 | 17.3 |
| Forage DM/cow, tons | 5.1 | 8.8 | 4.3 | 9.2 |
| <u>Labor & Capital Efficiency</u> | | | | |
| Worker equivalent | 2.70 | 3.35 | 2.59 | 3.00 |
| Milk sold/worker, lbs. | 675,657 | 675,551 | 688,300 | 729,323 |
| Cows/worker | 41 | 34 | 41 | 34 |
| Farm capital/worker | \$331,528 | \$327,292 | \$320,473 | \$300,325 |
| Farm capital/cow | \$8,158 | \$9,603 | \$7,733 | \$8,725 |
| Farm capital/cwt. milk | \$49 | \$48 | \$47 | \$41 |
| Machinery & equipment per cow | \$1,474 | \$1,897 | \$1,355 | \$1,668 |
| <u>Milk Production Costs & Returns</u> | | | | |
| Selected costs/cwt.: | | | | |
| Hired labor | \$1.54 | \$1.80 | \$1.54 | \$1.51 |
| Grain & concentrate | \$4.82 | \$4.94 | \$4.67 | \$4.73 |
| Purchased roughage | \$0.64 | \$0.26 | \$0.57 | \$0.34 |
| Replacements purchased | \$0.09 | \$0.09 | \$0.07 | \$0.08 |
| Vet & medicine | \$0.51 | \$0.56 | \$0.42 | \$0.60 |
| Milk marketing | \$0.95 | \$0.97 | \$0.93 | \$0.97 |
| Other dairy expenses | \$1.15 | \$1.51 | \$0.99 | \$1.42 |
| Operating cost of producing milk/cwt. | \$13.56 | \$14.01 | \$12.04 | \$12.85 |
| Total labor cost/cwt. | \$4.24 | \$4.26 | \$4.03 | \$3.81 |
| Owner/operator resources/cwt. | \$4.07 | \$3.97 | \$3.89 | \$3.54 |
| Total cost of producing milk/cwt. | \$19.64 | \$19.62 | \$17.71 | \$17.86 |
| Average farm price/cwt. | \$21.21 | \$20.43 | \$21.28 | \$20.53 |
| <u>Related Cost Factors</u> | | | | |
| Hired labor/cow | \$256 | \$357 | \$256 | \$321 |
| Total labor/cow | \$705 | \$844 | \$671 | \$808 |
| Purchased dairy feed/cow | \$907 | \$1,030 | \$872 | \$1,073 |
| Purchased grain & concentrate as % of milk receipts | 23% | 25% | 23% | 23% |
| Vet & medicine/cow | \$85 | \$111 | \$71 | \$127 |
| Machinery costs/cow | \$688 | \$793 | \$599 | \$799 |
| Feed & crop exp./cwt. | \$6.59 | \$6.24 | \$6.49 | \$6.07 |
| <u>Profitability Analysis</u> | | | | |
| Net farm income (with appreciation) | \$154,327 | \$149,932 | \$172,820 | \$178,621 |
| Net farm income (without apprec.) | \$111,783 | \$114,705 | \$140,063 | \$142,082 |
| Net farm income per cow (w/o apprec.) | \$1,019 | \$1,005 | \$1,305 | \$1,376 |
| Net farm income per cwt. (w/o apprec.) | \$6.13 | \$5.07 | \$7.85 | \$6.49 |
| Labor & management income/operator | \$54,684 | \$46,592 | \$86,364 | \$80,635 |
| Labor & mgmt. income/operator/cow | \$497 | \$409 | \$807 | \$781 |
| Rates of return on: | | | | |
| Equity capital with appreciation | 15.9% | 11.7% | 20.1% | 19.9% |
| All capital with appreciation | 13.3% | 10.2% | 16.9% | 15.8% |

⁶⁵Farms grazing at least three months of year, changing paddock at least every three days, forage from pasture at least 30 percent, and no organic farms.

⁶⁶Farms with similar herd size as the 36 rotational grazing farms.

⁶⁷Top 50 percent of grazing farms by labor and management incomes per operator per cow.

⁶⁸Farms with similar herd size as the "Top 50%" grazing farms and labor and management incomes per operator per cow greater than \$500.

Table 70.

SELECTED BUSINESS FACTORS BY MILKING FREQUENCY
New York State Dairy Farms, 2006 & 2007

| Item | 2x/Day Milking | | 3x/Day Milking | |
|--|----------------|-----------|----------------|------------|
| | 2006 | 2007 | 2006 | 2007 |
| Number of farms | 157 | 167 | 76 | 73 |
| <u>Business Size & Production</u> | | | | |
| Number of cows | 176 | 188 | 692 | 720 |
| Number of heifers | 144 | 153 | 555 | 576 |
| Milk sold, lbs. | 3,598,632 | 3,813,897 | 16,987,151 | 17,717,548 |
| Milk sold/cow, lbs. | 20,403 | 20,312 | 24,556 | 24,618 |
| Milk plant test, % butterfat | 3.71% | 3.68% | 3.64% | 3.56% |
| Tillable acres, total | 449 | 460 | 1,288 | 1,380 |
| Hay crop, tons DM/acre | 2.9 | 2.8 | 3.5 | 3.3 |
| Corn silage, tons/acre | 17.2 | 18.7 | 19.0 | 19.0 |
| Forage DM/cow, tons | 8.2 | 8.2 | 8.0 | 7.7 |
| <u>Labor & Capital Efficiency</u> | | | | |
| Worker equivalent | 4.48 | 4.69 | 15.62 | 16.28 |
| Milk sold/worker, lbs. | 804,014 | 813,776 | 1,087,816 | 1,088,190 |
| Cows/worker | 39 | 40 | 44 | 44 |
| Farm capital/worker | \$328,284 | \$354,620 | \$336,205 | \$362,773 |
| Farm capital/cow | \$8,338 | \$8,857 | \$7,592 | \$8,206 |
| Farm capital/cwt. milk | \$40.87 | \$43.61 | \$30.92 | \$33.33 |
| <u>Milk Production Costs & Returns</u> | | | | |
| Selected costs/cwt.: | | | | |
| Hired labor | \$2.24 | \$2.35 | \$2.71 | \$2.87 |
| Grain & concentrate | \$3.96 | \$4.76 | \$4.02 | \$4.87 |
| Purchased roughage | \$0.20 | \$0.28 | \$0.31 | \$0.37 |
| Replacements purchased | \$0.06 | \$0.07 | \$0.08 | \$0.08 |
| Veterinary & medicine | \$0.60 | \$0.65 | \$0.67 | \$0.65 |
| Milk marketing | \$0.84 | \$0.84 | \$0.78 | \$0.78 |
| Other dairy expenses | \$1.39 | \$1.56 | \$1.58 | \$1.70 |
| Operating cost of milk production/cwt. | \$11.71 | \$13.69 | \$12.25 | \$14.16 |
| Total labor costs/cwt. | \$3.74 | \$3.80 | \$3.08 | \$3.23 |
| Owner/operator resources/cwt. | \$2.84 | \$2.93 | \$1.50 | \$1.61 |
| Total cost of milk production/cwt. | \$16.14 | \$18.21 | \$14.99 | \$17.08 |
| Average farm price/cwt. | \$13.93 | \$20.65 | \$13.83 | \$20.21 |
| Return over total costs/cwt. | \$-2.21 | \$2.44 | \$-1.16 | \$3.13 |
| <u>Related Cost Factors</u> | | | | |
| Hired labor/cow | \$456 | \$478 | \$666 | \$707 |
| Total labor/cow | \$764 | \$772 | \$756 | \$794 |
| Purchased dairy feed/cow | \$848 | \$1,023 | \$1,064 | \$1,289 |
| Purchased grain & concentrate as % of milk receipts | 30% | 24% | 29% | 24% |
| Veterinary & medicine/cow | \$123 | \$133 | \$165 | \$161 |
| Machinery costs/cow | \$635 | \$733 | \$612 | \$698 |
| <u>Profitability Analysis</u> | | | | |
| Net farm income (without appreciation) | \$30,291 | \$211,430 | \$59,705 | \$841,626 |
| Labor & management income/operator | \$-17,967 | \$101,233 | \$-54,530 | \$345,423 |
| Rates of return on: | | | | |
| Equity capital with appreciation | 0.1% | 19.4% | 4.2% | 27.6% |
| All capital with appreciation | 2.1% | 15.4% | 5.0% | 19.9% |

