

# 2014 Northeast Dairy Farm Summary



FARM CREDIT EAST





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# 2014 Northeast Dairy Farm Summary

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May 2015



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# ACKNOWLEDGMENTS

No research project of the scope of the *Northeast Dairy Farm Summary (DFS)* would be possible without the collaboration and hard work of many individuals. The editor would like to thank those who preceded him in writing the *DFS* over the past 30-plus years. Thanks, as well, to Farm Credit Financial Partners, Inc. for creation of the benchmark application and their assistance in compiling data.

In addition, thanks are due to all Farm Credit East staff, who reconciled reams of farm financial data from hundreds of farms and entered the information into the system. Every year, their hard work provides the raw material for creating the *DFS*.

And, most importantly, the entire Farm Credit team extends our sincere thanks to the hardworking Northeast dairy farmers who entrusted their farm data to this project. We hope the end product is helpful in your continual pursuit of improved farm management. You inspire us all with the valuable work that you do.

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# HIGHLIGHTS OF THE 2014 NORTHEAST DAIRY FARM SUMMARY

- › 368 dairy farms participated in the 2014 *Northeast Dairy Farm Summary*.
- › Profitability more than doubled in 2014 from the prior year. Net earnings rose to \$1,176 per cow in 2014<sup>1</sup>, an increase from \$490 per cow in 2013. Farm milk price increased by \$4.22 per hundredweight (cwt.) to \$25.52.
- › Many costs were also higher in 2014, reaching record levels in some categories. Total farm expense per cwt. increased to \$23.71 per cwt. in 2014.<sup>2</sup>
- › Net cost of production<sup>3</sup> (NCOP) rose to \$20.77 per cwt., \$1.30 higher than 2013.
- › Specific operating cost categories also increased in 2014. Feed expense increased from \$1,849 per cow in 2013 to \$1,873 in 2014, despite falling grain and oilseed prices. Labor, a dairy farm's second greatest expense, was 11 percent higher and repairs increased 27 percent as producers used higher margins to catch up on deferred maintenance.
- › Productivity measures were mixed in our sample of farms. Per cow production was virtually flat from 2013 at 23,846 pounds (lbs.). Milk sold per worker was 4 percent lower to 1,055,381 lbs.
- › Cash flow was more than sufficient to meet all financial commitments (e.g., operating expenses, debt repayment, family living and income taxes) as well as to pay down debt and to cover some capital purchases.
- › Percent net worth increased to 75 percent. Debt-per-cow decreased from \$3,384 per cow to \$3,335.

## PROFILE OF THE AVERAGE NORTHEAST DAIRY FARM

	2013	2014
Number of Cows	<b>315</b>	<b>339</b>
Milk Sold per Cow	<b>23,848 lbs.</b>	<b>23,846 lbs.</b>
Milk Sold per Worker	<b>1,097,288 lbs.</b>	<b>1,055,381 lbs.</b>
Milk Price per Cwt.	<b>\$21.30</b>	<b>\$25.52</b>
NCOP per Cwt.	<b>\$19.23</b>	<b>\$20.77</b>
Net Worth	<b>73%</b>	<b>75%</b>
Net Earnings per Cow	<b>\$490</b>	<b>\$1,176</b>
Return on Assets	<b>4.8%</b>	<b>10.1%</b>

<sup>1</sup>After family living and nonfarm income.

<sup>2</sup>Before family living.

<sup>3</sup>Total farm expense, plus family living, less non-milk income. For more information, see page 7.



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## INTRODUCTION

The purpose of Farm Credit East's annual *Dairy Farm Summary (DFS)* is to assess the financial health and progress of dairy farm businesses within our loan service area. It is intended to provide dairy producers, Farm Credit staff, Northeast public policymakers and dairy leaders with a better understanding of the current status and future prospects of the Northeast's largest farm industry.

As a major regional summary of actual dairy farm business results, the *Dairy Farm Summary* is a unique annual project within the U.S. dairy industry. It is the result of cooperation and hard work by many people. We are grateful, first and foremost, to the 368 dairy producers who allowed their financial and production records to be used in this study. Further, we appreciate the teamwork and timeliness of Farm Credit East staff that helped customers provide that information. The *DFS* contains five years of financial data for dairy farms in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey and New York.<sup>4</sup> The majority of the farms in this study are from New York. This year's study does not include Vermont farms.

We believe this sample of 368 farm operations represents a solid cross section of better-than-average Northeast dairy farm businesses, most of which maintain loan relationships with Farm Credit East. All farms included in the study received the majority of their income from milk sales, but many farms have additional business income, such as custom work, maple sugaring or crop sales. We have purposely not excluded these farms from the sample (unless such income comprises a majority of farm income) as we feel it reflects the diverse face of Northeast dairying, where many producers have added supplementary income streams to increase earnings.

Partnerships and corporations were adjusted to a sole proprietor basis for consistency. Farms with unusual events, such as a large expansion, a major herd-health problem, an inheritance, significant unexplained gains or losses (>10 percent of total assets) or other types of business anomalies were excluded from the sample. Each farm's data was carefully reviewed to ensure both cash flow and net worth reconciled. This approach ensures a high level of integrity for the financial results presented in the *2014 Dairy Farm Summary*.

The *DFS* tends to focus discussion on the "average farm," which, in reality, does not exist. By focusing on the average, we are able to highlight changes: 1) of Northeast dairy farms over time; 2) within individual herd-size groups; and 3) within the top and bottom profitability groups. While the use of averages leads to an effective discussion with respect to change, it tends to minimize both the best and worst conditions experienced by farms within the sample, as it pushes everything to the mathematical middle. This is again true in a year such as 2014. While the "average farm" had \$1,176 per cow in net income in 2014, 15 farms (4 percent) in our sample had negative net farm income (even in such a remarkable year). Focusing on average results belies the fact that some producers, of all sizes, still struggle to make a profit in this challenging industry.

<sup>4</sup> No farm data was submitted from Rhode Island.

## CHANGES TO THE DAIRY FARM SUMMARY

This year's *DFS* includes only those farms within the Farm Credit East loan service area, and does not include farms in Vermont. For more information, see Appendix.

The “Other” expense category in the tables has been shifted from “Cost of Goods Sold” to “Overhead” to better reflect the composition of expenses that are typically contained in this miscellaneous category.

We have changed the way Net Cost of Production is calculated. For more details on this, see page 7. Past NCOP figures referenced in this edition have been restated for comparative purposes.

Figure 1

## DAIRY FARM PROFITABILITY

	Net Earnings Per Cow <sup>1</sup>	Return on Assets <sup>2</sup>	Return on Equity <sup>3</sup>
2010	\$396	5.2%	5.8%
2011	\$797	8.4%	10.7%
2012	\$415	4.7%	5.0%
2013	\$490	4.8%	5.3%
2014	\$1,176	10.1%	13.6%
3-Year Average	\$694	6.5%	8.0%
5-Year Average	\$655	6.6%	8.1%

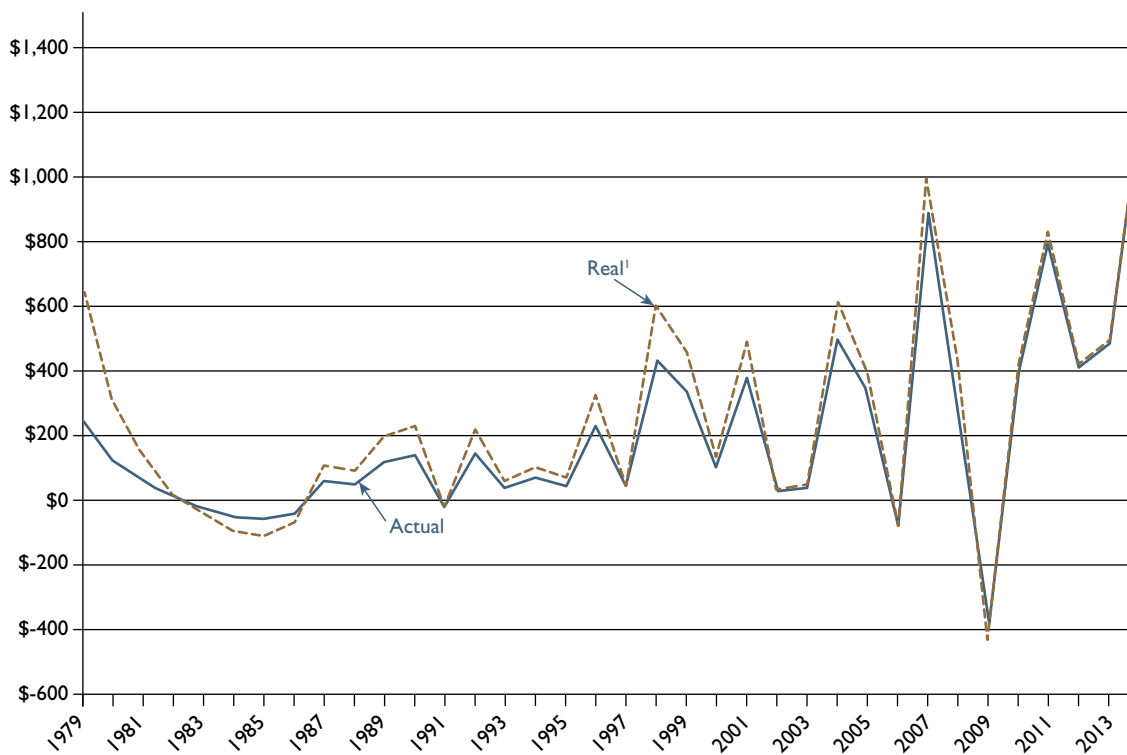
<sup>1</sup>Net earnings includes nonfarm income.

<sup>2</sup>Return on assets = (net earnings + interest) / average total assets

<sup>3</sup>Return on equity = net earnings / average net worth

Figure 2

## NET EARNINGS PER COW



<sup>1</sup>Real price is actual price adjusted for inflation, 2014 dollars

# Analysis of 2014

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## A REMARKABLE YEAR

In 2014, profitability set a *DFS* record in both actual and inflation-adjusted terms with an increase of \$686 in average net earnings per cow. Net earnings were \$1,176 per cow, bringing the three-year average to \$694. In addition to increased earnings, repairs and maintenance rose by 27 percent and depreciation increased, reflecting new equipment purchases. Many producers used profits to catch up on deferred maintenance, make improvements to facilities and invest in equipment.

Income was higher as the milk price rose by \$4.22 per cwt. to an average of \$25.52. Net cost of production increased as well by \$1.30 per cwt. to \$20.77, preventing producers from realizing the full increase of the higher milk price.

Nonetheless, 2014 was the most profitable year in the history of the *DFS*, going back to 1979.

This summary uses three primary measures of profitability, each of which provides a useful perspective on dairy farm financial performance:

- › **Net earnings per cow** measures sheer dollars of profit earned relative to the size of the operation and includes all sources of income, including nonfarm sources.
- › **Return on assets (ROA)** measures profit earned relative to the present market value of total farm assets. This indicates the earning power of each dollar invested in the farming operation, regardless of whether it comes from the farm operator or was borrowed from a lender.
- › **Return on equity (ROE)** measures profit earned relative to the farmer's equity investment in the operation. This measure is the best indicator of how the dairy producer's investment is paying off compared to how it might pay off if invested another way.

Even in a year such as 2014, the importance of risk management cannot be overstated given the year-to-year fluctuations in milk price, cost of inputs and profitability experienced by the Northeast dairy industry. That a single year does not provide an accurate picture of the industry's long-term operating performance is still true. To further illustrate, four of the last eight years account for both the top three years for profitability in the *DFS* history and also for the bottom two. Given these extremes, multiyear averages create a more accurate picture of the industry. If we look at both a shorter- and longer-term average, we see similar results (Figure 2A). Continued year-to-year volatility confirms the challenges and opportunities that Northeast dairy producers face. The reality is that higher average returns over the course of the cycle may be possible for those who are able to manage the ups and downs.



Figure 2A

## COMPARISON OF EARNINGS MEASURES

	Three-Year Average	Five-Year Average	Ten-Year Average
Net Earnings per Cow	<b>\$694</b>	<b>\$655</b>	<b>\$445</b>
Return on Assets	<b>6.5%</b>	<b>6.6%</b>	<b>5.4%</b>
Return on Equity	<b>8.0%</b>	<b>8.1%</b>	<b>5.9%</b>

It is important to differentiate net earnings (profit) from cash flow. Farm businesses rely on cash flow to pay ongoing bills, but cash flow is not an accurate measure of profitability. Net earnings are an accrual measure of profit, which represents a farm business's ability to provide an economic return for the operator's investment and management. It offers the most complete picture of a farm's profitability by adjusting cash farm income and expenses to reflect changes in inventories, accounts receivable, accounts payable and prepaid expenses. (See Glossary.)

## MILK PRICE RISES

The average farm milk price at \$25.52 per cwt. was nearly 20 percent higher than 2013's \$21.30. It was \$6.71 above the prior five-year average of \$18.81 per cwt. (Figure 3A). In terms of actual (nominal dollars, not adjusted for inflation) milk prices, 2014 ranked highest in the 35 years of the *DFS*. However, to better understand the true story of how milk prices have changed over time, we must account for the impact of inflation (Figure 3B). In terms of "real", inflation-adjusted rankings, 2014 drops to seventh. The first year of the *DFS*, 1979, ranks first.

Monthly milk price (Boston blend) began 2014 at a strong \$22.93 per cwt. The price then rose in most months, peaking at \$26.16 in September before declining to \$21.02 in December. The average Boston blend price for 2014 was \$24.28. No MILC (Milk Income Loss Contract) program payments were triggered in 2014, before the program ended in September.

Several factors have contributed to increased milk price volatility in recent years. Changes in export markets and domestic demand have quickened the pace by which production is required to adjust, further contributing to price volatility. Investment decisions should include an analysis of management's ability to cope with price and earnings volatility.

