



# DAIRY GRAZING FARMS FINANCIAL SUMMARY:

## **Regional/Multi-State Interpretation of Small Farm Data**

Sixth Year Report

Data from 2005, 2004, 2003, 2002, 2001, and 2000

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*<http://cdp.wisc.edu>*

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The idea for this project came from discussions among the Great Lakes Grazing Network (GLGN). The GLGN is a coalition of farmers, researchers/extension, Natural Resources Conservation Service Agency staff, environmentalists and others (including several of the authors) organized locally in the Great Lakes region states and provinces to support and promote managed grazing systems for livestock production. The focus is on systems that are practical and profitable for farmers and improve and protect the environment. The long-term benefit of management intensive rotational grazing (MIRG) will be to reduce livestock agriculture's negative impacts on water quality in the Great Lakes Basin and on other watersheds in the Great Lakes Region.

Organized by the Wisconsin Rural Development Center (WRDC) and coordinated by River Country Resource and Development Council, the network is a collaborative effort of working groups from Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Ontario, Pennsylvania and Wisconsin. Representatives of each group coordinate a variety of grazing-based activities. They share research, education, training, policy and outreach efforts, as well as develop policies supportive of grazing-based farming systems within the Great Lakes Region.

Two states not touching a Great Lake (Iowa and Missouri) are also cooperating in this financial summary project as well. Data from additional states with similar climates has also been used.

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Sixth Year Report on 2005 Great Lakes Grazing Network Grazing Dairy Data  
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## Regional Multi-State Interpretation of Small Farm Financial Data Sixth Year Report on 2005 Great Lakes Grazing Network Grazing Dairy Data.<sup>1</sup>

### III. Executive Summary

Management Intensive Rotational Grazing (MIRG) has become a more common dairy system in the Northern U.S. This analysis of actual farm financial data from graziers (115 in 2005, 101 in 2004, 102 in 2003, 103 in 2002, 126 in 2001, and 92 in 2000) in the Great Lakes region provides some insight into the economics of grazing as a dairy system in the Northern U.S. and Canada.

Insights include:

- A comparison between the most profitable half and the least profitable half of graziers sorted by Net Farm Income from Operations per Hundredweight Equivalent (NFIFO per CWT EQ) shows a large range in financial performance. The ratio between the top half and the bottom half's NFIFO per CWT EQ and NFIFO per cow was greater in the lower profit years (usually with lower milk price) than in the higher profit years (see Chapter XIII).
- The average grazing herd with less than 100 cows had a higher NFIFO per cow and per CWT EQ than the average grazing herd with 100 cows or more. The smallest margin appeared in the 2003 data (see Chapter XIV).
- Non-seasonal calving/milking herds had a large NFIFO per cow and per CWT EQ advantage in 2000 and 2002. The seasonal herds (stop milking at least one day each calendar year) had a large NFIFO per cow and per CWT EQ advantage in 2001 and 2004 and a very small advantage in 2003. In 2005 non-seasonal herds had a NFIFO/Cow advantage and slight NFIFO/CWT EQ disadvantage. **Careful examination of the data suggests that achieving a given level of NFIFO per cow or per CWT EQ is more difficult in a seasonal system.** The seasonal group had a smaller range of financial performance within a year but experienced more variability of financial performance from year to year. Less than 15 percent of the herds in the data were seasonal (see Chapters XV and XVI).
- The average grazer had a higher NFIFO per cow and NFIFO per CWT EQ than their confinement counterparts in all years in New York and Wisconsin (the only two states with the necessary data for this comparison), except in 2004, when the average New York confinement herd had a slightly higher NFIFO per cow than the average New York grazer (see Chapters VI, XVII and XVIII).
- The breed of cattle is probably a minor factor among the many variables affecting the profitability of dairy farms. However, because it is an easily recognized variable and one of great producer interest, the profitability of herd by breed was examined. Herds categorized as Holstein had higher levels of NFIFO per cow in five of five years and NFIFO per CWT EQ in four of five years than herds of other breeding (see Chapter XIX).
- Relatively consistent differences in financial performance between states have appeared in all years. These differences must be considered when interpreting the data (see Chapter VI).
- The ranking of major cost items was remarkably similar between grazing and confinement herds (see Chapter XVIII).

The study confirms that accounting methodology and financial standards are important, both in the accuracy and the standardization of comparison values across large geographic areas involving different combinations of production assets and management skills.