Table 71.

COMPARISON OF DAIRY FARM BUSINESS DATA BY REGION
250 New York Dairy Farms, 2007

| Item | West. & Cent. Plateau Region | Western & Central Plain Region | Northern New York | Central Valleys | North. Hudson & Southeastern NY |
|--|------------------------------------|--------------------------------------|----------------------|--------------------|---------------------------------------|
| Number of farms | 40 | 64 | 39 | 35 | 72 |
| <u>ACCRUAL EXPENSES</u> | | | | | |
| Hired labor | \$82,457 | \$471,796 | \$207,807 | \$148,298 | \$121,207 |
| Feed | 192,093 | 804,541 | 453,063 | 321,877 | 265,544 |
| Machinery | 75,554 | 280,866 | 160,715 | 138,013 | 108,870 |
| Livestock | 107,931 | 507,080 | 273,697 | 183,196 | 161,838 |
| Crops | 33,401 | 133,381 | 74,889 | 78,171 | 48,945 |
| Real estate | 33,730 | 136,709 | 62,006 | 55,904 | 36,785 |
| Other | 63,944 | 262,198 | 141,715 | 115,257 | 76,227 |
| Total Operating Expenses | \$589,110 | \$2,596,571 | \$1,373,893 | \$1,040,717 | \$819,415 |
| Expansion livestock | 6,936 | 10,931 | 19,901 | 15,247 | 4,443 |
| Extraordinary expense | 793 | 905 | 1,236 | 0 | 106 |
| Machinery depreciation | 41,787 | 133,505 | 68,847 | 53,693 | 30,501 |
| Building depreciation | 16,336 | 81,329 | 51,329 | 28,143 | 19,210 |
| Total Accrual Expenses | \$654,963 | \$2,823,241 | \$1,516,205 | \$1,137,800 | \$873,675 |
| <u>ACCRUAL RECEIPTS</u> | | | | | |
| Milk sales | \$768,738 | \$3,178,014 | \$1,741,309 | \$1,330,254 | \$971,254 |
| Livestock | 53,753 | 199,520 | 117,354 | 93,670 | 64,447 |
| Crops | 18,638 | 70,834 | 60,565 | 54,502 | 38,452 |
| Government Receipts | 13,423 | 41,204 | 23,174 | 23,348 | 18,131 |
| All other | 11,920 | 54,297 | 19,577 | 27,471 | 17,762 |
| Total Accrual Receipts | \$866,472 | \$3,543,869 | \$1,961,978 | \$1,526,514 | \$1,110,046 |
| <u>PROFITABILITY ANALYSIS</u> | | | | | |
| Net farm income(w/o appreciation) | \$211,509 | \$720,628 | \$445,773 | \$388,714 | \$236,370 |
| Net farm income (w/ appreciation) | \$268,500 | \$1,022,512 | \$575,523 | \$503,443 | \$317,322 |
| Labor & management income | \$151,276 | \$558,497 | \$338,111 | \$291,828 | \$157,741 |
| Number of operators | 1.46 | 1.79 | 1.75 | 1.76 | 1.42 |
| Labor & mgmt. income/operator | \$103,613 | \$312,010 | \$193,206 | \$165,812 | \$111,085 |
| <u>BUSINESS FACTORS</u> | | | | | |
| Worker equivalent | 4.44 | 14.36 | 8.61 | 6.97 | 5.87 |
| Number of cows | 168 | 673 | 372 | 289 | 210 |
| Number of heifers | 135 | 537 | 295 | 238 | 175 |
| Acres of hay crops ⁶⁹ | 246 | 506 | 444 | 327 | 278 |
| Acres of corn silage ⁶⁹ | 111 | 447 | 283 | 206 | 184 |
| Total tillable acres | 417 | 1,241 | 848 | 707 | 495 |
| Pounds of milk sold | 3,727,555 | 15,816,491 | 8,680,284 | 6,404,857 | 4,636,394 |
| Pounds of milk sold/cow | 22,204 | 23,518 | 23,313 | 22,140 | 22,055 |
| Tons hay crop dry matter/acre | 2.4 | 3.3 | 3.1 | 3.2 | 2.8 |
| Tons corn silage/acre | 19.8 | 18.3 | 20.9 | 19.3 | 18.1 |
| Cows/worker | 38 | 47 | 43 | 42 | 36 |
| Pounds of milk sold/worker | 839,382 | 1,101,363 | 1,008,456 | 918,808 | 789,509 |
| % grain & conc. of milk receipts | 24% | 23% | 23% | 23% | 27% |
| Feed & crop expense/cwt. milk | \$6.05 | \$5.92 | \$6.06 | \$6.24 | \$6.78 |
| Fertilizer & lime/crop acre ⁶⁹ | \$39.74 | \$46.61 | \$28.39 | \$39.76 | \$40.63 |
| Machinery cost/tillable acre ⁶⁹ | \$316 | \$365 | \$302 | \$306 | \$314 |

⁶⁹Excludes farms that do not harvest forages.

Figure 2.