Figure 3A

## FARM MILK PRICES PER CWT.

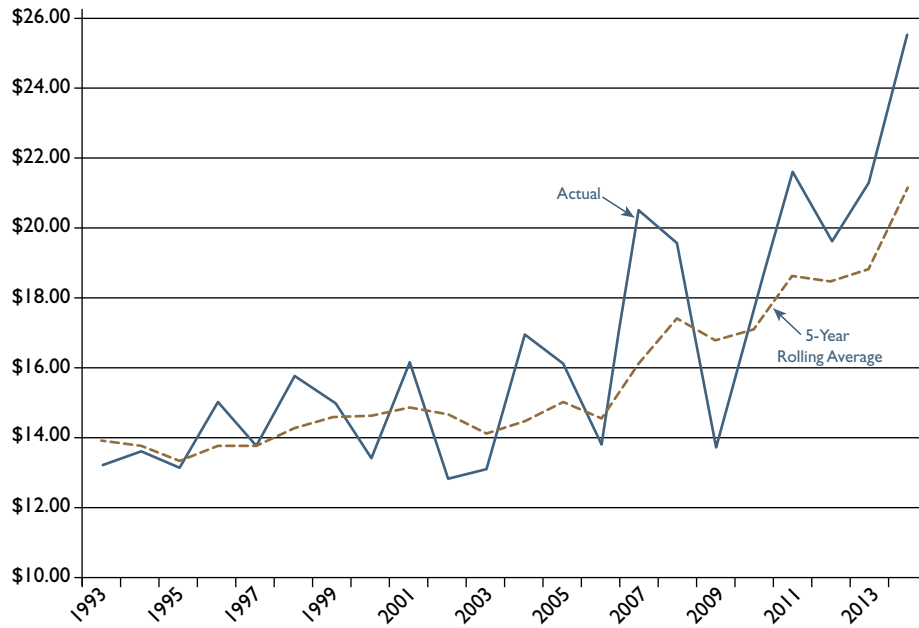
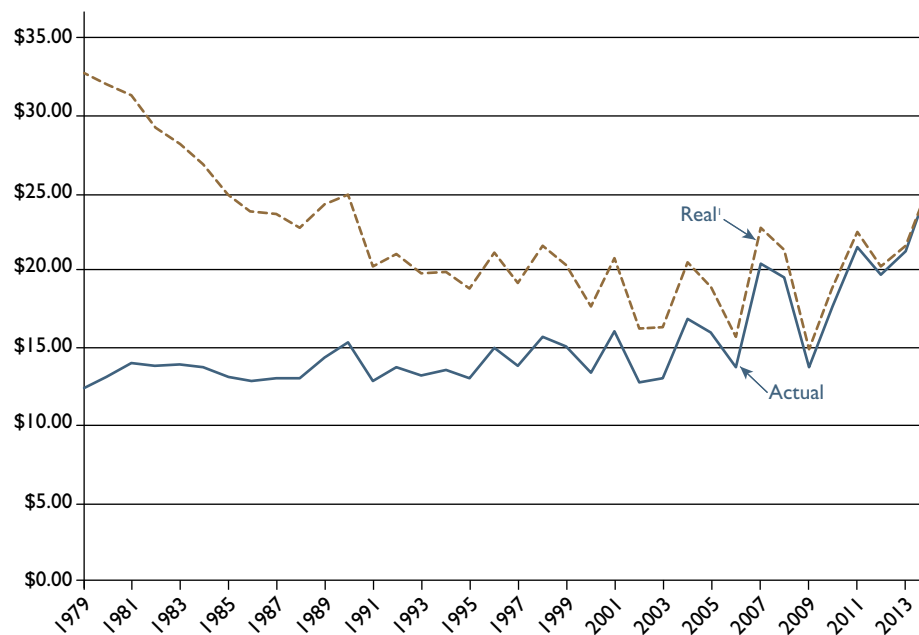


Figure 3B

## FARM MILK PRICES PER CWT.



<sup>1</sup>Real = actual price adjusted for inflation, 2014 dollars.

## COST OF PRODUCTION UP SIGNIFICANTLY

The net cost of production (NCOP) was a new record high in 2014 at \$20.77 per cwt., increasing by 6.7 percent from 2013's \$19.47. Three key figures to review for 2014's cost of production analysis of the average dairy farm in the DFS include:

- › Cash operating expenses were \$22.21 per cwt., significantly higher than 2013.
- › Total costs, including depreciation and family living were \$24.47 per cwt., an increase of \$1.65.
- › After subtracting non-milk income, NCOP was \$20.77 per cwt., \$1.30 per cwt. higher than the previous year.

An increase in non-milk income in 2014 partially offset the increase in NCOP.

Figure 4A

### COST OF PRODUCING MILK - ACCRUAL BASIS

	2010	2011	2012	2013	2014
Feed	\$5.58	\$6.79	\$7.61	\$7.75	\$ 7.86
Labor	2.81	2.97	3.11	3.09	3.43
Interest	0.58	0.52	0.50	0.49	0.48
Freight & Marketing	0.94	0.87	0.95	0.95	0.94
Crop	1.10	1.28	1.54	1.61	1.68
Other	6.08	6.87	6.78	6.74	7.82
Adjusted Cash Operating Expenses	<u>\$17.09</u>	<u>\$19.29</u>	<u>\$20.49</u>	<u>\$20.63</u>	<u>\$22.21</u>
+ Depreciation	1.23	1.33	1.34	1.43	1.50
+ Family Living	<u>0.67</u>	<u>0.69</u>	<u>0.64</u>	<u>0.76</u>	<u>0.76</u>
Total Costs	\$18.99	\$21.31	\$22.47	\$22.82	\$24.47
- Non-Milk Income <sup>1</sup>	<u>2.84</u>	<u>3.03</u>	<u>4.06</u>	<u>3.35</u>	<u>3.70</u>
Net Cost of Production <sup>2</sup>	\$16.15	\$18.29	\$18.41	\$19.47	\$20.77

<sup>1</sup> Non-milk income includes cattle, crop and other income adjusted for inventory changes.

<sup>2</sup> Before any return on equity. Each 1 percent return on equity would be equivalent to another \$0.43 added to the NCOP for 2014.

Driven by continued high feed expenses in 2014, high total costs are not a surprise. Purchased feed costs remained elevated throughout 2014, and increased over the prior year, despite declining grain and oilseed commodity prices.

Other categories with increases include repairs, rent, supplies, hired labor and depreciation. Moderating fuel costs helped limit increases in fuel expense as well as freight and trucking. Presumably Northeast dairy producers utilized some of their earnings to catch up on maintenance they had put off in prior years as well as make improvements to facilities. Repair expenses increased to \$421 per cow in 2014 after averaging \$285 for the previous 5 years. Labor costs significantly outpaced inflation, with a 10.9 percent increase.

Figure 4B

## SPECIFIC COST CATEGORIES

	2013		2014		Percent Change	
	per Cow	per Cwt.	per Cow	per Cwt.	per Cow	per Cwt.
Feed	\$1,849	\$7.75	\$1,873	\$7.85	1.3%	1.3%
Labor	\$737	\$3.09	\$817	\$3.43	10.9%	10.9%
Fuel	\$251	\$1.05	\$258	\$1.08	2.8%	3.0%
Supplies	\$267	\$1.12	\$297	\$1.25	11.2%	11.2%
Rent	\$93	\$0.39	\$107	\$0.45	15.1%	15.1%
Repairs	\$331	\$1.39	\$421	\$1.77	27.2%	27.0%
Crop Inputs	\$384	\$1.61	\$400	\$1.68	4.2%	4.2%
Other Expenses	\$1,352	\$5.66	\$1,480	\$6.21	9.5%	9.7%

The *DFS* no longer includes non-farm income as a factor in determining NCOP. The formula used for calculating NCOP is as follows:

[Cash Operating Expenses (with accrual adjustments made for pre-pays, accounts payable, etc) + Calculated Depreciation<sup>5</sup> + Family Living Expense] - Non-Milk Farm Income<sup>6</sup> = Net Cost of Production.

It is important to note that the \$20.77 average NCOP includes no return on the producer's equity investment. While it may be debatable what an appropriate return on equity (ROE) might be, earning some level of return should be a business objective. For the average *DFS* producer in 2014, each 1 percent return on equity is equivalent to an additional \$0.43 per cwt. If we were to include a 6 percent ROE goal, for example, this would be equivalent to a \$23.35 net cost of production. Of course in 2014, the actual milk price exceeded that goal, and producers enjoyed a strong 13.6 percent return on equity, but in a year more typical of the past five years, the milk price has allowed only an average return on equity of just over 4 percent.

<sup>5</sup>For the *DFS*, all farms have their submitted depreciation restated by applying a standard percentage of straight-line depreciation to various asset classes in order to be able to compare consistent numbers from year to year and avoid variations driven by accounting and changes in tax laws.

<sup>6</sup>Non-milk income includes cattle, crop and other income adjusted for inventory changes.



Figure 4C compares NCOP between New York and New England in 2014. New York producers typically have an advantage in lower costs and higher production per cow over producers in New England. Additionally, with the ability to grow more feed, New York farms generally have higher crop sales and are able to grow more grain. However, Connecticut, Maine and Massachusetts have state support programs for dairy farmers, which help supplement farm income. Income from these support programs is included under “Government Payments”, and reduces their NCOP. In taking support programs into account, New York farms were still able to produce milk at \$1.87 per cwt. less than New England farms.

Figure 4C

## NCOP BY REGION

Cost per CWT.	New York	New England Ex. Vermont
Feed	<b>\$7.64</b>	<b>\$9.29</b>
Labor	<b>3.35</b>	<b>3.98</b>
Interest	<b>0.48</b>	<b>0.44</b>
Freight & Trucking	<b>0.92</b>	<b>1.14</b>
Crop Inputs	<b>1.69</b>	<b>1.60</b>
Other Expenses	<b><u>7.79</u></b>	<b><u>7.96</u></b>
Adjusted Cash Operating Expenses	<b>\$21.88</b>	<b>\$24.41</b>
+ Depreciation	<b>1.52</b>	<b>1.46</b>
+ Family Living	<b><u>0.76</u></b>	<b><u>0.80</u></b>
Total Costs	<b>\$24.15</b>	<b>\$26.67</b>
- Non-milk Income	<b><u>3.61</u></b>	<b><u>4.26</u></b>
Net Cost of Production	<b>\$20.54</b>	<b>\$22.41</b>

In Figure 4D, the NCOP increased about 7 percent across the board. Generally, larger farms have an advantage in spreading costs over more units, driving down per-unit costs. Smaller farms have lower labor costs and higher non-milk income per unit; however, family living and other costs are usually higher, when expressed on a per-unit basis. Some of the farms with fewer than 100 cows were among the most profitable in the study due to their low labor costs, even when family living expenses were taken into account. This may understate the true value of the family labor contribution, but on paper, several of them showed excellent returns.

In an industry noted for volatile milk prices, the ability to control expenditures, improve efficiency and adjust to changing input costs is critical to a dairy producer’s financial performance.

Figure 4D

## NCOP BY HERD SIZE

Cost per CWT.	< 100 Cows 100 farms	100-299 Cows 138 farms	300-699 Cows 78 farms	700+ Cows 52 farms
Feed	<b>\$6.78</b>	<b>\$7.52</b>	<b>\$8.04</b>	<b>\$7.97</b>
Labor	<b>1.54</b>	<b>3.26</b>	<b>3.55</b>	<b>3.59</b>
Interest	<b>0.62</b>	<b>0.54</b>	<b>0.44</b>	<b>0.47</b>
Freight (Marketing)	<b>1.05</b>	<b>1.05</b>	<b>0.88</b>	<b>0.93</b>
Crop	<b>2.08</b>	<b>1.92</b>	<b>1.77</b>	<b>1.50</b>
Other	<b><u>8.66</u></b>	<b><u>8.42</u></b>	<b><u>7.77</u></b>	<b><u>7.55</u></b>
Adjusted Cash Operating Expenses	<b>\$20.73</b>	<b>\$22.70</b>	<b>\$22.46</b>	<b>\$22.01</b>
+ Depreciation	<b>2.55</b>	<b>2.09</b>	<b>1.47</b>	<b>1.21</b>
+ Family Living	<b><u>2.78</u></b>	<b><u>1.49</u></b>	<b><u>0.68</u></b>	<b><u>0.34</u></b>
Total Costs	<b>\$26.06</b>	<b>\$26.28</b>	<b>\$24.60</b>	<b>\$23.56</b>
- Non-Milk Income <sup>1</sup>	<b><u>4.48</u></b>	<b><u>4.19</u></b>	<b><u>3.66</u></b>	<b><u>3.45</u></b>
Net Cost of Production	<b>\$21.59</b>	<b>\$22.09</b>	<b>\$ 20.94</b>	<b>\$20.11</b>

<sup>1</sup> Non-milk income includes cattle, crop and other income adjusted for inventory changes.

## HERD SIZE CHANGES

The farms that participate in the *Dairy Farm Summary* change slightly from year to year. The number of cows per farm typically hovers between 300 and 350 milking head in the *DFS*, even as average farm size has increased. The *DFS* average increased from 315 head in 2013 to 339 in 2014.

As shown in Figure 5, the largest size group remains responsible for the greatest percentage of milk production in the *DFS*, and that percentage is increasing.

Figure 5

## FARM SIZE AND MILK PRODUCTION

	99 Cows or Fewer	100-299 Cows	300-699 Cows	700 Cows or More
Number of Farms	<b>100</b>	<b>138</b>	<b>78</b>	<b>52</b>
Volume of Milk Produced <sup>1</sup>	<b>4.6%</b>	<b>17.5%</b>	<b>30.1%</b>	<b>47.8%</b>

<sup>1</sup>As a percent of all farms in the 2014 DFS

Figure 5A illustrates the close relationship between labor productivity, cow productivity and overall dairy farm profitability. As more cows are handled per worker, milk sold per worker increases. Milk sold per worker and per cow are positively correlated. As one goes up, so does the other. More milk per cow is favorable in terms of greater productivity and total production. It also drives gross revenue, a key factor in profitability. While milk sold per cow correlates positively with adjusted net earnings per cow, more important is a low NCOP, which is enhanced by better labor efficiency. Figure 5A also shows increasing labor and family living expenses as milk sold per worker increases. Farms with higher labor efficiency tend to have a lower cost per cwt. for labor and family living. For example, those farms selling less than 500,000 pounds of milk per worker have the lowest average labor and family living expense per person at \$24,500, but on a per cwt. basis, their cost is \$5.61 per cwt. In contrast, those selling 1.4 million or more pounds of milk per person have a lower labor and family living cost, or \$3.60 per cwt. despite paying nearly 2.6 times more per person. Thus the efficiency gained also allows for greater flexibility with respect to employee compensation and family living draw.