This sixth year report of the project expands the scope of previous reports. Most of the comparison groupings in this report have several pages of AgFA reports to show:

- The Farm Earnings report with the whole farm, per cow and per CWT EQ (see Chapter X).
- The Cost of Production report with the whole farm, per CWT sold, and per CWT EQ.
- The Financial Measures report (**Page 1 uses cost values. Page 2 uses market value**).
- The Balance Sheet report.

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<sup>1</sup> Tom Kriegl from the U.W. Center for Dairy Profitability is the lead author of this report. You may contact him at (608) 263-2685, via e-mail at [tkriegl@wisc.edu](mailto:tkriegl@wisc.edu), by writing the UW Center for Dairy Profitability, 277 Animal Science Building., 1675 Observatory Drive, Madison, WI 53706 or by visiting <http://cdp.wisc.edu>. This report is the fifth year report of the Regional Multi-State Interpretation of Small Farm Financial Data USDA IFAFS Grant project. See Appendix 3 for coauthor contact information.

**To more accurately compare your cost of production, it is recommended that you also calculate your cost of production using the per hundredweight equivalent of milk sold (CWT EQ) method.<sup>2</sup>**

Calculating your cost of production using the per CWT EQ method can be done by inputting farm data into AgFA©. See Appendix 1 for more information about using AgFA©. Appendix 2 is a worksheet that also can be used to calculate your Cost of Production using the per CWT EQ of milk sold method.

#### **IV. Introduction**

Aided by a USDA Initiative for Future Agricultural and Food Systems Grant, ten states and one province standardized data handling and analysis procedures in order to combine actual farm financial and some production data to provide financial benchmarks to help farm families and their communities be successful and sustainable. A small amount of data has been gathered from additional states.

The first enterprise analyzed in this project was dairy grazing. To be considered a dairy farm for the study, 85% or more of gross income must be from milk sales or 90% of gross income must be from dairy livestock sales plus milk sales. To be considered a grazer for the study, one must harvest over 30 % of grazing season forage needs by grazing and must provide fresh pasture at least once every three days.

Standardization of data handling and analysis procedures relied heavily on the Farm Financial Standards Guidelines (revised December, 1997). The guidelines were developed to serve multiple needs to include: (1) promoting uniformity in financial reporting for agricultural producers by presenting methods for financial reporting which are theoretically correct and technically sound, (2) presenting standardized definitions and methods for calculating financial measures which may be used in the measurement of financial performance of agricultural producers and (3) identifying alternatives for development of a national agricultural financial database.<sup>3, 4</sup>

A relatively new computer program called Agricultural Financial Advisor (AgFA©) was used to analyze the data. See Appendix 1 for more information about AgFA©.

The 2005 data was collected from a total of 125 grazing dairy farms. All were analyzed; however, 10 of them were incomplete, so data from 115 farms was summarized. One of the valuable lessons reinforced by this project is that accounting methodology is important both in standardization and in the accuracy of financial comparisons of businesses. The 2004, 2003, 2002, 2001, and 2000 reports summarized data from 101, 102, 103, 126, and 92 graziers respectively. **A total of 251 different farms supplied at least one year of usable data to this project.**

Readers of this report may notice that when the 115 graziers are sorted into groups for comparison purposes, the number in a comparison group may add up to less than 115. For example, the “top half” group has 56 farms while the bottom half group had 58 farms. Fifty-six plus fifty-eight is less than 115. What happened to the other one? Most data sets have a range in values. AgFA© “looks at” the specific distribution of values in a comparison and sometimes omits a small number of the most extreme observations. That is, some farms have numbers that are outside of an expected range and those farms are omitted from that summary.

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<sup>2</sup>CWT EQ sold is an indexing procedure which focuses on the primary product that is sold and standardizes farms in terms of milk price and other variables for analysis purposes. For more information about the CWT EQ method, see Chapter X and consult *Cost of Production Versus Cost of Production*, Dr. Gary Frank, UW Center for Dairy Profitability, 1997.

<sup>3</sup> *Financial Guidelines for Agricultural Producers: Recommendations of the Farm Financial Standards Council (FFSC)*, Revised December, 1997.

<sup>4</sup> Since FFSC allows some latitude on some details, anyone wishing to exactly duplicate the project data handling procedures should contact the authors.

## V. Case Farm Reports from New York and Wisconsin

Not all graziers are created equal; consequently, there may not be a typical grazer. However, it may still be instructive to have a more personal glimpse of a couple of grazing farms that are participating in this study. The two farms are similar in some ways and different in others.