**Percent Change in Milk Production, Five Regions in New York,
1997-2007**

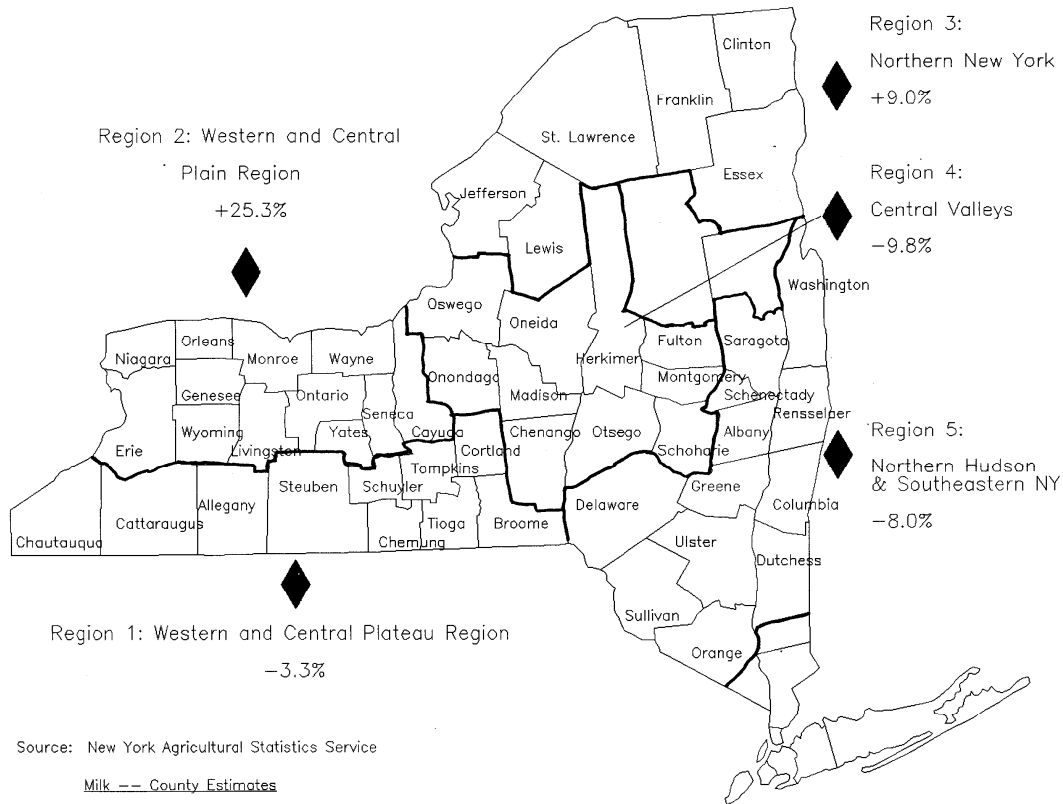


Table 72.

**MILK PRODUCTION & AVERAGE COST OF PRODUCING MILK
Five Regions of New York**

| Item | Region ⁷⁰ | | | | |
|--|-----------------------------|---------|---------|---------|---------|
| | 1 | 2 | 3 | 4 | 5 |
| <u>Milk Production</u> ⁷¹ | (million pounds) | | | | |
| 1997 | 2,064.9 | 3,231.8 | 2,196.5 | 2,616.9 | 1,398.4 |
| 2007 | 1,996.5 | 4,050.5 | 2,393.5 | 2,360.0 | 1,286.0 |
| Percent change | -3.3% | +25.3% | +9.0% | -9.8% | -8.0% |
| <u>2007 Cost of Producing Milk</u> ⁷² | (\$ per hundredweight milk) | | | | |
| Operating cost | \$13.37 | \$14.17 | \$13.51 | \$13.42 | \$14.78 |
| Total cost | 18.03 | 17.16 | 17.04 | 17.33 | 18.63 |
| Average price received | 20.62 | 20.09 | 20.06 | 20.77 | 20.95 |
| Return per cwt. to operator labor, management & capital | \$5.50 | \$4.53 | \$5.09 | \$5.98 | \$4.94 |

⁷⁰See Figure 2 for region descriptions.

⁷¹Source: New York Agricultural Statistics Service, Milk-County Estimates.

⁷²From Dairy Farm Business Summary data.

Table 73.

FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
21 New York Dairy-Renter Farms,⁷³ 2007

| <u>ACCRUAL EXPENSES</u> | | <u>ACCRUAL RECEIPTS</u> | | | |
|---|------------------|--|-----------------------------------|------------------|------------------|
| <u>Labor:</u> Hired | \$31,922 | Milk sales | \$413,717 | | |
| <u>Feed:</u> Dairy grain & concentrate | 103,317 | Dairy cattle | 14,235 | | |
| Dairy roughage | 7,978 | Dairy calves | 9,489 | | |
| Nondairy | 127 | Other livestock | 1,561 | | |
| Professional nutritional services | 721 | Crops | 21,732 | | |
| <u>Machinery:</u> Machinery hire, rent & lease | 6,146 | Government receipts | 8,836 | | |
| Machinery repairs & farm vehicle expense | 23,778 | Custom machine work | 2,391 | | |
| Fuel, oil, grease | 17,063 | Gas tax refund | 248 | | |
| <u>Livestock:</u> Replacement livestock | 1,199 | Other | 2,512 | | |
| Breeding | 5,286 | TOTAL ACCRUAL RECEIPTS | \$474,721 | | |
| Veterinary & medicine | 12,276 | | | | |
| Milk marketing | 19,350 | | | | |
| Bedding | 3,962 | <u>PROFITABILITY ANALYSIS</u> | | | |
| Milking supplies | 9,355 | Net farm income (without appreciation) | \$116,646 | | |
| Cattle lease & rent | 0 | Net farm income (with appreciation) | \$136,801 | | |
| Custom boarding | 2,536 | Labor & management income/farm | \$92,384 | | |
| bST expense | 3,075 | Number of operators | 1.50 | | |
| Livestock professional fees | 1,439 | Labor & management income/operator | \$61,589 | | |
| Other livestock expense | 4,674 | Rate of return on equity | | | |
| <u>Crops:</u> Fertilizer & lime | 8,779 | capital including appreciation | 21.2% | | |
| Seeds & plants | 4,953 | | | | |
| Spray & other crop expense | 4,158 | | | | |
| Crop professional fees | 553 | | | | |
| <u>Real estate:</u> Land, building & fence repair | 4,259 | <u>BUSINESS FACTORS</u> | | | |
| Taxes | 2,359 | Number of cows | 103 | | |
| Rent & lease | 23,083 | Number of heifers | 81 | | |
| <u>Other:</u> | | Worker equivalent | 3.16 | | |
| Insurance | 4,037 | Total tillable acres | 303 | | |
| Utilities (farm share) | 12,870 | Milk sold per cow, lbs. | 19,370 | | |
| Interest paid | 7,121 | Hay DM per acre, tons | 2.0 | | |
| Miscellaneous | 6,165 | Corn silage per acre, tons | 14.8 | | |
| TOTAL OPERATING EXPENSES | \$332,540 | Milk sold per worker, lbs. | 633,525 | | |
| | | Grain & concentrate as % milk sales | 24% | | |
| Expansion livestock | \$12,394 | Feed & crop expense/cwt. milk | \$6.49 | | |
| Extraordinary expense | 0 | Labor & machinery costs/cow | \$1,465 | | |
| Machinery depreciation | 12,277 | Average price/cwt. milk | \$20.70 | | |
| Building depreciation | 864 | | | | |
| TOTAL ACCRUAL EXPENSES | \$358,075 | | | | |
| | | | | | |
| <u>ASSETS</u> | <u>Jan. 1</u> | <u>Dec. 31</u> | <u>LIABILITIES</u> | <u>Jan. 1</u> | <u>Dec. 31</u> |
| Farm cash, checking & savings | \$4,715 | \$18,427 | Current | \$35,528 | \$39,612 |
| Accounts receivable | 20,428 | 33,090 | Intermediate ⁷⁵ | 79,847 | 80,817 |
| Prepaid expenses | 0 | 1,571 | Long term ⁷⁴ | 9,757 | 11,201 |
| Feed & supplies | 50,671 | 86,902 | Total Farm Liabilities | \$125,131 | \$131,629 |
| Livestock ⁷⁴ | 228,139 | 251,053 | Nonfarm Liabilities ⁷⁶ | 19,577 | 18,350 |
| Machinery & equipment ⁷⁴ | 121,228 | 139,423 | Farm & Nonfarm Liabilities | \$144,708 | \$149,979 |
| Farm Credit stock | 191 | 191 | Farm Net Worth | \$349,056 | \$455,031 |
| Other stock & certificates | 30,728 | 34,516 | Farm & Nonfarm Net Worth | \$384,718 | \$497,901 |
| Land & buildings ⁷⁴ | 18,089 | 21,486 | | | |
| Total Farm Assets | \$474,187 | \$586,660 | | | |
| Nonfarm Assets ⁷⁶ | 55,239 | 61,219 | | | |
| Farm & Nonfarm Assets | \$529,426 | \$647,879 | | | |