Figure 5A

## LABOR PRODUCTIVITY SPURS PROFITS

Pounds of Milk Sold per Worker	Percent of Farms	Number of Cows	Cows per Worker	Milk Sold per Cow	Avg. Labor & Family Living Per Person <sup>1</sup>	Adjusted Net Earnings Per Cow <sup>2</sup>
499,000 or less	<b>10%</b>	<b>84</b>	<b>23</b>	<b>18,332</b>	<b>\$24,500</b>	<b>\$725</b>
500,000-599,000	<b>6%</b>	<b>103</b>	<b>29</b>	<b>19,515</b>	<b>\$26,540</b>	<b>\$861</b>
600,000-699,000	<b>11%</b>	<b>112</b>	<b>33</b>	<b>20,291</b>	<b>\$29,168</b>	<b>\$979</b>
700,000-799,000	<b>9%</b>	<b>201</b>	<b>36</b>	<b>21,291</b>	<b>\$36,720</b>	<b>\$881</b>
800,000-899,000	<b>10%</b>	<b>219</b>	<b>41</b>	<b>21,868</b>	<b>\$41,698</b>	<b>\$1,293</b>
900,000-999,000	<b>13%</b>	<b>373</b>	<b>43</b>	<b>22,373</b>	<b>\$41,454</b>	<b>\$1,032</b>
1 to 1.09 million	<b>8%</b>	<b>437</b>	<b>45</b>	<b>23,872</b>	<b>\$45,562</b>	<b>\$1,162</b>
1.1 to 1.19 million	<b>11%</b>	<b>509</b>	<b>48</b>	<b>24,116</b>	<b>\$44,237</b>	<b>\$1,484</b>
1.2 to 1.39 million	<b>12%</b>	<b>569</b>	<b>53</b>	<b>24,393</b>	<b>\$48,660</b>	<b>\$1,549</b>
1.4 million or more	<b>10%</b>	<b>579</b>	<b>75</b>	<b>24,312</b>	<b>\$63,221</b>	<b>\$1,518</b>

<sup>1</sup> Includes operator and other family labor

<sup>2</sup> Net earnings per cow less net nonfarm income

When viewed on a per cow, or per cwt. basis, larger farms are able to spread costs and investments over more units. For example, the 99 cows or fewer group produced 39 percent less milk per worker than the average of all farms and had 69 percent more investment (\$93 versus \$55 per cwt.). Return on assets was respectable for all groups, though the 700 cows or more group had the greatest return on assets.

Figure 6

## CAPITAL EFFICIENCY

Herd Size (No. of Cows)	Pounds Sold Per Worker	Pounds Sold Per Cow	Total Assets Per Cwt. Sold <sup>1</sup>	Asset Turnover (Years) <sup>2</sup>	Return on Assets <sup>3</sup>
99 or Fewer	<b>642,291</b>	<b>20,267</b>	<b>\$93</b>	<b>0.32</b>	<b>5.9%</b>
100 to 299	<b>876,966</b>	<b>21,812</b>	<b>71</b>	<b>0.41</b>	<b>6.4%</b>
300 to 699	<b>1,070,677</b>	<b>23,740</b>	<b>52</b>	<b>0.55</b>	<b>10.1%</b>
700 or More	<b>1,209,425</b>	<b>25,204</b>	<b>46</b>	<b>0.62</b>	<b>13.1%</b>
All Farms	<b>1,055,381</b>	<b>23,846</b>	<b>55</b>	<b>0.52</b>	<b>10.1%</b>

<sup>1</sup> Total assets / cwt. of milk sold

<sup>2</sup> Total assets / cash receipts = number of years

<sup>3</sup> Return on assets = (net earnings + interest) / average farm assets

## CASH FLOW IMPROVES

Cash flow<sup>7</sup> is another measure of financial health for a dairy operation or any business. Each business has a minimum requirement to meet its ongoing commitments, such as operating costs, overhead, debt principal payments and family living. What remains can be used for capital replacement, to build liquidity or to invest in a retirement fund. Cash margin rose in 2014 to \$4.41 per cwt., compared to \$2.11 in 2013 (Figure 7). This is the highest cash margin in *DFS* history, topping 2007's \$4.14 per cwt.

<sup>7</sup>Revenues and expenses as measured on an accrual basis, without depreciation, and including scheduled loan principal payments.



Figure 7

## CASH FLOW ANALYSIS PER CWT.

	2010	2011	2012	2013	2014
Actual Milk Price	<b>\$17.70</b>	<b>\$21.53</b>	<b>\$19.74</b>	<b>\$21.30</b>	<b>\$25.52</b>
Cash Required	<b>\$19.31</b>	<b>\$21.36</b>	<b>\$22.09</b>	<b>\$22.77</b>	<b>\$24.98</b>
- Other Income	<b>\$2.98</b>	<b>\$3.26</b>	<b>\$3.91</b>	<b>\$3.57</b>	<b>\$3.87</b>
Breakeven Milk Price	<b>\$16.33</b>	<b>\$18.10</b>	<b>\$18.18</b>	<b>\$9.19</b>	<b>\$21.11</b>
Cash Margin	<b>\$1.37</b>	<b>\$3.43</b>	<b>\$1.56</b>	<b>\$2.11</b>	<b>\$4.41</b>

Cash Margin Definitions	
Total cash operating expenses	Cattle sales
+ Family living expense and income tax	+ Capital sales
+ Scheduled principal payments	+ Crop sales
	+ Other farm & non-farm income
<hr/>	
= Cash required	= Other income

Figure 7 shows the trend in cash margins that the average dairy farm in the summary has experienced since 2010. The cash margin has exhibited substantial volatility during this time. Due to the substantial inflation of farm costs in recent years, the breakeven milk price has increased significantly from approximately \$16 per cwt. Milk prices have increased in past years, setting new records in 2007, 2011 and 2014.

Given the high level of volatility in the dairy industry, financial decisions should not be based on a single year's performance. Figure 7 further illustrates this point: Cash margins in 2014 and 2011 were very strong, while margins in 2010, 2012 and 2013 were much lower, and were negative in 2009.

This level of variability makes financial management more challenging, stressing the importance of a long-range view of cash flow. Timing of major capital expenditures, managing debt load, building liquidity for the tight years and adjusting family withdrawals are all means of managing volatility. Many producers have adopted risk management strategies involving both input costs and milk prices as well as linking employee compensation to annual operating results.

## DEBT CAPACITY AGAIN STRONG

Debt capacity measures the maximum amount of capital debt a farmer could repay from cash generated from the farm business and nonfarm sources. It is determined primarily by cash flow and, to a lesser extent, by interest rates. Reserve debt capacity is the difference between debt capacity and the actual amount of capital debt invested in the business. It is a buffer against financial adversity which could occur within the business, such as herd health problems or crop failure, or from the marketplace, such as low milk prices or high feed costs. It represents the amount by which capital debt can be increased above existing levels and still be repaid from that year's cash flow. In 2014, more than sufficient farm earnings provided adequate cash flow to service debt for the average DFS farm, maintaining debt capacity and reserve debt capacity at higher than the five-year average level (Figure 8).

Figure 8

## DEBT CAPACITY

	2010	2011	2012	2013	2014
Average Farm Credit Interest Rate <sup>1</sup>					
Commercial (Intermediate Term)	4.1%	4.1%	4.0%	4.0%	3.9%
Real Estate (Long Term)	4.6%	4.5%	4.4%	4.3%	4.2%
Debt Capacity (per Cow)	\$4,770	\$8,074	\$5,322	\$6,108	\$10,790
- Capital Debt	<u>3,126</u>	<u>2,939</u>	<u>3,080</u>	<u>3,104</u>	<u>3,126</u>
RESERVE DEBT CAPACITY (per Cow)	\$1,644	\$5,135	\$2,242	\$3,004	\$7,664
3-Year Average Reserve Debt Capacity <sup>2</sup>	\$123	\$1,119	\$3,007	\$3,460	\$4,303
5-Year Average Reserve Debt Capacity <sup>3</sup>	\$946	\$2,118	\$1,549	\$1,721	\$3,938
Debt Payments as Percent of Milk Sales	13%	11%	13%	12%	10%

<sup>1</sup> Average interest rates for northeastern region ACAs excluding benefit of patronage dividends.

<sup>2</sup> Averages include pre-2010 data.

The large debt capacity is substantially impacted by historically low interest rates, which continued during 2014. In planning for the future, it is important not to assume today's low interest rates will last indefinitely. At some point, perhaps this year, the Federal Reserve will begin to increase short-term rates and this will impact debt service requirements and capacity for those producers who have variable rate debt. If the average dairy producer had to repay today's debt at 2007 interest rates (7.7 percent and 7.6 percent), it would reduce both debt capacity and reserve debt capacity by about \$1,500 per cow — a major change in repayment capacity.

Figure 8 shows the five-year average for reserve debt capacity. In 2014, it was \$3,938 per cow, a high level heavily influenced by the year's strong profitability. "Never borrow your last dollar during a good year" is time-tested financial wisdom in the farming community. The implication is that a prudent borrower wants to preserve significant liquidity in terms of unused borrowing capacity to fall back on during years of low income or other adversity.

Figure 8 shows Northeast dairy farmers and Farm Credit have taken this advice to heart during the post-2000 period in terms of maintaining a healthy level of reserve debt capacity. During 2009, when Northeast dairy farmers had little cash flow capacity to repay debt, farmers and their lenders were better positioned to get through this difficult year than in other parts of the country where both farmers and lenders struggled. In today's increasingly volatile dairy business

climate, liquidity is a critical factor in achieving long-term business viability and financial flexibility to deal with tough years. Whether cash in a savings account, prepaid expenses, inventories that can be quickly turned into cash or substantial unused capacity on one's line of credit, strong liquidity is critical to dairy business success.

## CAPITAL PURCHASES PER COW UP FROM LAST YEAR

Northeast dairy farmers increased capital spending by 33 percent per cow in 2014 (Figure 9). The majority of capital purchases were for replacement machinery and equipment, with some buildings and land acquisitions as well. Total capital purchases per farm were \$366,247, also well above the five-year average of \$256,387. In addition to strong capital purchases, Northeast producers significantly increased the amount spent on repairs and maintenance. This high level of investment helped provide critical upgrades to the region's farm infrastructure.

*Figure 9*

### CAPITAL PURCHASES

	Per Farm	Per Cow	% of Total Assets <sup>1</sup>
2010	\$146,880	\$480	4.6%
2011	\$253,628	\$778	6.9%
2012	\$265,825	\$775	7.1%
2013	\$256,095	\$813	6.5%
2014	\$366,247	\$1,080	8.0%
3-Year Average	\$296,056	\$889	7.2%
5-Year Average	\$256,387	\$781	6.4%

<sup>1</sup> Capital purchases as a percent of total assets show an approximate rate of reinvestment in the farm enterprise.

Figure 10 shows a cash flow statement on a per-cow basis for the average Northeast dairy producer in the study. It includes sources and use of cash for the business, including what was available to cover capital purchases.

Figure 10

## CASH SOURCES AND USE STATEMENT

	2010	2011	2012	2013	2014
<b>Sources</b>	<b>Dollars per Cow</b>				
Net Farm Income <sup>1</sup>	\$507	\$916	\$613	\$617	\$1,314
Net Nonfarm Income	41	41	44	57	42
Sale of Capital Assets	50	50	58	59	50
Paid-in Capital <sup>2</sup>	22	18	42	33	33
Money Borrowed	411	329	589	703	303
<b>TOTAL SOURCES</b>	<b>\$1,031</b>	<b>\$1,354</b>	<b>\$1,346</b>	<b>\$1,469</b>	<b>\$1,742</b>
<b>Uses</b>					
Family Living	\$153	\$160	\$150	\$180	\$180
Capital Purchases	480	778	775	813	1,080
Debt Principal Payments	398	416	421	476	482
<b>TOTAL USES</b>	<b>\$1,031</b>	<b>\$1,354</b>	<b>\$1,346</b>	<b>\$1,469</b>	<b>\$1,742</b>
Percent Capital Purchases Financed <sup>3</sup>	86%	42%	76%	86%	28%

<sup>1</sup> Net farm income is on a cash basis without accrual adjustments to expenses.

<sup>2</sup> Includes savings withdrawn, gifts, inheritances, grants and debt forgiven

<sup>3</sup> Money borrowed / capital purchases

Total sources of cash increased \$273 in 2014 to \$1,742 per cow (including borrowed funds). Net cash farm income more than doubled from 2013, a 112 percent increase to \$1,314 per cow. This enabled producers to finance capital purchases largely through the farm's earnings. Producers also reduced some liabilities during the year, so net debt per cow decreased.

## BALANCE SHEETS STRENGTHEN

Net worth, or owner's equity, measures the wealth of the farm business owner. It is measured at each year's end in the DFS in order to accurately compare changes. Net worth is an indicator of the ability of the business to absorb financial losses and to collateralize additional borrowing. It is also a measure of the amount of money that could be redeployed toward other endeavors if the business were liquidated.



The average *DFS* dairy farmer's net worth in 2014 grew by \$1,072 to \$10,234 per cow from \$9,162 in 2013. Percent net worth also increased to 75 percent (Figure 11). Solvency remains solid for the average *DFS* farm, meaning that the average *DFS* participant would have more than enough farm assets to liquidate to satisfy all farm debts, selling fees and resulting income tax liability while still having funds in reserve.