One is quite large. The other is quite small. One is organic. The other could be but is not.

Although the set of practices used by the Wisconsin farm has been a very successful strategy for this and some other graziers, **it also is a set of practices that many small confinement farms could use at least to transition toward grazing** because the practices have much in common with those found on many small confinement farms in Wisconsin. It also is **a strategy that can be very effective for combining organic with serious grazing** because it minimizes feed purchases. This strategy includes a corn, oats, hay, hay, hay rotation with most of the grazing taking place on older hay stands.

Both case farms are highly experienced and have performance levels higher than less experienced graziers should expect to achieve, at least in the beginning.

Among the most important characteristics that both farms share is their success and satisfaction from their decision to operate a grazing dairy farm. They are commended for sharing their stories with others.

### CASE STUDIES

#### New York Case Study<sup>5</sup> Jerry-Dell Farm

Vaughn and Sue Sherman operate Jerry-Dell Farm in Dryden, NY along with son, Ryan, and nephew, Troy Sherman.

The farm had a grazing herd in the 1950s, but moved away from grazing in the 1970s to follow the trend of getting more and more out of the cows. By the 1990s the farm was a total confinement freestall operation utilizing high grain rations, high corn silage, 3 times-per-day milking and rbST. They were able to obtain a 90+ pound per day herd average, but it was at the expense of a healthy herd. The health of calves born was even worse than that of the cows.

They were killing the cows and spending a lot of money to do it. In 1997 the Shermans looked at grazing. Low profit margins played well into transitioning to a low input grazing system and, much to their surprise, even though the milk check decreased, profit margins improved.

#### Benefit Since the Grazing Transition

The main benefit grazing has brought to the farm is an increase in overall cow health. This is evidenced in the way that the cows walk, udder health, somatic cell count (SCC), and more. Cows get sick less and when they do get sick, they heal more quickly.

An example of this is the farm's somatic cell count. In the 1990's the SCC was a problem so they introduced 3X milking along with other strategies that never improved the problem. Since transitioning to grazing, the farm is milking 2 times per day and has averaged a SCC below 200,000. Another example of improved herd health when calving date is misjudged and a cow freshens without a dry period. Before, this would be such a shock that the cow would have to be culled but today the animal will keep milking like nothing happened.

#### Organic Transition

After two years of grazing, they were drawn to the organic market and in 2000 they began selling organic milk.

Vaughn and Sue were initially attracted to the organic market by the price but the primary reason they still farm organically is because they are hooked on the philosophy. Many are timid at the notion of organic because of

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<sup>5</sup> This case farm report has been excerpted from Dairy Farms Business Summary: Intensive Grazing Farms New York 2005 (Ithaca: Department of Applied Economics and Management, College of Agricultural and Life Sciences, Cornell University, February 2003)



the fear, *what will I do if the cows get sick?* The organic philosophy is that if you manage the farm for healthy cows, they will not get sick and then you won't need all that medicine. The same is true for crops. Most could not imagine growing corn without nitrogen fertilizers and pesticides, but it can be done. More importantly, after years of not using fertilizers and pesticides, the fields' soil biology will change, and organic matter increases improving overall soil health. Management substitutes for fossil fuel-based inputs when growing organic crops.

### *Pasture System*

The cows typically average 60-70 percent forage from pasture throughout the grazing season because of high quality pasture. While important to all farms, the rewards of high quality pasture are even greater to organic farms where soybean oil meal can cost as much as \$700 per ton.

With only 218 acres to graze, the 300 milking cows consume almost all of it and thus the high percent of forage from pasture. Heifers and dry cows are custom raised at another farm for the summer. The Sherman's keys to effective grazing are water in every field, clipping pastures when needed, and fresh pasture after every milking. By doing this they are able to feed 10 pounds less grain per cow per day during the grazing season with no loss in production.

Another key to their grazing system is the use of a water wagon instead of fixed water areas. The wagon is more labor intensive; however, it avoids the expense and maintenance of running water pipes over 218 acres. Additionally, by regularly moving the water wagon, they do not have torn up and muddy fields around the water troughs where heel warts could spread.

### Dairy Farm Business Summary

Despite the fact that Cornell University does not publish benchmarks for organic farms, the Sherman's continue to do the dairy farm business summary each year. They find some benefit in comparing the farm to conventional farms of similar size, but it is mainly done to measure the year-to-year progress of their farm business.