⁷³A renter owns no farm real estate or tillable land at the end of year.

⁷⁴Includes discounted lease payments.

⁷⁵Includes Farm Credit stock and discounted lease payments for cattle and machinery.

⁷⁶Average of 7 farms reporting.

Table 74.

FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
Average of 25 Top Ten Percent Farms by Rate of Return on All Capital
(without appreciation), 2007

| <u>ACCRUAL EXPENSES</u> | | <u>ACCRUAL RECEIPTS</u> | |
|--|--------------------|--|--------------------|
| Labor: Hired | \$402,390 | Milk sales | \$3,210,031 |
| Feed: Dairy grain & concentrate | 760,552 | Dairy cattle | 188,775 |
| Dairy roughage | 38,585 | Dairy calves | 27,060 |
| Nondairy | 38 | Other livestock | 110 |
| Professional nutritional services | 613 | Crops | 112,601 |
| Machinery: Machinery hire, rent & lease | 62,694 | Government receipts | 33,599 |
| Machinery repairs & farm vehicle expense | 108,435 | Custom machine work | 7,223 |
| Fuel, oil, grease | 92,136 | Gas tax refund | 137 |
| Livestock: Replacement livestock | 206 | Other | 30,470 |
| Breeding | 31,711 | TOTAL ACCRUAL RECEIPTS | \$3,610,006 |
| Veterinary & medicine | 81,830 | | |
| Milk marketing | 128,549 | | |
| Bedding | 48,344 | <u>PROFITABILITY ANALYSIS</u> | |
| Milking supplies | 56,832 | Net farm income (without appreciation) | \$1,089,809 |
| Cattle lease & rent | 3,724 | Net farm income (with appreciation) | 1,253,697 |
| Custom boarding | 38,497 | Labor & management income/operator | 499,476 |
| bST expense | 40,515 | Rate of return on equity | |
| Livestock professional fees | 5,852 | capital without appreciation | 30% |
| Other livestock expense | 6,717 | Rate of return on all | |
| Crops: Fertilizer & lime | 45,690 | capital without appreciation | 23% |
| Seeds & plants | 37,668 | | |
| Spray & other crop expense | 31,595 | <u>BUSINESS FACTORS</u> | |
| Crop professional fees | 6,564 | Number of cows | 612 |
| Real estate: Land, building & fence repair | 51,484 | Number of heifers | 494 |
| Taxes | 24,237 | Worker equivalent | 13.50 |
| Rent & lease | 36,380 | Total tillable acres | 1,187 |
| Other: | | Milk sold per cow, lbs. | 25,239 |
| Insurance | 22,531 | Hay DM per acre, tons | 2.9 |
| Utilities (farm share) | 59,467 | Corn silage per acre, tons | 18.5 |
| Interest paid | 86,994 | Milk sold per worker, lbs. | 1,144,463 |
| Miscellaneous | 26,192 | Grain & concentrate as % milk sales | 24% |
| TOTAL OPERATING EXPENSES | \$2,337,021 | Feed & crop expense/cwt. milk | \$5.96 |
| Expansion livestock | \$16,458 | Labor & machinery costs/cow | \$1,410 |
| Extraordinary expense | 239 | Average price/cwt. milk | \$20.78 |
| Machinery depreciation | 96,804 | | |
| Building depreciation | 69,674 | | |
| TOTAL ACCRUAL EXPENSES | \$2,520,196 | | |

| <u>ASSETS</u> | <u>Jan. 1</u> | <u>Dec. 31</u> | <u>LIABILITIES</u> | <u>Jan. 1</u> | <u>Dec. 31</u> |
|-------------------------------------|--------------------|--------------------|-----------------------------------|--------------------|--------------------|
| Farm cash, checking & savings | \$ 44,755 | \$30,795 | Current | \$298,280 | \$373,509 |
| Accounts receivable | 152,442 | 283,467 | Intermediate ⁷⁸ | 652,486 | 538,097 |
| Prepaid expenses | 3,819 | 7,785 | Long-term ⁷⁷ | 537,285 | 565,932 |
| Feed & supplies | 472,877 | 743,498 | Total Farm Liabilities | \$1,488,051 | \$1,477,537 |
| Livestock ⁷⁷ | 1,234,120 | 1,405,809 | Nonfarm Liabilities ⁷⁹ | 922 | 2,928 |
| Machinery & equipment ⁷⁷ | 654,720 | 806,558 | Farm & Nonfarm Liabilities | \$1,488,973 | \$1,480,465 |
| Farm Credit stock | 5,891 | 1,386 | Farm Net Worth | \$2,777,945 | \$3,736,828 |
| Other stock & certificates | 117,025 | 132,952 | Farm & Nonfarm Net Worth | \$3,078,360 | \$4,065,582 |
| Land & buildings ⁷⁷ | 158,0346 | 1,802,117 | | | |
| Total Farm Assets | \$4,265,996 | \$5,214,366 | | | |
| Nonfarm Assets ⁷⁹ | 301,337 | 331,682 | | | |
| Farm & Nonfarm Assets | \$4,567,333 | \$5,546,048 | | | |

⁷⁷Includes discounted lease payments.⁷⁸Includes Farm Credit Stock and discounted lease payments for cattle and machinery.⁷⁹Average of 7 farms reporting.