Figure 11

## CHANGE IN FINANCIAL POSITION

	Change in NW per Cow	Percent Net Worth <sup>1</sup>	Current Ratio <sup>2</sup>	Quick Ratio <sup>3</sup>	Asset Turnover <sup>4</sup>
2010	\$115	68%	2.3	0.9	0.47
2011	\$1,087	72%	2.8	1.2	0.52
2012	\$(367)	72%	2.8	1.2	0.52
2013	\$1,351	73%	2.8	1.2	0.48
2014	\$1,072	75%	3.7	1.1	0.53

<sup>1</sup> Percent net worth = Owner's net worth / total assets

<sup>2</sup> Current ratio = Current assets / current liabilities

<sup>3</sup> Quick ratio = Current assets - inventory / current liabilities

<sup>4</sup> Asset turnover = Value of farm production / average total assets

There is an important distinction between growth in net worth resulting from earnings versus market revaluation. Net earnings are the result of profits from dairy farming. Market revaluation generally occurs in farm real estate and cattle, while machinery and equipment ordinarily depreciate.

For the past few years livestock asset values per cow (including youngstock) have decreased. The trend reversed in 2014 with livestock values increasing significantly to \$2,434 per milking head (Table A-3). This is reflective of both the high milk price environment as well as high beef prices. The average *DFS* farm raises a relatively large amount of replacement heifers as reflected in youngstock as a percent of cows.

Liquidity is the ability of the farm operator to convert short-term assets (current assets) to cash to meet short-term obligations (current liabilities) as they become due. Its importance cannot be overstressed in a volatile industry, such as dairy. Current and quick ratios are two measures of liquidity. In 2014, the average dairy farm had a current ratio of 3.7, compared to 2.8 in the prior three years (Figure 11). Good cash flow in 2014, a high level of prepaid expenses, and sufficient feed inventories relative to current liabilities helped boost this ratio.

However, since inventory on a dairy farm is primarily feed for on farm use, subtracting inventory from the current ratio produces the quick ratio and provides a better indicator of a dairy farm's true liquidity situation. The quick ratio of 1.1 at the end of the year demonstrates a healthy liquidity position in 2014. This ratio indicates producers have, on average, 110 percent of the value of short-term liabilities available in cash or assets that can be quickly converted to cash. The fact that it declined slightly from the prior year indicates that producers put more of their available funds into prepaids and feed inventories, rather than holding it as cash.

Finally, asset turnover is commonly used to measure the efficiency of total capital invested in the business by determining gross revenue dollars generated for every dollar invested. The higher the asset turnover ratio, the more efficiently the investment is working for the business: greater asset turnover should translate into a higher return on assets (ROA). In

2014, asset turnover for the average Northeast dairy business was 0.53, higher than prior years. This was largely a result of the increase in milk prices. This means \$0.53 of gross revenue was generated for every \$1 invested in assets.

## NET MARGIN DIFFERENCES AGAIN SIGNIFICANT IN 2014

We again saw a wide range of profits compared to the \$1,176 per cow average in 2014. Some farms had moderately negative net income, while others posted more than a \$3,000 gain per cow. Figure 12 demonstrates the range of profitability between the top, bottom and all farms profit groups. Farms in the summary are ranked by profit margin and divided into four quartiles.

Figure 12

### RANGE OF 2014 PROFITS

	Bottom 25%	All Farms	Top 25%
Number of Farms	92	368	92
Average Number of Cows	324	339	262
Milk Sold per Cow (lbs.)	22,249	23,846	25,144
Milk Sold per Worker (lbs.)	930,077	1,055,381	1,099,842
<b>Net Earnings</b>			
Per Farm	\$222,588	\$398,155	\$440,160
Per Cow	\$687	\$1,176	\$1,680
Per Cwt.	\$3.09	\$4.93	\$6.68
Return on Assets <sup>1</sup>	6.7%	10.1%	12.6%
Return on Equity <sup>1</sup>	9.0%	13.6%	16.1%

<sup>1</sup> ROA and ROE calculations do not include asset appreciation.

There was a \$993 difference in net earnings per cow between the top and bottom quartile farms. This is greater than 2013's difference, which stood at \$831. Similarly, on a per cwt. basis, the top farms posted \$3.59 more in net earnings than the least profitable farms with earnings of \$6.68 per cwt. while the bottom group earned \$3.09 per cwt. Also shown in Figure 12 are two productivity measures. The Top 25 percent group sold 13 percent more milk per cow and 18 percent more milk per worker than the Bottom 25 percent group, which contributes to differences in the bottom line.

Interestingly, the average herd size of the top profit quartile was lower than that of the group overall. Some of the most profitable farms on a per cow basis were found at both the high end and low end of herd sizes. The large dairy farms were able to capitalize on economies of scale, while some of the small farms were able to keep a tight rein on expenses and utilize family labor. When combined together, the result was a lower average herd size. The group that had the lowest profitability overall was not the smallest farms, but those between 100 and 299 cows.

Another area where the top profit group excels is NCOP. Figure 13 shows the difference in the cost of producing milk between the most and least profitable groups. In 2014, the top and bottom profit groups were about equally affected by cost increases with both experiencing about a 6 percent increase in costs. The difference between the two was \$3.29 per cwt. in 2014, which is lower than the average difference of the preceding five years.

Figure 13

## COST OF PRODUCING MILK BY PROFIT GROUPS

	2010	2011	2012	2013	2014
NCOP <sup>1</sup>	Dollars per Cwt.				
Bottom 25%	\$18.91	\$22.53	\$20.03	\$21.11	\$22.39
Top 25%	14.16	15.91	17.40	17.99	19.10
Difference	\$4.75	\$6.62	\$2.44	\$3.12	\$3.29

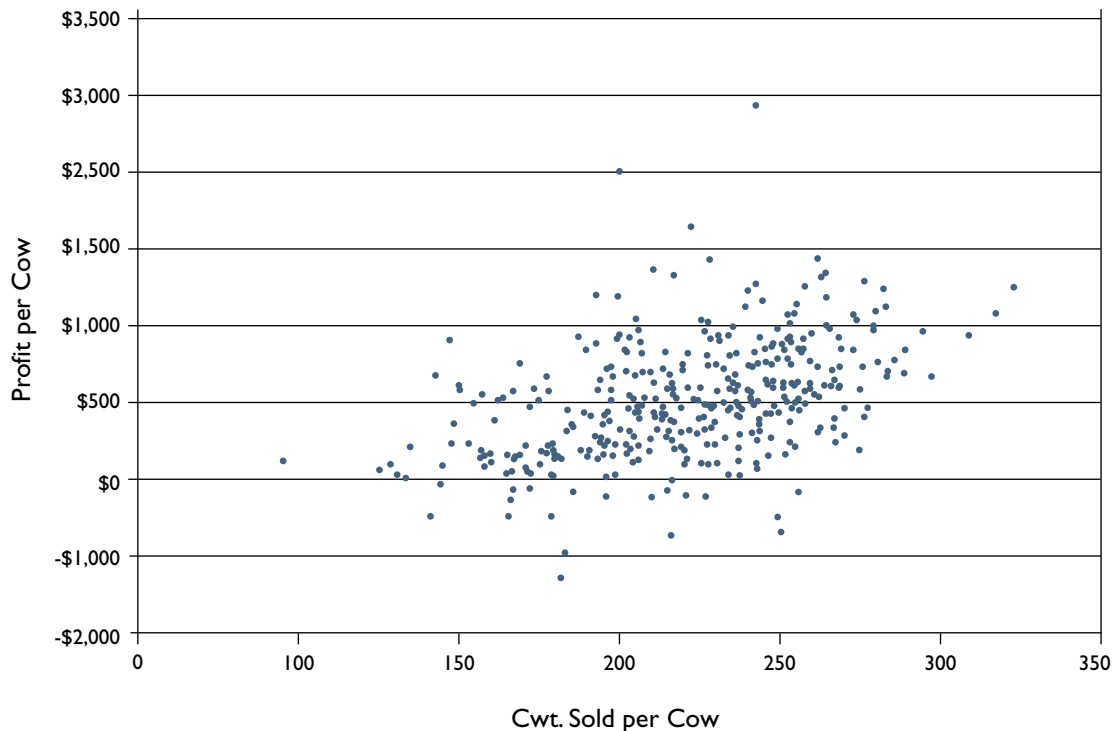
<sup>1</sup>Before any return on equity

While high milk production per cow influences profitability, figure 14A illustrates that by itself, high production per cow does not guarantee superior profitability, as a significant number of high production farms fall in the lower profit groups. However, very few low production farms fall in the top profit group.

Figure 14A

## PROFIT VS. MILK SOLD PER COW

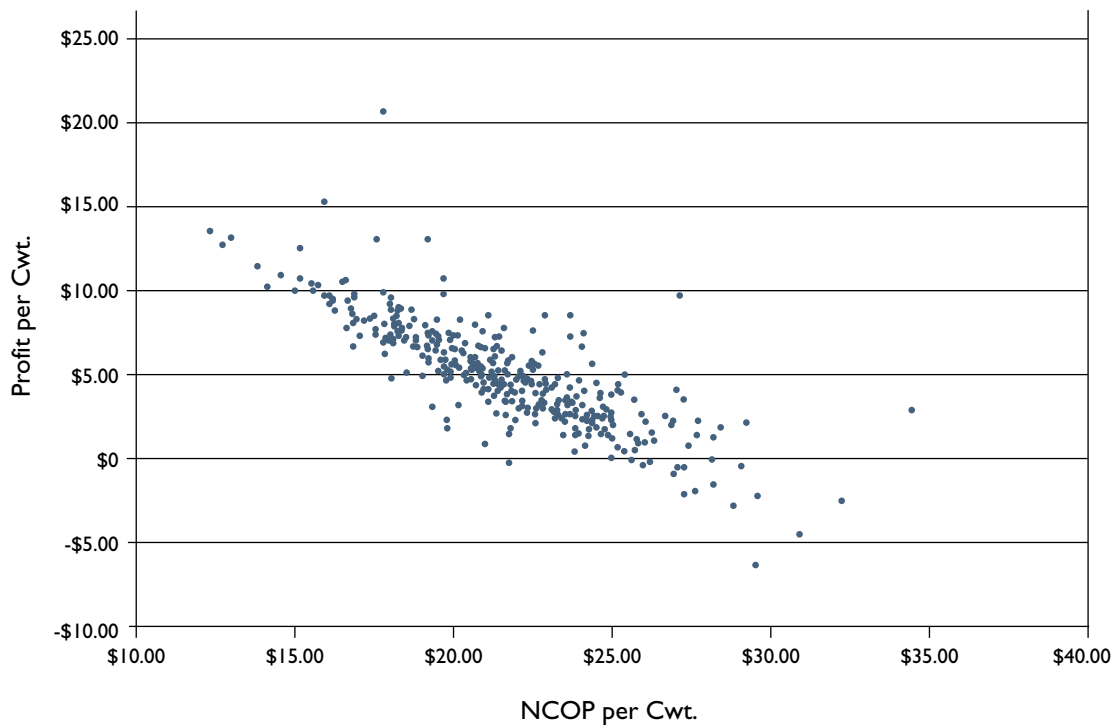
The importance of balancing production with total costs to achieve profitability is much more obvious (Figure 14B).



As NCOP decreases, the possibility of higher profits increases on nearly a straight line. Cost control, production ability, buying savvy, labor management and wise capital spending determine the cost of production. The ability of dairy producers to consistently stay on top of these challenges generally determines profitability.

Figure 14B

## PROFIT VS. NCOP



## MANAGEMENT STYLE AND DAIRY PROFITS

Above average management is critical to profits, but “above average” is difficult to succinctly describe. Successful managers have been able to identify and leverage their individual management strengths on which to build a profitable dairy business. In short, these managers have developed a management strategy that fits their personalities and resources.

Figure 15

## WINNING MANAGEMENT STYLES OF THE TOP 25%

	Great with Cows	Labor Efficient	Better Milk Price	Tight With a Buck	Balanced
Number of Farms	16	41	15	14	6
Average Number of Cows	337	359	179	190	257
Milk Sold per Cow (lbs.)	28,816	24,841	21,684	21,006	22,756
Milk Sold per Worker (lbs.)	920,199	1,341,822	729,318	787,197	904,700
NCOP Per Cwt.	\$20.72	\$19.12	\$21.07	\$16.81	\$18.40
Milk Price per Cwt.	\$25.72	\$25.55	\$26.92	\$24.83	\$26.01
Net Earnings per Cow	\$1,626	\$1,804	\$1,448	\$1,770	\$1,639
Net Earnings per Cwt.	\$5.64	\$7.26	\$6.68	\$8.43	\$7.20
Return on Assets (%)	13.1%	13.3%	10.8%	12.3%	12.7%
Percent Net Worth (%)	77%	79%	88%	76%	90%

Of the 92 farms included in 2014's top profit quartile, 86 exhibited distinct management styles, while the remaining 6 farms displayed a more balanced approach, doing well in all areas, but not really excelling in any single area. Figure 15 breaks down these styles of farms excelling in the corresponding management factor. For example, farms included in the Great-with-Cows group outperformed all others in producing the most milk per cow.

**Great with Cows.** These farmers spend more time and money on cow productivity. Average milk sold of 28,816 pounds per cow is the highest among the five styles, and the highest average productivity in *DFS* history. High production allowed them to produce and sell 920,199 pounds of milk per worker, second only to the Labor Efficient group.

**Labor Efficient.** Superior labor management and the largest herd size enabled this group to be the most labor efficient, with milk sold per worker of more than 1.3 million pounds. In addition to labor efficiency, this group reported the second highest milk sold per cow. This management style typically gains labor efficiencies from economies of scale and high output per cow.

**Better Milk Price** This group received \$26.92 per cwt. for their milk, \$1.42 more than average for the top profit group. Higher milk prices could be the result of high milk fat or protein content; negotiated premiums for quality and volume; and/or specialty markets, such as Kosher milk.<sup>7</sup>

**Tight with a Buck.** These operators excel at cost control, achieving the lowest cost of production at \$16.81 per cwt. Although milk per cow and milk per worker are below the top profit group average, these farmers have implemented tight cost control to achieve superior results. The rewards of managing costs are easily seen in the highest earnings per cow and per cwt.