### **Wisconsin Case Study<sup>6</sup>** **Tim Pauli Farm**

Belleville, Wisconsin – I spend most of my time writing about graziers with “all-grass” mindsets who want to milk scores of cows through swing parlors and the like.

But I must admit that if I had a Top 10 list of most admired dairy graziers, on it would be a guy with 72 tillable/grazing acres, a five-year cropping rotation and fewer than 30 cows.

Between 1993 (when he stopped green chopping and started grazing) and 2005, Tim Pauli averaged net income of \$1,561 per cow including interest and depreciation costs, but not unpaid labor or return to capital. For 2002, a horrible year for so many dairy farmers, he achieved a net farm income from operations level of over \$1,300 per cow without Uncle Sam's MILC payments. This was accomplished by shipping 15,893 lbs/cow priced at \$11.80/CWT from an average of 26.2 Holsteins in an operation that required 2,400 to 2,500 labor hours.

Tim has a sharp pencil, and he doesn't fudge the numbers. In this age when US dairy industry leaders are clamoring for bigger farms that supposedly produce the lowest-cost milk with the most efficiency, his cost numbers are indeed enlightening. Over this period, his total milk production costs (again including depreciation and interest, but excluding unpaid labor and returns to capital) average \$4.89/CWT. In 2002 that cost figure dropped to \$3.77/CWT EQ due to reduced interest costs, more milk per cow, and the ability to work off a large feed inventory following a very good 2001 crop year.

Tim paid off his farm, which was purchased for \$109,000 in 1992, in 10 years, and he could have done it in far less time had the lender (his father) not wanted to delay payments for income tax purposes. Nineteen years after starting out milking on shares, and at a time when unpaid bills from more “progressive” dairy farmers are piling up on the desks of input dealers, Tim draws interest on money in the bank, and gains discounts on cash purchases. As was noted in an in-depth financial analysis conducted by the University of Wisconsin-Madison, Tim Pauli will almost certainly be able to profitably operate his farm in this way for as long as he chooses.

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<sup>6</sup> McNair, Joel. “Small farm stands tall: Tim Pauli proves that a small dairy farm can be profitable in the ‘get big or get out’ era.” *Graze* vol. 10.2 Feb. 2003: 10. This case farm has been modified and updated from this source.

One can argue that Tim, a bachelor, could not have reached this point if he'd had a family with greater living expenses to support. Certainly, such an operation would not cash flow as well at land costs that might easily double what Tim paid 15 years ago. And he would almost certainly run this place differently if 90% of his cropping acres weren't among the highest quality (although somewhat poorly drained) land in southern Wisconsin.

Tim's own numbers indicate that he would likely make more money if he increased cow numbers by 50% while going to an all forage, no corn cropping system. He doesn't argue with graziers who do just that – especially if their land bases are quite different from his own. But adding cows and going all-grass would leave Tim open to the uncertainties of the grain and forage markets, and the likelihood of more labor.

You might be loathe to change, too, if your numbers were like Tim's: \$17,501 in total cash expenses in 2002 year, a \$34,000 net (without government payments) in one of the worst milk-price years in history, and less than 50 hours of farm labor per week (closer to 40 in the winter months).

Maybe you'd want more gross income, maybe not. "I guess it depends on the person, and what you need to live on," says Tim.

With the exception of three hilltop acres, all of Tim's farmland lies deep and rich within a small valley. Dry years generally produce better yields than do wet ones and, with sods that are never more than four years old, only about 10% of his ground is capable of supporting cows in wet weather without at least moderate damage. His farming methods seem more akin to 1953 than 2003, with higher-producing cows and a bit of polywire tossed into the mix. It wasn't until 2001 that he installed a pipeline in his dairy barn.

Just over 62 acres of ground are managed in a five-year rotation of 12.5 acre blocs. One bloc is corn, now entirely harvested as ear corn with a one-row, pull-type picker. Until 2002 he ran a four-year, 16 acre rotation and harvested four acres as silage, but Tim got tired of forking moldy material out of his upright silo (no unloader) after the silage had too often been custom harvested too late. The corn is planted following four years of seeding/hay/pasture that was plowed with a moldboard.