Table 75.

FARM BUSINESS SUMMARY AND FARM FAMILY FINANCIAL SITUATION
Average of 250 New York Dairy Farms, 2007

| <u>ACCRUAL EXPENSES</u> | | <u>ACCRUAL RECEIPTS</u> | |
|--|--------------------|--|--------------------|
| Labor: Hired | \$222,060 | Milk sales | \$1,674,170 |
| Feed: Dairy grain & concentrate | 401,476 | Dairy cattle | 94,756 |
| Dairy roughage | 26,633 | Dairy calves | 11,592 |
| Nondairy | 468 | Other livestock | 3,312 |
| Professional nutritional services | 338 | Crops | 49,268 |
| Machinery: Machinery hire, rent & lease | 33,094 | Government receipts | 24,801 |
| Machinery repairs & farm vehicle expense | 71,540 | Custom machine work | 3,063 |
| Fuel, oil, grease | 55,104 | Gas tax refund | 285 |
| Livestock: Replacement livestock | 6,125 | Other | 24,092 |
| Breeding | 20,033 | TOTAL ACCRUAL RECEIPTS | \$1,885,340 |
| Veterinary & medicine | 53,472 | | |
| Milk marketing | 66,167 | | |
| Bedding | 25,894 | | |
| Milking supplies | 33,236 | <u>PROFITABILITY ANALYSIS</u> | |
| Cattle lease & rent | 1,371 | Net farm income (without appreciation) | \$410,358 |
| Custom boarding | 23,378 | Net farm income (with appreciation) | 556,376 |
| bST expense | 20,612 | Labor & management income/operator | 189,019 |
| Livestock professional fees | 4,554 | Rate of return on equity | |
| Other livestock expense | 7,192 | capital without appreciation | 17.0% |
| Crops: Fertilizer & lime | 33,314 | Rate of return on all | |
| Seeds & plants | 23,091 | capital without appreciation | 13.4% |
| Spray & other crop expense | 17,736 | | |
| Crop professional fees | 2,072 | | |
| Real estate: Land, building & fence repair | 26,187 | <u>BUSINESS FACTORS</u> | |
| Taxes | 18,927 | Number of cows | 358 |
| Rent & lease | 23,374 | Number of heifers | 289 |
| Other: | | Worker equivalent | 8.40 |
| Insurance | 15,728 | Total tillable acres | 758 |
| Utilities (farm share) | 36,341 | Milk sold per cow, lbs. | 22,983 |
| Interest paid | 67,977 | Hay DM per acre, tons | 3.0 |
| Miscellaneous | 17,505 | Corn silage per acre, tons | 18.9 |
| TOTAL OPERATING EXPENSES | \$1,354,999 | Milk sold per worker, lbs. | 980,234 |
| Expansion livestock | \$10,427 | Grain & concentrate as % milk sales | 24% |
| Extraordinary expense | 582 | Feed & crop expense/cwt. milk | \$6.13 |
| Machinery depreciation | 68,060 | Labor & machinery costs/cow | \$1,492 |
| Building depreciation | 40,914 | Average price/cwt. milk | \$20.34 |
| TOTAL ACCRUAL EXPENSES | \$1,474,982 | | |

| <u>ASSETS</u> | <u>Jan. 1</u> | <u>Dec. 31</u> | <u>LIABILITIES</u> | <u>Jan. 1</u> | <u>Dec. 31</u> |
|-------------------------------------|---------------|----------------|-----------------------------------|---------------|----------------|
| Farm cash, checking & savings | \$17,911 | \$18,215 | Accounts payable | \$52,183 | \$33,937 |
| Accounts receivable | 80,453 | 143,657 | Operating debt | 56,994 | 60,463 |
| Prepaid expenses | 1,821 | 4,625 | Short-term | 6,546 | 4,197 |
| Feed & supplies | 247,017 | 346,900 | Advanced gov't receipts | 0 | 19 |
| Dairy cows ⁸⁰ | 473,141 | 537,563 | Current Portion: | | |
| Heifers | 272,305 | 314,613 | Intermediate | 77,908 | 87,466 |
| Bulls & other livestock | 4,221 | 4,519 | Long Term | 24,198 | 27,480 |
| Machinery & equipment ⁸⁰ | 486,514 | 551,014 | Intermediate ⁸¹ | 446,973 | 425,708 |
| Farm Credit stock | 3,607 | 982 | Long-term ⁸⁰ | 380,995 | 402,564 |
| Other stock & certificates | 56,469 | 66,032 | Total Farm Liabilities | \$1,045,797 | \$1,041,835 |
| Land & buildings ⁸⁰ | 1,149,468 | 1,254,370 | Nonfarm Liabilities ⁸² | 2,048 | 2,433 |
| Total Farm Assets | \$2,792,927 | \$3,242,490 | Farm & Nonfarm Liabilities | \$1,047,845 | \$1,044,268 |
| Nonfarm Assets ⁸² | 277,666 | 291,594 | Farm Net Worth | \$1,747,129 | \$2,200,655 |
| Farm & Nonfarm Assets | \$3,070,593 | \$3,534,084 | Farm & Nonfarm Net Worth | \$2,022,747 | \$2,489,816 |

⁸⁰Includes discounted lease payments.

⁸¹Includes Farm Credit stock and discounted lease payments for cattle and machinery.

⁸²Average of 107 farms reporting.