<sup>7</sup>The *DFS* does not include organic dairy producers in its sample.

**Balanced.** These are good, all-around managers. Instead of excelling in one aspect, these farms performed well in all areas. Although profits are less than some of the other styles, these farmers are able to respond quickly to adversity affecting their businesses.

The common theme is that top-profit farmers have reached a profitable balance between milk production per cow and costs through a variety of management styles. At some point, farmers who are not satisfied with the returns from their operation might consider adjusting their strategy to better compete in a dynamic business climate.

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## DO LARGER FARMS HAVE THE EDGE ON PROFITABILITY?

Average farm sizes in the Northeast and across the country have continually increased for many decades. The *DFS* has concluded that profitability has more to do with successful management of all aspects of the business than any other factor, including size. However, there are strong correlations in the data regarding size of farm, efficiency, pounds of milk sold per cow, cost of production and, ultimately, profitability.

As a group, the largest-size group was by far the most profitable of the four size groups with \$1,351 net earnings per cow in 2014 (Figure 16). In addition, this group was:

- › The most productive on a milk-sold-per-cow and per-worker measure
- › The lowest per-cow investor in productive assets, resulting in the highest asset turnover rate
- › The lowest cost producer

It is noteworthy that the other three size groups were also represented in the top profit quartile. This is important because it shows there is opportunity to achieve superior profitability over a range of farm sizes.



Figure 16

## FARM SIZE AND FARM SIZE PROFITABILITY

	99 Cows or Fewer	100-299 Cows	300-699 Cows	700 Cows or more
Average Number of Cows	<b>68</b>	<b>172</b>	<b>483</b>	<b>1,085</b>
Milk Sold Per Cow (lbs.)	<b>20,267</b>	<b>21,812</b>	<b>23,740</b>	<b>25,204</b>
Milk Sold Per Worker (lbs.)	<b>642,291</b>	<b>876,966</b>	<b>1,070,677</b>	<b>1,209,425</b>
Net Cost of Production per Cwt.	<b>\$21.59</b>	<b>\$22.09</b>	<b>\$20.94</b>	<b>\$20.11</b>
Milk Price per Cwt.	<b>\$25.33</b>	<b>\$25.67</b>	<b>\$25.65</b>	<b>\$25.41</b>
Assets per Cow	<b>\$18,912</b>	<b>\$16,596</b>	<b>\$12,989</b>	<b>\$12,039</b>
Asset Turnover	<b>0.32</b>	<b>0.39</b>	<b>0.54</b>	<b>0.60</b>
Percentage Net Worth	<b>84%</b>	<b>79%</b>	<b>78%</b>	<b>70%</b>
Net Earnings per Cow	<b>\$945</b>	<b>\$890</b>	<b>\$1,133</b>	<b>\$1,351</b>
Return on Assets %	<b>5.9%</b>	<b>6.4%</b>	<b>10.1%</b>	<b>13.1%</b>

In short, being large is no guarantee of profitability. Of the 52 farms in the 700+ cow group, only 20 percent were in the top profit group. There were 19 farms in this largest size group (36 percent) realizing below-average profitability (less than \$1,176/cow). Again, this is indicative that success is not just about scale.

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## CONCLUSION

The year 2014 was one for the record books. Northeast dairy producers enjoyed a well-deserved high net-earnings year after weathering several challenging price cycles. In general, most producers appear to have utilized the bulk of these profits to shore up their finances, pay down debt, and reinvest in their businesses: While capital purchases and repairs rose significantly, family living draw remained flat with 2013 on a per cow basis. This frugality and forward-looking strategy will be needed as milk prices decline. Already, at this writing in April of 2015, the wholesale milk price has fallen a staggering \$10.69/cwt. from its peak in September of 2014. While some recovery is expected in the second half of 2015, 2016 remains a question mark. Despite the good news contained in this year's *DFS*, continuing economic cycles in dairy are likely to mean significant fluctuations in net earnings, so strong years may be necessary for producers to survive the down periods.

Many producers are now re-evaluating their risk management strategies in light of the current severe price declines. The greatest risk management tool however, remains smart management and cost control. By investing in property, livestock and equipment in 2014, Northeast producers are entering the current downturn better prepared for what may come next.

Overall, the *Northeast Dairy Farm Summary* shows us that there are multiple paths to success in the dairy business. Strategies are as different as the individual characteristics of farms within this study. Positioning your farm for success will be crucial to meeting the challenges of 2015 and beyond. This summary presents various proven management strategies that have consistently resulted in above-average performance. Working closely with your Farm Credit loan officer and/or business consultant to assess your strengths and weaknesses and develop a strategy to position your farm to meet industry challenges is now more critical than ever.

If you are interested in improving your profitability, the *DFS* is only the beginning. Farm Credit's Success Strategies Dairy Benchmark is a much deeper dive into not only farm financial data, but a host of production and herd management metrics as well. Membership includes a personalized profit assessment of your farm. For more on this program, contact your Farm Credit East relationship manager

We hope that this year's *Northeast Dairy Farm Summary* is a useful tool for managing your farm business. It remains essential that dairy farmers and those who serve them continue to seek answers in order to have a healthy, economically sustainable Northeast dairy industry. The entire Farm Credit team of loan officers, farm accounting professionals and business consultants are eager and prepared to help Northeast dairy farmers achieve financial success. On behalf of our entire team, thank you for your participation.



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TABLE A-1.

## COMPARISON BETWEEN YEARS — EARNINGS WORKSHEET

	2010	2011	2012	2013	2014
Number of Farms	524	532	504	517	368
Average Number of Cows	306	326	343	315	339
<b>Receipts</b>					
Milk Sales	\$1,235,483	\$1,631,221	\$1,594,407	\$ 1,600,058	\$ 2,062,226
Cattle Sales	59,075	86,137	112,841	96,009	137,880
Crop Sales	61,818	65,395	98,865	52,877	59,883
Government Payments <sup>1</sup>				28,185	12,772
Other	56,094	65,441	88,846	54,794	48,168
<b>CASH RECEIPTS</b>	<b>\$1,412,470</b>	<b>\$1,848,194</b>	<b>\$1,894,959</b>	<b>\$1,831,923</b>	<b>\$2,320,929</b>
<b>Accrual Adjustments</b>					
+ Change in Inventory-Raised Livestock	\$21,431	\$12,927	\$22,814	\$19,198	\$39,565
<b>VALUE OF FARM PRODUCTION (a)</b>	<b>\$1,433,901</b>	<b>\$1,861,121</b>	<b>\$1,917,773</b>	<b>\$1,851,121</b>	<b>\$2,360,494</b>
<b>COST OF GOODS SOLD</b>					
Chemicals & Sprays	\$13,733	\$17,202	\$18,266	\$18,525	\$25,015
Custom Hire	44,716	48,485	50,175	48,814	52,370
Purchased Feed	389,544	514,478	606,162	582,279	634,662
Fertilizer & Lime	35,966	48,540	63,550	61,429	59,730
Freight & Trucking (Marketing)	65,645	65,960	75,749	71,550	76,215
Gasoline, Fuel & Oil	54,964	81,067	86,746	78,925	87,571
Hired Labor	195,873	224,937	247,698	232,019	276,970
Seed & Plants	27,267	30,883	40,965	40,896	50,953
Supplies	76,957	82,408	96,904	83,997	100,703
Veterinary, Medicine & Breeding	39,649	63,570	66,622	62,360	76,029
Cow Replacements	3,441	4,063	3,848	4,121	15,825
<b>Total Cost of Goods Sold</b>	<b>\$947,755</b>	<b>\$1,181,593</b>	<b>\$1,356,685</b>	<b>\$1,284,915</b>	<b>\$1,456,043</b>
<b>Gross Margin</b>	<b>\$486,146</b>	<b>\$679,528</b>	<b>\$561,088</b>	<b>\$566,206</b>	<b>\$904,451</b>
<b>OVERHEAD</b>					
Insurance	17,242	19,944	20,196	19,464	22,836
Interest	40,519	39,733	40,140	37,049	38,691
Rent	23,144	26,920	27,910	29,358	36,340
Repairs	75,888	103,965	104,147	104,372	142,601
Property & Misc. Taxes	17,605	19,533	21,464	22,402	26,314
Utilities	32,751	35,328	35,014	35,256	41,082
Other	37,819	34,968	27,262	17,310	29,993
<b>Accrual Adjustments</b>					
+ Depreciation	86,142	100,598	106,684	107,267	121,520
<b>Total Overhead Expenses</b>	<b>\$331,110</b>	<b>\$380,989</b>	<b>\$382,817</b>	<b>\$372,478</b>	<b>\$459,377</b>
<b>Total Farm Production Costs (b)</b>	<b>\$1,278,865</b>	<b>\$1,562,582</b>	<b>\$1,739,502</b>	<b>\$1,657,393</b>	<b>\$1,915,420</b>
<b>NET FARM EARNINGS (a) - (b)</b>	<b>\$155,036</b>	<b>\$298,539</b>	<b>\$178,271</b>	<b>\$193,728</b>	<b>\$445,074</b>
+ Net Nonfarm Income	12,512	13,437	14,924	17,799	14,195
- Family Living & Income Taxes	46,587	52,147	51,371	56,837	61,114
<b>NET EARNINGS</b>	<b>\$120,961</b>	<b>\$259,829</b>	<b>\$141,824</b>	<b>\$154,690</b>	<b>\$398,155</b>

Note: Expenses are adjusted for changes in accounts payable, prepaid expenses, and supply inventories to remove the effects of tax planning and reflect only 1 year's expenses.

<sup>1</sup>Prior to 2013, government payments have been included in "other"

TABLE A-2.

## COMPARISON BETWEEN YEARS — EARNINGS WORKSHEET PER CWT.

	2010	2011	2012	2013	2014
Number of Farms	524	532	504	517	368
Average Number of Cows	306	326	343	315	339
<b>Receipts</b>	DOLLARS PER CWT. OF MILK				
Milk Sales	\$ 17.70	\$ 21.53	\$ 20.01	\$ 21.30	\$ 25.52
Cattle Sales	0.85	1.14	1.42	1.28	1.71
Crop Sales	0.89	0.86	1.24	0.70	0.74
Government Payments				0.38	0.16
Other	0.79	0.86	1.11	0.73	0.59
CASH RECEIPTS	\$ 20.23	\$ 24.39	\$ 23.78	\$ 24.39	\$ 28.72
<b>Accrual Adjustments</b>					
+ Change in Inventory-Raised Livestock	\$ 0.31	\$ 0.17	\$ 0.29	\$ 0.26	\$ 0.49
VALUE OF FARM PRODUCTION (a)	\$ 20.54	\$ 24.56	\$ 24.07	\$ 24.64	\$ 29.21
<b>COST OF GOODS SOLD</b>					
Chemicals & Sprays	\$ 0.20	\$ 0.23	\$ 0.23	\$ 0.25	\$ 0.31
Custom Hire	0.64	0.64	0.63	0.65	0.65
Purchased Feed	5.58	6.79	7.61	7.75	7.86
Fertilizer & Lime	0.52	0.64	0.80	0.82	0.74
Freight & Trucking (Marketing)	0.94	0.87	0.95	0.95	0.94
Gasoline, Fuel & Oil	0.79	1.07	1.09	1.05	1.08
Hired Labor	2.81	2.97	3.11	3.09	3.43
Seed & Plants	0.39	0.41	0.51	0.54	0.63
Supplies	1.10	1.09	1.21	1.12	1.25
Veterinary, Medicine & Breeding	0.57	0.84	0.84	0.83	0.94
Cow Replacements	0.05	0.05	0.05	0.05	0.20
<b>Total Cost of Goods Sold</b>	\$13.59	\$15.60	\$17.03	\$17.10	\$18.03
<b>Gross Margin</b>	\$6.95	\$8.96	\$7.04	\$7.54	\$11.18
<b>OVERHEAD</b>					
Insurance	0.25	0.26	0.25	0.26	0.28
Interest	0.58	0.52	0.50	0.49	0.48
Rent	0.33	0.36	0.35	0.39	0.45
Repairs	1.09	1.37	1.31	1.39	1.76
Property & Misc. Taxes	0.25	0.26	0.27	0.30	0.33
Utilities	0.47	0.47	0.44	0.47	0.51
Other	0.53	0.46	0.34	0.23	0.37
<b>Accrual Adjustments</b>					
+ Depreciation	1.23	1.33	1.34	1.43	1.50
<b>Total Overhead Expenses</b>	\$4.73	\$5.03	\$4.80	\$4.96	\$5.68
<b>Total Farm Production Costs (b)</b>	\$18.32	\$20.63	\$21.83	\$22.06	\$23.71
NET FARM EARNINGS (a) - (b)	\$ 2.22	\$ 3.93	\$ 2.24	\$ 2.58	\$ 5.50
+ Net Nonfarm Income	0.18	0.18	0.18	0.24	0.15
- Family Living & Income Taxes	0.67	0.69	0.60	0.76	0.76
NET EARNINGS	\$ 1.73	\$ 3.42	\$ 1.82	\$ 2.06	\$ 4.89

Note: Expenses adjusted for changes in accounts payable, prepaid expenses and supply inventories to remove the effects of tax planning and reflect only one year's expenses.

TABLE A-3.