The next year of the rotation is hay/pasture seeding following another moldboard plowing, with 8-10 pounds of alfalfa, two lbs of orchard grass, and about 70 pounds of barley as a cover crop. Ladino clover also readily volunteers on most fields. The seeding is grazed in the fall after the barley crop is taken as grain. Indeed – fall probably offers the best overall grazing profitability for Tim's operation because of the extra milk it produces and being able to graze short stands.

Three more years of hay and grazing follow, with the older stands seeing the most grazing. In an average year Tim makes 3,800 small square bales of hay, and another 500 of straw, all by himself, at a rate of up to 300 per day. He says the labor isn't that bad – dodging rain to make quality dry hay is much tougher.

There are no chemicals involved in this cropping operation, and only fertilizes if the need is indicated by soil test to the newly seeded ground and first-year hay/pasture. This sometimes results in an application of potassium sulfate. Potassium sulfate is used to make it easier to switch to organic if Tim decides to switch in the future. Fertilizer expenditures averaged \$843, or about \$10/acre, in the last 14 years.

The spring grazing turnout target is April 20-25. Tim employs polywire to give cows a fresh break for each grazing, and he usually back fences with polywire each evening. Pastured cows have always had access back to the barnyard, largely because Tim has never wanted to spend the time to lock them in. Seven years ago he stopped providing water on pasture. Milk production hasn't been affected, and the cows do not spend any more time back at the barn. "I got tired of all the leaks and the stuck floats," Tim explains. "From my observation, water on pasture is seriously overrated."

Last year the cows were on full graze until Nov. 24, with partial grazing through Nov. 30. With relatively heavy alfalfa and clover stands, Tim stays with full graze longer than most in his area in an effort to harvest legumes before quality declines.

During full graze, bigger Holsteins are supplemented with 18-21 pounds of a grain mix that averages about 30% barley and 70% ground ear corn, plus minerals. Tim doesn't offer hay except at the very beginning and very end of the grazing season, but has yet to lose a milk cow to bloat in 10 years of grazing pastures with strong legume populations. (He has lost three small heifers to bloat). In winter he substitutes hay, and top-dresses a couple of pounds of soymeal/day.

"I like to keep things pretty simple," Tim notes. The herd was straight Holstein, bred artificially and calved year-round. Several years ago his calving interval was close to 12 months. "Beginning about 1998, breeding performance went downhill pretty badly," Tim laments. "I don't know whether it's me, the genetics, or what." Near the end of 2001, he started crossing with Brown Swiss. The Swiss crosses haven't changed reproduction rates very much, and has since also used Jersey and Normande semen in a long-term, three-way cross. By late 2005, Tim's milking herd dropped below 85% Holstein in composition. During 2006 about half of the milking herd was crossbred.

He usually raises seven or eight heifer calves each year, keeping replacements only from better cows that breed back on schedule. The rest of the heifers and all of the bull calves are usually sold at less than four weeks. To save labor, heifers 10 months and older graze with the milking herd, and are usually fed grain sweepings at milking time.

It's a simple, traditional and quite basic way of operating a small farm. But Tim's methods are also extremely consistent in terms of profitability. Over 14 consecutive years (through 2006) of owning the farm, average cow numbers never varied more than one or two animals from an average of about 28, and milk shipped has held relatively steady near the 420,135 pound annual average. Tim's annual milk sales ranged between \$49,156 and \$76,660. His feed bills ranged from \$2,373 to \$4,519. His Schedule F gross income stayed between \$56,316 and \$84,723, and his tax schedule expenses ranged from \$17,484 to \$27,612. His Schedule F "net" never fell below \$34,671, and never rose above \$62,141.

Barring illness or injury, Tim Pauli could operate this farm with 28 cows, pay his living expenses, and put money in the bank until he is ready to retire. At a time when thousand-cow confinement operations are being touted as the future of the Upper Midwestern dairy industry, Tim is producing milk at less than one-half the cost per CWT EQ of such farms.

But is this a better model for the future? Tim acknowledges that he might have to operate differently if he were supporting a family solely from the dairy's income. He's toyed with the idea of converting to organic-certified production – a change that would not be all that abrupt for him.

At my request, Tim also recently pushed a pencil to figure what his financial and labor situation might look like if he increased his herd size 50% (to 42 cows), converted to a total grass system, and bought all of his grain. The numbers say that he would net about \$12,000 more, but would have to work an average of two hours more per day without spending some money on "labor saving" improvements. Not much of a benefit, given that Tim figures his labor is worth \$10 an hour. Cattle could be outwintered to reduce labor, but management would be more difficult than on most farms because of poor drainage. Such an expansion is possible, but not probably in the very near future.