APPENDIX

**PRICES, COSTS AND TRENDS
IN THE NEW YORK DAIRY INDUSTRY**

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 A1.**PRICES PAID BY NEW YORK FARMERS FOR SELECTED ITEMS, 1993-2007**

| Year | Mixed Dairy Feed 16% Protein ⁸³ (\$/ton) | Fertilizer, Urea 45-46%N ⁸³ (\$/ton) | Seed Corn, Hybrid ⁸⁴ (\$/80,000 kernels) | Diesel Fuel ⁸³ (\$/gal) | Tractor 50-59 PTO ⁸⁴ (\$) | Wage Rate All Hired Farm Workers ⁸⁵ (\$/hr) |
|------|---|--|---|--|--|---|
| 1993 | 171 | 226 | 72.70 | 0.900 | 19,200 | 6.76 |
| 1994 | 181 | 233 | 73.40 | 0.853 | 19,800 | 6.96 |
| 1995 | 175 | 316 | 77.10 | 0.850 | 20,100 | 6.92 |
| 1996 | 226 | 328 | 77.70 | 1.020 | 20,600 | 7.19 |
| 1997 | 216 | 287 | 83.50 | 0.960 | 21,200 | 7.63 |
| 1998 | 199 | 221 | 86.90 | 0.810 | 21,800 | 7.63 |
| 1999 | 175 | 180 | 88.10 | 0.750 | 21,900 | 8.12 |
| 2000 | 174 | 201 | 87.50 | 1.270 | 21,800 | 8.74 |
| 2001 | 176 | 270 | 92.20 | 1.260 | 22,000 | 8.72 |
| 2002 | 178 | 232 | 92.00 | 1.028 | 21,900 | 9.26 |
| 2003 | 194 | 283 | 102.00 | 1.516 | 21,300 | 9.93 |
| 2004 | 207 | 299 | 105.00 | 1.400 | 21,500 | 9.96 |
| 2005 | 190 | 365 | 111.00 | 2.020 | 23,400 | 9.88 |
| 2006 | 239 | 403 | 118.00 | 2.355 | 23,700 | 10.35 |
| 2007 | 300 | 480 | 133.00 | 3.773 | 24,300 | 10.49 |

SOURCE: NYASS, New York Agricultural Statistics. USDA, NASS, Agricultural Prices.

⁸³Northeast region average. ⁸⁴United States average. ⁸⁵New York and New England combined.

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 January and an index of the real estate prices.

Table A2.**VALUES AND INDICES OF NEW YORK DAIRY FARM INVENTORY ITEMS, 1991-2007**

| Year | Dairy Cows | | Machinery ⁸⁶ | Farm Real Estate ⁸⁷ | |
|------|------------|----------|-------------------------|--------------------------------|----------|
| | Value/Head | 1977=100 | 1977=100 | Value/Acre | 1977=100 |
| 1991 | 1,040 | 210 | 219 | 1,095 | 187 |
| 1992 | 1,090 | 220 | 226 | 1,139 | 194 |
| 1993 | 1,100 | 222 | 235 | 1,237 | 211 |
| 1994 | 1,100 | 222 | 249 | 1,260 | 215 |
| 1995 | 1,010 | 204 | 258 | 1,280 | 218 |
| 1996 | 1,030 | 208 | 268 | 1,260 | 215 |
| 1997 | 980 | 198 | 276 | 1,250 | 213 |
| 1998 | 1,050 | 212 | 286 | 1,280 | 218 |
| 1999 | 1,250 | 253 | 294 | 1,340 | 228 |
| 2000 | 1,250 | 253 | 301 | 1,430 | 244 |
| 2001 | 1,600 | 323 | 312 | 1,520 | 259 |
| 2002 | 1,400 | 283 | 320 | 1,610 | 274 |
| 2003 | 1,300 | 263 | 325 | 1,700 | 290 |
| 2004 | 1,580 | 319 | 351 | 1,780 | 303 |
| 2005 | 1,690 | 341 | 373 | 1,920 | 327 |
| 2006 | 1,550 | 313 | 392 | 2,050 | 349 |
| 2007 | 1,930 | 390 | 412 | 2,220 | 378 |

SOURCE: NYASS, New York Agricultural Statistics and New York Crop and Livestock Report. USDA, ASB, Agricultural Prices.

⁸⁶United States average; 1995 - 2007 are estimated due to discontinuation of 1977=100 series.

⁸⁷New York average for 2000-2007 excludes Native American Reservation land.

Table A3.

NUMBER OF DAIRY FARMS AND MILK COWS BY SIZE OF HERD
New York State, 2007⁸⁸

| Size of Herd (Number of Cows) | Farms | | Milk Cows | |
|----------------------------------|----------|--------------------|-----------|--------------------|
| | (Number) | (Percent of Total) | (Number) | (Percent of Total) |
| 1 - 29 | 1,300 | 21.0% | 12,500 | 2.0% |
| 30-49 | 1,300 | 21.0% | 50,000 | 8.0% |
| 50-99 | 2,100 | 33.9% | 138,000 | 22.0% |
| 100-199 | 890 | 14.3% | 113,000 | 18.0% |
| 200-499 | 410 | 6.6% | 125,000 | 20.0% |
| 500-749 | 95 | 1.5% | 56,000 | 9.0% |
| 750-999 | 43 | 0.7% | 34,500 | 5.5% |
| 1000-1499 | 38 | 0.6% | 44,000 | 7.0% |
| 1500 - 1999 | 9 | 0.15% | 14,000 | 2.2% |
| 2000 or more | 15 | 0.25% | 40,000 | 6.3% |
| Total | 6,200 | 100.0% | 627,000 | 100.0% |

⁸⁸This information on number of farms and number of cows by size of herd is derived from several sources:

- Dairy Statistics as published by the New York Agricultural Statistics Services for 2007.
- CAFO (Concentrated Animal Feeding Operations) permit reports for 2007. Some small CAFO farms (farms with 200 to 700 milk cows) have not applied for or updated the permit. Estimates for these farms were made so as to reflect the total number of dairy farms in New York State.

⁸⁹The author wishes to thank everyone who provided some data as well as providing valuable advice and perspectives: Lee Telega, Jacqueline Lendrum, and B. F. Stanton. However, any errors, omissions or misstatements are solely the responsibility of the author, Professor George Conneman, e-mail gjc4@cornell.edu

In 2007, there were 6,200 dairy farms in New York State, and 627,000 milk cows as reported by the NYASS. The table above was prepared based on the NYASS data plus the CAFO permit filing for additional herd size categories.

Ninety percent of the farms (less than 200 cows per farm) had 50 percent of the milk cows. The remaining ten percent of the farms had 50 percent of the cows.

About 3 percent of the farms (those with 500 or more cows) had 30 percent of the cows.

Farms with less than 50 cows represent 42 percent of all farms but kept only 10 percent of the cows.

Farms with 1,000 or more cows represent about 1 percent of the farms but kept over 15 percent of the cows.

GLOSSARY AND LOCATION OF COMMON TERMS

Accounts Payable: Open accounts or bills owed to feed and supply firms, cattle dealers, veterinarians and other providers of farm services and supplies.

Accounts Receivable: Outstanding receipts from items sold or sales proceeds not yet received such as the payment for December milk sales received in January.