## COMPARISON BETWEEN YEARS — BALANCE SHEET SUMMARY DECEMBER 31

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Number of Farms	524	532	504	517	368
Average Number of Cows	06	326	343	315	339
<b>Assets</b>	<b>DOLLARS PER FARM</b>				
Livestock	\$687,340	\$752,107	\$788,849	\$720,116	\$825,030
Feed & Crops	280,216	328,481	394,507	356,717	421,363
Machinery & Equipment	560,602	662,191	699,551	725,365	844,924
Farm—Land & Buildings	1,345,946	1,422,083	1,696,332	1,675,190	1,827,787
All Other	317,016	532,822	472,771	474,546	678,475
<b>TOTAL ASSETS</b>	<b>\$3,191,120</b>	<b>\$3,697,684</b>	<b>\$4,052,010</b>	<b>3,951,934</b>	<b>4,597,579</b>
<b>TOTAL LIABILITIES</b>	<b>\$1,021,138</b>	<b>\$1,032,076</b>	<b>\$1,156,617</b>	<b>1,066,046</b>	<b>1,129,984</b>
<b>TOTAL NET WORTH</b>	<b>\$2,169,982</b>	<b>\$2,665,608</b>	<b>\$2,895,393</b>	<b>2,885,888</b>	<b>3,467,595</b>
<b>Assets</b>	<b>DOLLARS PER COW</b>				
Livestock	\$2,246	\$2,307	\$2,300	\$2,286	\$2,435
Feed & Crops	916	1,008	1,150	1,132	1,244
Machinery & Equipment	1,832	2,031	2,040	2,303	2,494
Farm—Land & Buildings	4,398	4,362	4,946	5,141	5,395
All Other	1,036	1,634	1,378	1,684	2,001
<b>TOTAL ASSETS</b>	<b>\$10,428</b>	<b>\$11,342</b>	<b>\$11,813</b>	<b>\$12,546</b>	<b>\$13,569</b>
<b>TOTAL LIABILITIES</b>	<b>\$3,337</b>	<b>\$3,164</b>	<b>\$3,372</b>	<b>\$3,384</b>	<b>\$3,335</b>
<b>TOTAL NET WORTH</b>	<b>\$7,091</b>	<b>\$8,178</b>	<b>\$8,441</b>	<b>\$9,162</b>	<b>\$10,234</b>
<b>Assets</b>	<b>DOLLARS PER CWT. OF MILK</b>				
Livestock	\$9.85	\$9.93	\$9.90	\$9.59	10.21
Feed & Crops	4.01	4.33	4.95	4.75	5.21
Machinery & Equipment	8.03	8.74	8.78	9.66	10.45
Farm—Land & Buildings	19.29	18.77	21.29	22.30	22.62
All Other	4.54	7.03	5.93	6.32	8.41
<b>TOTAL ASSETS</b>	<b>\$45.72</b>	<b>\$48.80</b>	<b>\$50.85</b>	<b>\$52.61</b>	<b>\$56.90</b>
<b>TOTAL LIABILITIES</b>	<b>\$14.63</b>	<b>\$13.62</b>	<b>\$14.51</b>	<b>\$14.19</b>	<b>\$13.99</b>
<b>TOTAL NET WORTH</b>	<b>\$31.09</b>	<b>\$35.18</b>	<b>\$36.34</b>	<b>\$38.42</b>	<b>\$42.91</b>
<b>PERCENT NET WORTH</b>	<b>68%</b>	<b>72%</b>	<b>72%</b>	<b>73%</b>	<b>75%</b>



TABLE A-4.

## COMPARISON BETWEEN YEARS — EVALUATION FACTORS

	2010	2011	2012	2013	2014
Number of Farms	524	532	513	517	368
Average Number of Cows	306	326	339	315	339
Worker Equivalents	7.0	7.0	7.2	6.8	7.7
Cows Per Worker	44	47	47	46	44
Pounds of Milk Sold Per Worker	997,100	1,085,617	1,115,785	1,097,288	1,055,381
Pounds of Milk Sold	6,979,700	7,577,606	8,078,285	7,512,009	8,084,218
Pounds of Milk Sold Per Cow	22,809	23,244	23,552	23,848	23,846
Milk Price Per Cwt.	\$17.70	\$21.53	\$19.74	\$21.30	\$25.52
Total Crop Acres	714	769	822	766	816
Crop Acres Per Cow	2.3	2.4	2.4	2.4	2.4
Feed Cost Per Cow	\$1,273	\$1,578	\$1,767	\$1,849	\$1,873
Feed as a Percent of Milk Sales	32%	32%	38%	36%	31%
Feed & Crop Expense Per Cow <sup>1</sup>	\$1,525	\$1,875	\$2,123	\$2,233	\$2,274
Feed & Crop Expense Per Cwt.	\$6.69	\$8.07	\$9.01	\$9.36	\$9.53
Machinery Costs Per Cow <sup>2</sup>	\$723	\$869	\$1,016	\$910	\$1,015
Machinery Costs Per Cwt.	\$3.17	\$3.74	\$4.31	\$3.82	\$4.26
Labor & Family Living Per Cow	\$788	\$849	\$863	\$917	\$993
Labor & Family Living Per Cwt.	\$3.45	\$3.65	\$3.66	\$3.85	\$4.17
Assets Per Cow	\$10,428	\$11,342	\$11,408	\$12,546	\$13,569
Debt Per Cow	\$3,337	\$3,164	\$3,136	\$3,384	\$3,335
Net Worth Per Cow	\$7,091	\$8,178	\$8,272	\$9,162	\$10,234
Percent Net Worth	68%	72%	72%	73%	75%

<sup>1</sup> Feed & Crop Expense = Feed + Seed & Plants + Fertilizer + Chemicals & Spray.

<sup>2</sup> Machinery Costs = Machinery Repairs + Fuel & Oil + Custom Hire + Machinery & Equipment Depreciation.

TABLE A-5.

## COMPARISON BETWEEN YEARS — TREND ANALYSIS

<b>ADJUSTED FINANCIAL CONDITION AS OF DECEMBER 31</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Current Assets	\$451,846	\$576,196	\$586,106	\$621,951	\$803,617
Intermediate Assets	1,384,848	1,582,712	1,589,227	1,642,957	1,900,083
Fixed Assets	1,354,426	1,538,776	1,568,586	1,687,026	1,893,879
<b>TOTAL ASSETS</b>	<b>\$3,191,120</b>	<b>\$3,697,684</b>	<b>\$3,743,919</b>	<b>\$3,951,934</b>	<b>\$4,597,579</b>
Change (+ or -) from Prior Years	\$334,343	\$506,564	\$46,235	\$208,015	\$645,645
Current Liabilities	\$192,897	\$209,387	\$207,872	\$219,220	\$217,141
Intermediate Liabilities	471,119	426,589	439,020	430,905	451,563
Long-Term Liabilities	357,122	396,100	417,587	415,921	461,280
<b>TOTAL LIABILITIES</b>	<b>\$1,021,138</b>	<b>\$1,032,076</b>	<b>\$1,064,479</b>	<b>\$1,066,046</b>	<b>\$1,129,984</b>
Change (+ or -) from Prior Years	\$96,694	\$10,938	\$32,403	\$1,567	\$63,938
<b>NET WORTH</b>	<b>\$2,169,982</b>	<b>\$2,665,608</b>	<b>\$2,679,440</b>	<b>\$2,885,888</b>	<b>\$3,467,595</b>
Change (+ or -) from Prior Years	\$237,649	\$495,626	\$13,832	\$206,448	\$581,707
% Net Worth	68%	72%	72%	73%	75%
<hr/>					
<b>I &amp; E Farm (Cash Basis)</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Sales - Milk	\$1,235,483	\$1,631,221	\$1,594,407	\$1,600,058	\$2,062,226
Sales - Livestock	59,075	86,137	112,841	96,009	137,880
Other Farm Income	117,912	130,836	187,711	135,856	160,389
<b>TOTAL FARM INCOME</b>	<b>\$1,412,470</b>	<b>\$1,848,194</b>	<b>\$1,894,959</b>	<b>\$1,831,923</b>	<b>\$2,360,495</b>
<b>FARM EXPENSES</b>	<b>\$1,192,723</b>	<b>\$1,461,984</b>	<b>\$1,632,818</b>	<b>\$1,550,126</b>	<b>\$1,793,901</b>
<b>NET FARM INCOME</b>	<b>\$219,747</b>	<b>\$386,210</b>	<b>\$262,141</b>	<b>\$281,797</b>	<b>\$566,594</b>
ADD: Interest	\$40,519	\$39,733	\$40,140	\$37,049	\$38,691
<b>TOTAL AVAILABLE - Farm</b>	<b>\$260,266</b>	<b>\$425,943</b>	<b>\$302,281</b>	<b>\$318,846</b>	<b>\$605,285</b>
ADD: Net Nonfarm Income	\$12,512	\$13,437	\$31,690	\$17,799	\$14,195
Sale Capital Assets	\$15,407	\$16,436	\$25,406	\$14,251	\$14,489
<b>TOTAL FUNDS AVAILABLE (A)</b>	<b>\$288,185</b>	<b>\$455,816</b>	<b>\$359,377</b>	<b>\$350,896</b>	<b>\$633,969</b>
Family Living + Income Taxes	\$46,587	\$52,147	\$51,371	\$56,837	\$61,114
Debt Service Requirement	\$162,520	\$175,259	\$183,882	\$180,421	\$204,112
<b>TOTAL FUNDS REQUIRED (B)</b>	<b>\$209,107</b>	<b>\$227,406</b>	<b>\$235,253</b>	<b>\$237,258</b>	<b>\$265,226</b>
<b>EXCESS (DEFICIT) (A - B)</b>	<b>\$79,078</b>	<b>\$228,410</b>	<b>\$124,124</b>	<b>\$113,638</b>	<b>\$368,743</b>

TABLE B-1.

## 2014 DATA BY HERD SIZE — EARNINGS WORKSHEET

	HERD SIZE				
	99 COWS OR FEWER	100-299 COWS	300-699 COWS	700 COWS OR MORE	ALL FARMS
Number of Farms	100	138	78	52	368
Average Number of Cows	68	172	483	1085	339
Receipts	DOLLARS PER COW				
Milk Sales	\$5,135	\$5,600	\$6,088	\$6,405	\$6,086
Cattle Sales	409	389	426	401	407
Crop Sales	274	212	181	148	177
Government Payments	29	59	36	31	38
Other	166	169	123	141	142
<b>CASH RECEIPTS</b>	<b>\$6,013</b>	<b>\$6,429</b>	<b>\$6,854</b>	<b>\$7,126</b>	<b>\$6,850</b>
<b>Accrual Adjustments</b>					
+ Change in Inventory-Raised Livestock	\$29	\$85	\$104	\$149	\$117
<b>VALUE OF FARM PRODUCTION (a)</b>	<b>\$6,042</b>	<b>\$6,514</b>	<b>\$6,958</b>	<b>\$7,275</b>	<b>\$6,967</b>
<b>COST OF GOODS SOLD</b>					
Chemicals & Sprays	\$69	\$86	\$58	\$80	\$74
Custom Hire	109	153	180	144	155
Purchased Feed	1,375	1,640	1,908	2,008	1,873
Fertilizer & Lime	193	178	217	147	176
Freight & Trucking (Marketing)	212	229	209	235	225
Gasoline, Fuel & Oil	264	273	255	254	258
Hired Labor	313	711	843	906	817
Seed & Plants	159	154	146	151	150
Supplies	291	301	290	301	297
Veterinary, Medicine & Breeding	157	187	218	253	224
Cow Replacements	17	34	56	49	47
<b>Total Cost of Goods Sold</b>	<b>\$3,159</b>	<b>\$3,946</b>	<b>\$4,380</b>	<b>\$4,528</b>	<b>\$4,296</b>
<b>Gross Margin</b>	<b>\$2,883</b>	<b>\$2,568</b>	<b>\$2,578</b>	<b>\$2,747</b>	<b>\$2,671</b>
<b>OVERHEAD</b>					
Insurance	85	84	65	60	67
Interest	126	117	105	118	114
Rent	55	110	110	111	107
Repairs	408	380	395	457	421
Property & Misc. Taxes	129	94	77	65	78
Utilities	144	127	119	118	121
Other	98	93	80	90	90
<b>Accrual Adjustments</b>					
+ Depreciation	517	456	348	305	359
<b>Total Overhead Expenses</b>	<b>\$1,562</b>	<b>\$1,461</b>	<b>\$1,299</b>	<b>\$1,324</b>	<b>\$1,357</b>
<b>Total Farm Production Costs (b)</b>	<b>\$4,721</b>	<b>\$5,407</b>	<b>\$5,679</b>	<b>\$5,852</b>	<b>\$5,653</b>
<b>NET FARM EARNINGS (a) - (b)</b>	<b>\$1,321</b>	<b>\$1,107</b>	<b>\$1,279</b>	<b>\$1,423</b>	<b>\$1,314</b>
+ Net Nonfarm Income	187	108	16	14	42
- Family Living & Income Taxes	563	325	162	86	180
<b>NET EARNINGS</b>	<b>\$945</b>	<b>\$890</b>	<b>\$1,133</b>	<b>\$1,351</b>	<b>\$1,176</b>

Note: Expenses adjusted for changes in accounts payable, prepaid expenses, and supply inventories to remove the effects of tax planning and reflect only one year's expenses.

TABLE B-2.