"Strictly from a financial point of view, this is what I should be doing," Tim notes. "But when you make changes, you never know what you'll end up with." Why should he change, with a satisfying lifestyle, low-cost of production, high profit margin, and more dollars for family living than is generated by many farms twice his size?

At my request, Tim plugged in a forecast for net cash returns if he were paying off 80 acres of very good ground and dairy facilities priced at \$3,000/acre. On a 20-year schedule and with a 5% variable interest rate, principal and interest would total \$24,000. Running his farm as it currently operates, only \$10,000 - \$15,000 would be available for family living.

"It would be tight, but there's the potential to make money from this kind of farm," Tim asserts. "You shouldn't be scared to buy a productive farm, because it will pay for itself." Off-farm income might be necessary. Perhaps organic certification would work. Or, more cows and more grazing almost certainly would aid the bottom line.

One way or another, such a farm remains possible in many places. But Tim strongly recommends a conservative business strategy of owning all personal property before buying land and buildings. "You have to have some net worth built up, and have a reserve. That works," he stresses.

You also need to be willing to live without frills while paying the farm bills. "Most people won't live as cheap as I will," Tim says.

## VI. State-to-State Differences in Financial Performance

A farm is a sufficiently complex business for which no single management factor will guarantee financial success. No single financial measure or benchmark tells the whole story. **The factor that is most influential in achieving profitability is management ability; a factor which is difficult to measure, judge, or even see.**

Most of the data in this project is from Michigan, New York, Ohio, Ontario and Wisconsin. Many Minnesota grazing dairy herds have other significant enterprises that disqualify many of them for the study. Most of the other cooperating states don't have as large of a dairy industry. Five-year averages were used for Ontario and Ohio in the charts in this chapter. The addition of year six to the other states had minimal impact on the relative performance of states. Ontario data was not converted to US dollars.

Differences in financial performance between states have appeared in this project's dairy farm financial data in all years. Since the relative ranking of the states by financial measure has been fairly consistent across all years, Chart 1 shows the multi-year simple average relative ranking for several financial measures.

**Chart 1-1: Six Year (2000-2005) Simple Average Ranking of the States from Most Desirable Value to Least Desirable Value for Several Financial Measures**

Rank	1	2	3	4	5
NFIFO/Cow	Ontario	Wisconsin	Ohio	New York	Michigan
NFIFO/CWT EQ	Wisconsin	Ontario	Ohio	New York	Michigan
Basic Cost/CWT EQ	Wisconsin	Ontario	Ohio	New York	Michigan
Non-Basic Cost/CWT EQ	Ohio	Wisconsin	New York	Michigan	Ontario
Allocated Cost/CWT EQ	Wisconsin	Ontario	Ohio	New York	Michigan

The ranking has changed slightly from year to year as explained in the following discussion of the causes of the differences. However, a considerable difference in financial performance typically occurred between the top two ranking states and the bottom two ranking states.

**It is impossible to explain every factor causing state-to-state differences but these occurrences were monitored and considered in the interpretation of the data.** The difficulty in explaining these differences is increased by the fact that there is a wide range in the amount of data submitted from each state.

The following factors likely contribute to the state-to-state differences.

- The discovery of Bovine Spongiform Encephalopathy (BSE) in Canada on May 20, 2003 had a big impact on the balance sheets and income statements of the Canadian livestock industry since then. Statistics Canada reported that in 2003, for beef operations, a 3% increase in land and buildings was offset by a 28% decline in livestock asset values resulting from the BSE crisis, and a 7% increase in liabilities (mainly long-term). Although the Ontario dairy graziers did not rely heavily on livestock sales, the impact was still very evident on their income statement. Their average net farm income dropped 27% in the years after BSE. Two-thirds of this drop can be attributed to the drop in livestock sales. Their livestock sales pre-BSE represented around 28% of their net farm income; that dropped to 10% in the post-BSE years, resulting in an 18% drop in net farm income between the two periods. Also contributing to the decrease in net farm income was the increased feed and housing costs of holding livestock in inventory on the farm with limited marketing opportunities for them. Livestock inventories increased approximately 5 %. This made Ontario's 2004 financial performance atypically low. As this sixth year report was written, the USA border remained closed to Canadian breeding stock and animals over 30 months of age. This continued to depress the Ontario cull cow market.
- Milk price variations occurred from one state to another. Ontario has a quota system that typically results in higher milk prices than occur in the States. The Ontario milk price advantage was much smaller in 2004 and 2001 than in the other years. The Eastern states in the project tend to receive higher prices than the more Western states in the project—yet they tend to be less profitable. Ohio had the biggest decline in milk price from 2001 to 2002 and from 2004 to 2005, which may explain in large part the drop in Ohio profitability in 2002 and 2005. Wisconsin had the lowest milk price in 2000 and 2001 and second lowest to Michigan in 2002, 2003, 2004, and 2005. Michigan was second lowest in 2000 and 2001. These price rankings were based on the herds in the summaries but were similar to ranking of whole state averages calculated by USDA.