Accrual Accounting: (defined on page 9).

Accrual Expenses: (defined on page 11).

Accrual Receipts: (defined on page 11).

Annual Cash Flow Statement: (defined on page 18).

Appreciation: (defined on page 12).

Asset Turnover Ratio: (defined on page 42).

Available for Debt Service per Cow: Net cash available for debt service after deducting net personal withdrawals for family expenditures, divided by the average number of cows.

Average Top 10% Farms: Average of 25 farms with highest rate of return on all capital (without appreciation).

Balance Sheet: A "snapshot" of the business financial position at a given point in time, usually December 31. The balance sheet equates the value of assets to liabilities plus net worth.

Barn Types: Stanchion: cows are confined in a stall by a stanchion or neck chain. Freestall: cows move at will between open stalls and feeding areas. Combination: both stanchion and freestall barns used.

bST Usage: An estimate of percentage of herd that was injected with bovine somatotropin during the year.

Business Records: Account Book: any organized farm record book or ledger. Accounting Service: any hired recordkeeping service. On-Farm Computer: computerized business and financial records entered and kept on the farm. Other: accountant, recordkeeping association or no organized recordkeeping system.

Capital Efficiency: The amount of capital invested per production unit. Relatively high investments per worker with low to moderate investments per cow imply efficient use of capital. (See analysis, page 42).

Capital Investment: Commonly used as substitute term for farm capital or total farm assets.

Cash Flow: The movement of money in and out of the business over a given period of time, e.g. one year. (See Annual Cash Flow Statement, page 18).

Cash Flow Coverage Ratio: (defined on page 20).

Cash From Nonfarm Capital Used in the Business: Transfers of money from nonfarm savings or investments to the farm business where it is used to pay operating expenses, make debt payments and/or capital purchases.

Cash Paid: (defined on page 10).

Cash Receipts: (defined on page 11).

Change in Accounts Payable: (defined on page 11).

Change in Accounts Receivable: (defined under Accrual Receipts on page 11).

Change in Advanced Government Receipts: (defined under Accrual Receipts page 11).

Change in Inventory: (defined on page 10).

Corporation: Business is organized under state corporation law. Corporation is owned, operated, and managed by members of one or more farm families and owner/operators are corporate employees. Corporate accounts are modified to exclude operator wages' and other compensation from operating expenses for DFBS use.

Cost of Producing Milk, Whole Farm Method: A procedure used to calculate costs of producing milk on dairy farms without using enterprise cost accounts. All non-milk receipts are assigned a cost equal to their sale value and deducted from total farm expenses to determine the costs of producing milk. (see page 28).

Cost of Term Debt: A weighted average of the cost of borrowed intermediate and long term capital used on the farm. Calculate by multiplying end of year principal of each loan that is borrowed by the interest rate for each loan at that time. Add up each amount that is calculated for each loan and then divide by total amount of borrowed funds. Do not include accounts payable, operating debt or advanced government receipts. This information is found on pages 8 & 9 of the data entry form.

Culling Rate: Culling rate is calculated by dividing the number of animals that left the herd for culling purposes and that died, by the average number of milking and dry cows for the year

Current (assets and liabilities): Farm inventories and operating capital that usually turnover annually, and the debt expected to be repaid within 12 months.

Current Portion: Principal due in the next year for intermediate and long term debt.

Current Ratio: Measures the extent to which current farm assets, if liquidated, would cover current farm liabilities. Calculated as current farm assets at end year divided by current farm liabilities at end year.

Dairy Cash-Crop (farm): Operating and managing this farm is the full-time occupation of one or more people, cropland is owned but crop sales exceed ten percent of accrual milk receipts.

Dairy Farm Renter: (dairy-renter) - Farm business owner/operator owns no tillable land and commonly rents all other farm real estate.

Dairy Grain and Concentrate: All grains, protein supplements, milk substitutes, minerals and vitamins purchased and fed to the dairy herd.

Dairy Records: DHIC: Dairy Herd Improvement Cooperative official milk production records. Owner Sampler: weights and samples are taken by farmer but tested by DHIC. Other: all other methods used to obtain periodic production data on individual cows. None: no milk production records on individual cows.

Dairy Roughage: All hay, silage or other fodder purchased and fed to the dairy herd.

Death Rate: The percentage of the average number of milking and dry cows that died during the year.

Debt Coverage Ratio: (defined on page 20)

Debt Per Cow: Total end-of-year debt divided by end-of-year number of cows.

Debt to Asset Ratios: (defined on page 16).

Depreciation Expense Ratio: The percentage of total accrual receipts that is charged to depreciation expense (machinery and building).

Dry Matter: The amount or proportion of dry material that remains after all water is removed. Commonly used to measure dry matter percent and tons of dry matter in feed.

Equity Capital: The farm operator/manager's owned capital or farm net worth.

Expansion Livestock: (defined on page 9).

Farm Business Chart: (see definition and application on page 44).

Farm Capital: Average total farm assets.

Farm Debt Payments as Percent of Milk Sales: Amount of milk income committed to debt repayment, calculated by dividing planned debt payments by total milk receipts. A reliable measure of repayment ability, see pages 20 & 47.

Farm Debt Payments Per Cow: Planned or scheduled debt payments per cow represent the repayment plan scheduled at the beginning of the year divided by the average number of cows for the year. This measure of repayment ability is used in the Financial Analysis Chart on page 47.

Financial Lease: A long-term non-cancelable contract giving the lessee use of an asset in exchange for a series of lease payments. The term of a financial lease usually covers a major portion of the economic life of the asset. The lease is a substitute for purchase. The lessor retains ownership of the asset.

Hay Crop: All hay land, including new seedings, harvested once or more per year as hay or hay crop silage.

Hay Dry Matter: see Dry Matter.

Heifers: Female dairy replacements of all ages.

Hired Labor (expenses): All wages, non-wage compensation, payroll taxes, benefits, and perquisites paid employees.

Hired Labor Expense as % of Milk Sales: The percentage of the gross milk receipts that is used for labor expense. Divide accrual hired labor expense by accrual milk sales.

Hired Labor Expense per Hired Worker Equivalent: The total cost to the farm per hired worker equivalent. Divide accrual hired labor expense by number of hired plus family paid worker equivalents.

Income Statement: A complete and accurate account of accrual adjusted farm business receipts and expenses used to measure net income over a period of time such as one year or one month.

Intensive Grazing: The dairy herd is on pasture at least three months of the year, changing paddocks at least every three days and percent of forage from pasture is at least 30 percent.

Interest Expense Ratio: The percentage of total accrual receipts that is used for interest expense

Intermediate (assets and liabilities): Farm business property and associated debt that is turned over from one to ten years.

Labor and Management Income: (defined on page 13).