## 2014 DATA BY HERD SIZE — BALANCE SHEET SUMMARY

December 31, 2014

	HERD SIZE				
	99 COWS OR FEWER	100-299 COWS	300-699 COWS	700 COWS OR MORE	ALL FARMS
Number of Farms	100	138	78	52	368
Average Number of Cows	68	172	483	1085	339
	ASSETS PER COW				
Cash & Accounts Receivable	\$841	\$699	\$688	\$648	\$680
Feed & Crop Inventory	1,144	1,304	1,274	1,210	1,244
Supplies & Prepaid Expenses	277	271	368	461	387
Other Current Assets	115	104	72	29	61
<b>TOTAL CURRENT ASSETS</b>	<b>\$2,377</b>	<b>\$2,378</b>	<b>\$2,402</b>	<b>\$2,348</b>	<b>\$2,372</b>
Dairy Livestock	\$2,375	\$2,372	\$2,439	\$2,466	\$2,435
Machinery & Equipment	4,135	3,499	2,328	1,984	2,494
Other Intermediate Assets	1,097	999	647	515	679
<b>TOTAL INTERMEDIATE ASSETS</b>	<b>\$7,607</b>	<b>\$6,870</b>	<b>\$5,414</b>	<b>\$4,965</b>	<b>\$5,608</b>
Farm Real Estate	\$8,501	\$6,967	\$5,041	\$4,594	\$5,395
Other Fixed Assets	427	382	131	132	195
<b>TOTAL FIXED ASSETS</b>	<b>\$8,928</b>	<b>\$7,349</b>	<b>\$5,172</b>	<b>\$4,726</b>	<b>\$5,590</b>
<b>TOTAL ASSETS</b>	<b>\$18,912</b>	<b>\$16,597</b>	<b>\$12,988</b>	<b>\$12,039</b>	<b>\$13,570</b>
	LIABILITIES PER COW				
Accounts Payable	\$40	\$66	\$32	\$29	\$38
Farm Credit Short-Term Loans	62	88	131	171	137
Other Current Liabilities	431	477	413	501	466
<b>TOTAL CURRENT LIABILITIES</b>	<b>\$533</b>	<b>\$631</b>	<b>\$576</b>	<b>\$701</b>	<b>\$641</b>
Farm Credit Intermediate Term	\$756	\$889	\$998	\$1,252	\$1,079
Other Intermediate Liabilities	428	460	166	204	254
<b>TOTAL INTERMEDIATE LIABILITIES</b>	<b>\$1,184</b>	<b>\$1,349</b>	<b>\$1,164</b>	<b>\$1,456</b>	<b>\$1,333</b>
Farm Credit Long-Term Real Estate	\$1,034	\$1,237	\$1,037	\$1,387	\$1,233
Other Long-Term Liabilities	349	218	122	68	128
<b>TOTAL LONG-TERM LIABILITIES</b>	<b>\$1,383</b>	<b>\$1,455</b>	<b>\$1,159</b>	<b>\$1,455</b>	<b>\$1,361</b>
<b>TOTAL LIABILITIES</b>	<b>\$3,100</b>	<b>\$3,435</b>	<b>\$2,899</b>	<b>\$3,612</b>	<b>\$3,335</b>
	NET WORTH PER COW				
<b>OWNER'S NET WORTH</b>	<b>\$15,812</b>	<b>\$13,162</b>	<b>\$10,089</b>	<b>\$8,427</b>	<b>\$10,235</b>
<b>TOTAL LIABILITIES &amp; NET WORTH</b>	<b>\$18,912</b>	<b>\$16,597</b>	<b>\$12,988</b>	<b>\$12,039</b>	<b>\$13,570</b>
<b>PERCENT NET WORTH</b>	<b>84%</b>	<b>79%</b>	<b>78%</b>	<b>70%</b>	<b>75%</b>

TABLE B-3.

## 2014 DATA BY HERD SIZE — EVALUATION FACTORS

	HERD SIZE				
	99 COWS OR FEWER	100-299 COWS	300-699 COWS	700 COWS OR MORE	ALL FARMS
Number of Farms	100	138	78	52	368
Average Number of Cows	68	172	483	1,085	339
Worker Equivalents	2.1	4.3	10.7	22.6	7.7
Cows Per Worker	32	40	45	48	44
Pounds of Milk Sold Per Worker	642,291	876,966	1,070,677	1,209,425	1,055,381
Pounds of Milk Sold Per Farm	1,374,503	3,762,184	11,466,951	27,357,194	8,084,218
Pounds of Milk Sold Per Cow	20,267	21,812	23,740	25,204	23,846
Milk Price Per Cwt.	\$25.33	\$25.67	\$25.65	\$25.41	\$25.52
Total Crop Acres	251	509	1,190	2,153	816
Crop Acres Per Cow	3.7	3.0	2.5	2.0	2.4
Crop Acres Per Worker	117	119	111	95	107
Feed Cost Per Cow	\$1,375	\$1,640	\$1,908	\$2,008	\$1,873
Feed Cost Per Cwt.	\$6.78	\$7.52	\$8.04	\$7.97	\$7.85
Feed as a Percent of Milk Sales	27%	29%	31%	31%	31%
Feed & Crop Expense Per Cow <sup>1</sup>	1,796	2,058	2,328	2,386	2,274
Feed & Crop Expense Per Cwt.	\$8.86	\$9.44	\$9.81	\$9.47	\$9.54
Machinery Cost Per Cow <sup>2</sup>	\$1,128	\$1,098	\$1,006	\$972	\$1,015
Machinery Costs Per Cwt.	\$5.57	\$5.03	\$4.24	\$3.86	\$4.26
Labor & Family Living Per Cow	\$871	\$1,035	\$1,003	\$984	\$993
Labor & Family Living Per Cwt.	\$4.30	\$4.75	\$4.22	\$3.90	\$4.16
Assets Per Cow	\$18,912	\$16,596	\$12,989	\$12,039	\$13,569
Debt Per Cow	\$3,100	\$3,435	\$2,899	\$3,612	\$3,335
Net Worth Per Cow	\$15,812	\$13,161	\$10,090	\$8,427	\$10,234
Percent Return on Assets <sup>3</sup>	5.9%	6.4%	10.1%	13.1%	10.1%
Percent Return on Equity <sup>4</sup>	7.1%	8.2%	13.2%	19.2%	13.6%

<sup>1</sup>Feed & Crop Expense = Feed + Seed & Plants + Fertilizer + Chemicals & Sprays.

<sup>2</sup>Machinery Cost = Machinery Repairs + Custom Hire + Fuel & Oil + Machinery & Equipment Depreciation.

<sup>3</sup>Return on Assets = (Net Earnings + Interest) / Average Farm Assets.

<sup>4</sup>Return on Equity = Net Earnings / Average Farm Net Worth.

TABLE C-1.

## 2014 DATA BY PROFIT GROUPS — EARNINGS WORKSHEET

	PROFIT GROUP				
	BOTTOM 25%	THIRD 25%	SECOND 25%	TOP 25%	ALL FARMS
Number of Farms	92	92	92	92	368
Average Number of Cows	324	364	405	262	339
<b>Receipts</b>	<b>DOLLARS PER COW</b>				
Milk Sales	\$5,641	\$5,914	\$6,388	\$6,412	\$6,086
Cattle Sales	384	383	396	485	407
Crop Sales	225	106	236	125	177
Government Payments	35	42	32	45	38
Other	116	140	164	139	\$142
<b>CASH RECEIPTS</b>	<b>\$6,401</b>	<b>\$6,585</b>	<b>\$7,216</b>	<b>\$7,206</b>	<b>\$6,850</b>
<b>Accrual Adjustments</b>					
+ Change in Inventory-Raised Livestock	\$152	\$97	\$135	\$73	\$117
<b>VALUE OF FARM PRODUCTION (a)</b>	<b>\$6,553</b>	<b>\$6,682</b>	<b>\$7,351</b>	<b>\$7,279</b>	<b>\$6,967</b>
<b>COST OF GOODS SOLD</b>					
Chemicals & Sprays	\$81	\$67	\$78	\$69	\$74
Custom Hire	210	132	152	122	155
Purchased Feed	1,848	1,842	1,944	1,838	1,873
Fertilizer & Lime	159	190	176	178	176
Freight & Trucking (Marketing)	220	222	228	231	225
Gasoline, Fuel & Oil	269	250	270	239	258
Hired Labor	850	836	843	711	817
Seed & Plants	141	158	154	146	150
Supplies	310	285	308	283	297
Veterinary, Medicine & Breeding	218	223	248	198	224
Cow Replacements	81	41	36	29	47
<b>Total Cost of Goods Sold</b>	<b>\$4,387</b>	<b>\$4,246</b>	<b>\$4,437</b>	<b>\$4,044</b>	<b>\$4,296</b>
<b>Gross Margin</b>	<b>\$2,166</b>	<b>\$2,436</b>	<b>\$2,914</b>	<b>\$3,235</b>	<b>\$2,671</b>
<b>OVERHEAD</b>					
Insurance	70	67	63	71	67
Interest	107	123	119	105	114
Rent	118	117	109	78	107
Repairs	447	412	431	385	421
Property & Misc. Taxes	86	72	73	82	78
Utilities	125	124	116	122	121
Other	93	81	98	76	90
<b>Accrual Adjustments</b>					
+ Depreciation	321	357	342	433	359
<b>Total Overhead Expenses</b>	<b>\$1,367</b>	<b>\$1,353</b>	<b>\$1,351</b>	<b>\$1,352</b>	<b>\$1,357</b>
<b>Total Farm Production Costs (b)</b>	<b>\$5,754</b>	<b>\$5,599</b>	<b>\$5,788</b>	<b>\$5,396</b>	<b>\$5,653</b>
<b>NET FARM EARNINGS (a) - (b)</b>	<b>\$799</b>	<b>\$1,083</b>	<b>\$1,563</b>	<b>\$1,883</b>	<b>\$1,314</b>
+ Net Nonfarm Income	28	29	46	71	42
- Family Living & Income Taxes	140	177	155	274	180
<b>NET EARNINGS</b>	<b>\$687</b>	<b>\$935</b>	<b>\$1,454</b>	<b>\$1,680</b>	<b>\$1,176</b>

Note: Expenses adjusted for changes in accounts payable, prepaid expenses and supply inventories to remove the effects of tax planning and reflect only one year's expenses.



TABLE C-2.

## 2014 DATA BY PROFIT GROUPS — BALANCE SHEET SUMMARY

December 31, 2014

	PROFIT GROUP				
	BOTTOM 25%	THIRD 25%	SECOND 25%	TOP 25%	ALL FARMS
Number of Farms	92	92	92	92	368
Average Number of Cows	324	364	405	262	339
	ASSETS PER COW				
Cash & Accounts Receivable	\$561	\$609	\$704	\$889	\$680
Feed & Crop Inventory	1,245	1,191	1,314	1,207	1,244
Supplies & Prepaid Expenses	283	340	438	501	387
Other Current Assets	65	36	57	98	61
TOTAL CURRENT ASSETS	\$2,154	\$2,176	\$2,513	\$2,695	\$2,372
Dairy Livestock	\$2,500	\$2,332	\$2,483	\$2,424	\$2,435
Machinery & Equipment	2,216	2,390	2,380	3,156	2,494
Other Intermediate Assets	631	568	790	722	679
TOTAL INTERMEDIATE ASSETS	\$5,347	\$5,290	\$5,653	\$6,302	\$5,608
Farm Real Estate	\$4,889	\$5,342	\$5,552	\$5,848	\$5,395
Other Fixed Assets	213	234	168	160	195
TOTAL FIXED ASSETS	\$5,102	\$5,576	\$5,720	\$6,008	\$5,590
TOTAL ASSETS	\$12,603	\$13,042	\$13,886	\$15,005	\$13,570
	LIABILITIES PER COW				
Accounts Payable	\$77	\$34	\$23	\$32	\$38
Farm Credit Short-Term Loans	191	155	125	67	137
Other Current Liabilities	421	477	494	446	466
TOTAL CURRENT LIABILITIES	\$689	\$666	\$642	\$545	\$641
Farm Credit Intermediate Term	\$1,084	\$1,039	\$1,251	\$864	\$1,079
Other Intermediate Liabilities	236	261	239	288	254
TOTAL INTERMEDIATE LIABILITIES	\$1,320	\$1,300	\$1,490	\$1,152	\$1,333
Farm Credit Long-Term Real Estate	\$994	\$1,403	\$1,362	\$1,094	\$1,233
Other Long-Term Liabilities	150	96	73	232	128
TOTAL LONG-TERM LIABILITIES	\$1,144	\$1,499	\$1,435	\$1,326	\$1,361
TOTAL LIABILITIES	\$3,153	\$3,465	\$3,567	\$3,023	\$3,335
	NET WORTH PER COW				
OWNER'S NET WORTH	\$9,450	\$9,577	\$10,319	\$11,982	\$10,235
TOTAL LIABILITIES & NET WORTH	\$12,603	\$13,042	\$13,886	\$15,005	\$13,570
PERCENT NET WORTH	75%	73%	74%	80%	75%

TABLE C-3.

## 2014 DATA BY PROFIT GROUPS — EVALUATION FACTORS

	PROFIT GROUP				
	BOTTOM 25%	THIRD 25%	SECOND 25%	TOP 25%	ALL FARMS
Number of Farms	92	92	92	92	368
Average Number of Cows	324	364	405	262	339
Worker Equivalents	7.75	7.77	9.11	6.00	7.66
Cows Per Worker	42	47	44	44	44
Pounds of Milk Sold Per Worker	930,077	1,074,535	1,116,277	1,099,842	1,055,381
Pounds of Milk Sold Per Farm	7,208,097	8,349,137	10,169,283	6,599,052	8,084,218
Pounds of Milk Sold Per Cow	22,249	22,901	25,134	25,144	23,846
Milk Price Per Cwt.	\$25.35	\$25.82	\$25.41	\$25.50	\$25.52
Total Crop Acres	830	832	1,003	598	816
Crop Acres Per Cow	2.6	2.3	2.5	2.3	2.4
Crop Acres Per Worker	107	107	110	100	107
Feed Cost Per Cow	\$1,848	\$1,842	\$1,944	\$1,838	\$1,873
Feed Cost Per Cwt.	\$8.31	\$8.04	\$7.73	\$7.31	\$7.85
Feed as a Percent of Milk Sales	33%	31%	30%	29%	31%
Feed & Crop Expense Per Cow <sup>1</sup>	2,230	2,256	2,352	2,232	2,274
Feed & Crop Expense Per Cwt.	\$10.02	\$9.85	\$9.36	\$8.88	\$9.54
Machinery Cost Per Cow <sup>2</sup>	\$1,070	\$976	\$1,016	\$1,001	\$1,015
Machinery Cost Per Cwt.	\$4.81	\$4.26	\$4.04	\$3.98	\$4.26
Labor & Family Living Per Cow	\$985	\$1,007	\$997	\$979	\$993
Labor & Family Living Per Cwt.	\$4.43	\$4.40	\$3.97	\$3.89	\$4.16
Assets Per Cow	\$12,603	\$13,042	\$13,886	\$15,005	\$13,569
Debt Per Cow	\$3,152	\$3,465	\$3,567	\$3,023	\$3,335
Net Worth Per Cow	\$9,451	\$9,577	\$10,319	\$11,982	\$10,234
Percent Return on Assets <sup>3</sup>	6.7%	8.6%	12.1%	12.6%	10.1%
Percent Return on Equity <sup>4</sup>	9.0%	11.9%	16.6%	16.1%	13.6%

<sup>1</sup> Feed & Crop Expense = Feed + Seed & Plants + Fertilizer + Chemicals & Spray

<sup>2</sup> Machinery Cost = Machinery Repairs + Custom Hire + Fuel & Oil + Machinery & Equipment Depreciation

<sup>3</sup> Return on Assets = (Net Earnings + Interest) / Average Farm Assets

<sup>4</sup> Return on Equity = Net Earnings / Average Farm Net Worth

TABLE C-4.

## 2014 COST OF PRODUCING MILK BY PROFIT GROUPS

	BOTTOM 25%	ALL FARM AVERAGE	TOP 25%
	DOLLARS PER CWT.		
Feed	\$ 8.31	\$ 7.86	\$ 7.31
Labor	\$ 3.82	\$ 3.43	\$ 2.83
Interest	\$ 0.48	\$ 0.48	\$ 0.42
Trucking (Marketing)	\$ 0.99	\$ 0.94	\$ 0.92
Crop	\$ 1.71	\$ 1.68	\$ 1.56
Other Expenses	\$ 9.11	\$ 7.82	\$ 6.78
Adjusted Cash Operating Expenses	\$ 24.42	\$ 22.21	\$ 19.82
+ Depreciation	1.44	1.50	1.72
+ Family Living	0.63	0.76	1.09
Total Costs	\$ 26.49	\$ 24.47	\$ 22.63
— Non-milk Income <sup>1</sup>	4.10	3.70	3.53
Net Cost of Production <sup>2</sup>	\$ 22.39	\$ 20.77	\$ 19.10

<sup>1</sup> Nonmilk income includes accrual basis cattle, crop, other income and farm income.

<sup>2</sup> Before any return on equity

TABLE C-5.

## 2014 CASH MARGINS BY PROFIT GROUPS

	2010	2011	2012	2013	2014
Bottom Profit Group					
Actual Milk Price	\$ 17.59	\$ 21.61	\$ 19.81	\$ 21.25	\$ 25.35
Break-Even Milk Price	18.30	21.59	20.43	21.48	22.79
CASH MARGIN	\$ -0.71	\$ 0.02	\$ -0.62	\$ -0.23	\$ 2.56
Top Profit Group					
Actual Milk Price	\$ 17.64	\$ 21.24	\$ 19.70	\$ 21.18	\$ 25.50
Break-Even Milk Price	15.12	16.21	15.82	18.04	18.99
CASH MARGIN	\$ 2.52	\$ 5.03	\$ 3.88	\$ 3.14	\$ 6.51

TABLE C-6.

## 2014 RESERVE DEBT CAPACITY BY PROFIT GROUPS

	BOTTOM 25%	ALL FARM AVERAGE	TOP 25%
	DOLLARS PER COW		
Debt Capacity	\$ 6,490	\$ 10,790	\$ 15,620
— Capital Debt	2,845	3,126	2,905
RESERVE DEBT CAPACITY	\$ 3,645	\$ 7,664	\$ 12,715

TABLE D-1.

## 2014 DATA BY REGIONS — EARNINGS WORKSHEET

	REGIONS <sup>1</sup>		
	NEW YORK	NEW ENGLAND	ALL FARMS
Number of Farms	323	45	368
Average Number of Cows	332	370	339
<b>Receipts</b>	DOLLARS PER COW		
Milk Sales	\$6,076	\$6,160	\$6,086
Cattle Sales	410	379	407
Crop Sales	185	138	177
Government Payments	14	193	38
Other	134	191	142
CASH RECEIPTS	\$6,819	\$7,061	\$6,850
<b>Accrual Adjustments</b>			
+ Change in Inventory-Raised Livestock	\$122	\$87	\$117
VALUE OF FARM PRODUCTION (a)	\$6,941	\$7,148	\$6,967
<b>COST OF GOODS SOLD</b>			
Chemicals & Sprays	\$77	\$47	\$74
Custom Hire	158	130	155
Purchased Feed	1,828	2,154	1,873
Fertilizer & Lime	172	209	176
Freight & Trucking (Marketing)	220	265	225
Gasoline, Fuel & Oil	255	271	258
Hired Labor	803	924	817
Seed & Plants	156	115	150
Supplies	300	276	297
Veterinary, Medicine & Breeding	225	215	224
Cow Replacements	51	21	47
<b>Total Cost of Goods Sold</b>	\$4,245	\$4,627	\$4,296
<b>Gross Margin</b>	\$2,696	\$2,521	\$2,671
<b>OVERHEAD</b>			
Insurance	66	77	67
Interest	116	102	114
Rent	107	102	107
Repairs	418	448	421
Property & Misc. Taxes	79	71	78
Utilities	120	132	121
Other	86	102	90
<b>Accrual Adjustments</b>			
Depreciation	363	339	359
<b>Total Overhead Expenses</b>	\$1,355	\$1,373	\$1,357
<b>Total Farm Production Costs (b)</b>	\$5,600	\$6,000	\$5,653
NET FARM EARNINGS (a) - (b)	\$1,341	\$1,148	\$1,314
+ Net Nonfarm Income	40	57	42
- Family Living & Income Taxes	181	185	180
NET EARNINGS	\$1,200	\$1,020	\$1,176

Note: Expenses adjusted for changes in accounts payable, prepaid expenses and supply inventories to remove the effects of tax planning and reflect only one year's expenses

<sup>1</sup>Regions are divided by state not Federal Milk Orders.

TABLE D-2.

## 2014 DATA BY REGIONS — BALANCE SHEET SUMMARY

	DECEMBER 31, 2014		
	REGIONS <sup>1</sup>		
	NEW YORK	NEW ENGLAND	ALL FARMS
Number of Farms	323	45	368
Average Number of Cows	332	370	339
	ASSETS PER COW		
Cash & Accounts Receivable	\$692	\$617	\$680
Feed & Crop Inventory	1,268	1,091	1,244
Supplies & Prepaid Expenses	382	438	387
Other Current Assets	54	112	61
<b>TOTAL CURRENT ASSETS</b>	<b>\$2,396</b>	<b>\$2,258</b>	<b>\$2,372</b>
Dairy Livestock	\$2,474	\$2,168	\$2,435
Machinery & Equipment	2,548	2,220	2,494
Other Intermediate Assets	653	804	679
<b>TOTAL INTERMEDIATE ASSETS</b>	<b>\$5,675</b>	<b>\$5,192</b>	<b>\$5,608</b>
Farm Real Estate	\$5,497	\$4,911	\$5,394
Other Fixed Assets	189	251	195
<b>TOTAL FIXED ASSETS</b>	<b>\$5,686</b>	<b>\$5,162</b>	<b>\$5,589</b>
<b>TOTAL ASSETS</b>	<b>\$13,757</b>	<b>\$12,612</b>	<b>\$13,569</b>
	LIABILITIES PER COW		
Accounts Payable	\$42	\$33	\$38
Farm Credit Short-Term Loans	118	247	137
Other Current Liabilities	485	321	466
<b>TOTAL CURRENT LIABILITIES</b>	<b>\$645</b>	<b>\$601</b>	<b>\$641</b>
Farm Credit Intermediate Term	\$1,139	\$651	\$1,079
Other Intermediate Liabilities	264	196	254
<b>TOTAL INTERMEDIATE LIABILITIES</b>	<b>\$1,403</b>	<b>\$847</b>	<b>\$1,333</b>
Farm Credit Long-Term Real Estate	\$1,250	\$1,101	\$1,233
Other Long-Term Liabilities	136	86	128
<b>TOTAL LONG-TERM LIABILITIES</b>	<b>\$1,386</b>	<b>\$1,187</b>	<b>\$1,361</b>
<b>TOTAL LIABILITIES</b>	<b>\$3,434</b>	<b>\$2,635</b>	<b>\$3,335</b>
	NET WORTH PER COW		
<b>OWNER'S NET WORTH</b>	<b>\$10,323</b>	<b>\$9,977</b>	<b>\$10,234</b>
<b>TOTAL LIABILITIES &amp; NET WORTH</b>	<b>\$13,757</b>	<b>\$12,612</b>	<b>\$13,569</b>
<b>PERCENT NET WORTH</b>	<b>75%</b>	<b>79%</b>	<b>75%</b>

<sup>1</sup>Regions are divided by state not Federal Milk Orders.

TABLE D-3.

## 2014 DATA BY REGIONS — EVALUATION FACTORS

	REGIONS <sup>1</sup>		
	NEW YORK	NEW ENGLAND	ALL FARMS
Number of Farms	323	45	368
Average Number of Cows	332	370	339
Worker Equivalents	7.54	8.29	7.66
Cows Per Worker	44	45	44
Pounds of Milk Sold Per Worker	1,055,200	1,035,745	1,055,381
Pounds of Milk Sold Per Farm	7,956,208	8,586,326	8,084,218
Pounds of Milk Sold Per Cow	23,935	23,187	23,846
Milk Price Per Cwt.	\$25.39	\$26.57	\$25.52
Total Crop Acres	822	743	816
Crop Acres Per Cow	2.5	2.0	2.4
Crop Acres Per Worker	109	90	107
Feed Cost Per Cow	\$1,828	\$2,154	\$1,873
Feed Cost Per Cwt.	\$7.64	\$9.29	\$7.85
Feed as a Percent of Milk Sales	30%	35%	31%
Feed & Crop Expense Per Cow <sup>2</sup>	\$2,233	\$2,525	\$2,274
Feed & Crop Expense Per Cwt.	\$9.33	\$10.89	\$9.54
Machinery Cost Per Cow <sup>3</sup>	\$1,018	\$1,004	\$1,015
Machinery Cost Per Cwt.	\$4.25	\$4.33	\$4.26
Labor & Family Living Per Cow	\$979	\$1,107	\$993
Labor & Family Living Per Cwt.	\$4.09	\$4.77	\$4.16
Assets Per Cow	\$13,757	\$12,612	\$13,569
Debt Per Cow	\$3,434	\$2,635	\$3,335
Net Worth Per Cow	\$10,323	\$9,977	\$10,234
Percent Return on Assets <sup>4</sup>	10.2%	9.4%	10.1%
Percent Return on Equity <sup>5</sup>	13.8%	12.1%	13.6%

<sup>1</sup> Regions are divided by states not Federal Milk Orders.

<sup>2</sup> Feed & Crop Expense = Feed + Seed & Plants + Fertilizer + Chemicals & Spray

<sup>3</sup> Machinery Cost = Machinery Repairs + Custom Hire + Fuel & Oil + Machinery & Equipment Depreciation

<sup>4</sup> Return on Assets = (Net Earnings + Interest) / Average Farm Assets. In contrast, the Balance Sheet shows the year-end values

<sup>5</sup> Return on Equity = Net Earnings / Average Farm Net Worth

## APPENDIX:

This year's *DFS* includes only those farms within the Farm Credit East loan service area,<sup>1</sup> and does not include farms in Vermont. In tables and figures offering year-over-year comparisons, past years do include Vermont farms; 2014 data does not. Past data has not been restated for direct comparative purposes, but a review of the "A" tables from 2013 with and without Vermont farms showed average differences of less than 10 percent on most line items.

Selected 2013 Data	All Farms, Including Vermont	Excluding Vermont	Variance
Number of farms	<b>517</b>	<b>376</b>	<b>(28%)</b>
Number of Cows	<b>315</b>	<b>283</b>	<b>(10%)</b>
Milk Sold per Cow	<b>23,848 lbs.</b>	<b>23,796 lbs.</b>	<b>0%</b>
Milk Sold per Worker	<b>1,097,288 lbs.</b>	<b>1,045,314 lbs.</b>	<b>(5%)</b>
Milk Price per Cwt.	<b>\$21.30</b>	<b>\$21.58</b>	<b>1%</b>
NCOP per Cwt.	<b>\$19.47</b>	<b>\$19.66</b>	<b>1%</b>
Net Worth	<b>73%</b>	<b>74%</b>	<b>1%</b>
Net Earnings per Cow	<b>\$490</b>	<b>\$517</b>	<b>6%</b>
Return on Assets	<b>4.8%</b>	<b>5.1%</b>	<b>0.3%</b>

<sup>1</sup>Including the merger with Farm Credit of Maine.



## GLOSSARY

### Net Farm Income

A measure of farm profitability in terms of cash flow, net farm income reflects the ability of a farm business to meet its cost of production through cash income. It is equal to:

$$\text{Cash Receipts} - \text{Adjusted Cash Operating Expenses}$$

### Adjusted Cash Operating Expenses

Cash farm operating expenses adjusted to reflect 12 months of operation and to remove the effect of tax planning. Adjustments account for changes in supply inventories, accounts payable and prepaid expenses. Operating expenses do not include family living costs or capital expenditures.

### Net Earnings

An accrual measure of farm profitability, net earnings reflects all revenues and costs associated with the farm business. It is equal to:

$$\begin{aligned} &\text{Net Farm Income} \\ &+ \text{Change in Accounts Receivable} \\ &+ \text{Change in Production Inventories} \\ &+ \text{Net Nonfarm \& Noncash Income} \\ &- \text{Depreciation} \\ &- \text{Family Living Expenses \& Taxes} \end{aligned}$$

### Return on Assets

Measures profit earned relative to total farm assets, including assets financed with debt and those financed with farm equity. Return on assets is equal to:

$$\frac{\text{Net Earnings} + \text{Interest Expense}}{\text{Average Assets}}$$

### Return on Equity

Measures profit earned relative to a farmer's equity investment in the farm operation. Return on equity is equal to:

$$\frac{\text{Net Earnings}}{\text{Average Net Worth}}$$

### Debt Capacity

The maximum amount of capital debt that can be repaid from a farm's cash flow, the calculation of debt capacity is described in the summary.

### Reserve Debt Capacity

The amount of additional capital debt (beyond that already incurred) that a farm can service from cash flow. Reserve debt capacity represents a farm's buffer against financial adversity. It is equal to:

$$\text{Debt Capacity} - \text{Capital Debt}$$

### Overhead Costs

Costs that do not vary with a change in production output, such as depreciation, interest, repairs, taxes and insurance, etc.



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