Labor and Management Income Per Operator: (defined on page 13).

Labor Efficiency: Production capacity and output per worker. (See analysis on pages 42 and 43).

Labor Force: Operator(s): Person or persons that run the farm and make the management decisions. An operator does not have to be a farm owner. Family Paid: all family members, excluding operators, that are paid for working on the farm. Family Unpaid: all family members, excluding the operators, that are not paid for farm work performed.

Liquidity: Ability of business to generate cash to make debt payments or to convert assets to cash.

Leverage Ratio: (defined on pages 16 and 47).

Long-Term (assets and liabilities): Farm real estate and associated debt with typical life of ten or more years.

Milk Marketing (expenses): Milk hauling fees and charges, co-op dues, milk advertising and promotion expenses.

Milking Frequency: 2X/day: all cows were milked two times per day for the entire year. 3X/day: all cows were milked three times per day for the entire year. Other: any combination of 2X, 3X, and more frequent milking.

Milking Systems: Bucket and Carry: milk is transferred manually from milking unit to pail to tank. Dumping Station: milk is dumped from milking unit into transfer station and then pumped to tank. Pipeline: milking units are connected directly to milk transfer lines. Herringbone, parallel, parabone, and rotary parlors are identified specifically. Other Parlors would include milking systems such as flat barn parlors.

Net Farm Income: (defined on page 12).

Net Farm Income from Operations Ratio: (defined on page 14)

Net Milk Income over Purchased Concentrate Per Cow: Milk receipts less milk marketing expense less purchased grain and concentrate expense, all divided by average number of cows.

Net Milk Receipts: The mail box price received by farmers before any farmer authorized assignment or deductions.

Net Worth: The value of assets less liabilities equal net worth. It is the equity the owner has in owned assets.

Nondairy Feed: All grain, concentrates, and roughage purchased and fed to nondairy livestock.

Nonfarm Noncash Capital: (defined on page 11).

Nontillable Pasture: Permanent or semi-permanent pasture land that is not be included in a regular crop rotation.

Operating Costs of Producing Milk: (defined on page 31).

Operating Expense Ratio: The percentage of total accrual receipts that is used for operating expenses, excluding interest and depreciation.

Opportunity Cost: The cost or charge made for using a resource based on its value in its most likely alternative use. The opportunity cost of a farmer's labor and management is the value he/she would receive if employed in his/her most qualified alternative position.

Other Forage: All forage crops harvested but not included as hay crops or corn silage, e.g. oats, barley, and sudan grass harvested as roughage.

Other Livestock Expenses: All other dairy herd and livestock expenses not included in more specific categories. Other livestock expenses include; bedding, DHIC, milk house and parlor supplies, livestock board, registration fees and transfers.

Owner/Operator Resources Per Hundredweight: The total value of equity, management, and labor contributed to the farm from all owner/operators. This measure is calculated by adding the interest on equity capital to the value of labor and management for all owner/operators and dividing by the hundredweight milk produced during the year.

Part-Time Dairy (farm): Dairy farming is the primary enterprise, cropland is owned but operating and managing this farm is not a full-time occupation for one or more people.

Partnership: Business is owned by two or more individuals who share profits according to their contribution of labor, management, and capital.

Percent of Heifer Inventory Custom Inventory: The percent of current heifer inventory owned by the farm that is being custom raised off the farm.

Percent of Replacements Purchased: The percent of animals in the herd that calved for replacement purposes (not expansion cattle) that were different genetic background than your herd and were purchased.

Personal Withdrawals and Family Expenditures Including Nonfarm Debt Payments: All the money removed from the farm business for personal or nonfarm use including family living expenses, health and life insurance, income taxes, nonfarm debt payments, and investments.

Premium: In milk marketing this typically refers to the amount paid for milk in addition to the minimum regulated price. Premiums may be paid to the producer or cooperative supplier of milk by a buyer depending on a variety of criteria such as milk quality, composition, quantity supplied, or services provided. They may also represent market supply/demand conditions not adequately accounted for in the regulated price.

Prepaid Expenses: (defined on page 11).

Producer Price Differential: Under Federal Order markets with multiple component pricing, it is the residual value (per hundredweight) of the pool after deducting component payments (protein, butterfat, and other solids) to producers. This residual value will vary between market orders and from month-to-month based on the utilization of the various classes and class price. It is possible that the PPD can even be negative at times if, for example, the class III price exceeds the class I price.

Profitability: The return or net income the owner/manager receives for using one or more of his or her resources in the farm business. True "economic profit" is what remains after deducting all costs including the opportunity costs of the owner/manager's labor, management, and equity capital.

Purchased Inputs Costs of Producing Milk: (defined on page 31).

Repayment Analysis: An evaluation of the business' ability to make planned debt payments.

Replacement Livestock: Dairy cattle and other livestock purchased to replace those that were culled or sold from the herd during the year.

Return on Equity Capital: (defined on page 14).

Return to all Capital: (defined on page 14).

Sell Rate: The percentage of the average number of milking and dry cows that were sold for culling reasons. Animals that were sold as replacement stock to other dairy farms is not included in this number.

Sole Proprietorship: Business is owned by one individual but there may be more than one operator.

Solvency: The extent or ability of assets to cover or pay liabilities. Debt/asset and leverage ratios are common measures of solvency.

Specialized Dairy Farm: A farm business where dairy farming is the primary enterprise, operating and managing this farm is a full-time occupation for one or more people and cropland is owned.

Statement of Owner Equity (reconciliation): (defined on page 17).

Taxes (expenses): Real estate taxes (school, town, and county). Payroll taxes are included as a hired labor expense. Income and self-employment taxes are a personal expense for all noncorporate taxpayers.

Tillable Acres: All acres that are normally cropped including hay land that is pastured. Acres that are doubled cropped are counted once.

Tillable Pasture: Hay crop acreage currently used for grazing that could be tilled in a regular cropping sequence.

Total Costs of Producing Milk: (defined on page 31).

Value of Calf Sold: The average value received for bull and heifer calves sold as calves during the year.

Value of Cow Sold: The average value received for animals that were sold for culling reasons.

Whole Farm Method: A procedure used to calculate costs of producing milk on dairy farms without using enterprise cost accounts. All non-milk receipts are assigned a cost equal to their sale value and deducted from total farm expenses to determine the costs of producing milk.

Worker Equivalent: The number of full-time workers equivalent to all the full and part-time people working throughout the year. Operator and family labor is included. Worker equivalents are determined by converting all work to full-time months (based on a 230 hours per month) and dividing by 12.

Working Capital: A theoretical measure of the amount of funds available to purchase inputs and inventory items after the sale of current farm assets and payment of all current farm liabilities. Calculated as current farm assets at end year less current farm liabilities at end year.

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