- Weather can also cause state-to-state differences in profitability. The general climate is fairly similar across the states and provinces participating in the project. Despite that fact, weather can be variable from one end to another in a given year. Some of the states could be “drowning” in the same year that other states might experience drought. Ohio graziers experienced very adverse weather conditions in 2002. When a farm attempts to raise most of its feed but fails to do so because of drought or other reasons, it is in a situation that might be described as buying feed twice. Obviously in such a case, high purchased feed cost strongly implies reduced profits.
- Feed (purchased and raised) represents a major cost on livestock operations. As such, it is an important factor in influencing profitability. Still, its impact on profits must be analyzed carefully to avoid inaccurate conclusions. For example, a farm which buys all of its feed tends to have higher purchased feed costs than a farm that raises most or all of its feed. Yet, the total feed cost per CWT EQ of milk sold could be higher for a farm that raises most of its feed. All of the costs of raising feed should be considered. The cost of raising feed should include the cost of land, equipment, and labor along with the more obvious costs such as fertilizer, fuel, pesticides, etc. Still, purchased (forage and grain) feed costs may also partially explain the state-to-state differences.
- Chart 1-2 Six-Year (2000-2005) Simple Average Ranking of States’ Cost of Purchased Feed per CWT EQ from Most Desirable Value to the Least Desirable Value**

1	2	3	4	5
Ontario	Wisconsin	New York	Michigan	Ohio
\$1.75	\$2.75	\$3.17	\$3.18	\$3.48

There was a tremendous range from lowest to highest purchased feed cost. In fact, the highest is nearly twice as high as the lowest. At least some of the difference is influenced by the proportion of feed raised by graziers in each state.

The group of graziers that shared data from Ohio grew less of their non-grazing season feed in contrast to the other graziers who shared data. At the other extreme, Ontario graziers grew most of their forage and grain. Michigan graziers grew all of their forage and 80% grew their own grain. Wisconsin and New York graziers grew most of their forage but very little grain.

In an attempt to approximate the cost of raising feed, plus the cost of purchased feed, the easily measured cost categories of chemicals, custom machine work, fertilizer and lime, gas, fuel, and oil, seeds and other crop expense were summarized for each state and shown in Chart 1-3 below.

**Chart 1-3: Six Year (2000-2005) Simple Average Ranking of States’ Selected Feed Raising Costs (Chemicals, Custom Machine Work, Fertilizer and Lime, Gas, Fuel, and Oil, Seeds, and Other Crop Expense) per CWT EQ from Most Desirable Value to Least Desirable Value**

1	2	3	4	5
Ohio	Wisconsin	New York	Michigan	Ontario
\$0.98	\$1.17	\$1.34	\$1.55	\$1.65

Ontario had the highest estimated cost of raising feed/CWT EQ in most years, in contrast to having the lowest purchased feed cost. The opposite was true for Ohio. While the per cow version of these comparisons isn’t shown here, they show similar results. Combining the cost of purchased feed and the selected feed raising costs in Chart 1-4 should narrow the state-to-state differences.

**Chart 1-4: Six Year (2000-2005) Simple Average Ranking of States’ Cost of Purchased Feed plus Selected Feed Raising Costs (Chemicals, Custom Machine Work, Fertilizer and Lime, Gas, Fuel, and Oil, Seeds and Other Crop Expense) per CWT EQ from Most Desirable Value to Least Desirable Value (combines values from charts 1-2 and 1-3)**

1	2	3	4	5
Ontario	Wisconsin	Ohio	New York	Michigan
\$3.40	\$3.92	\$4.46	\$4.51	\$4.73

As expected, combining the cost of purchased feed and the selected feed raising costs in Chart 1-4 did narrow the margin of difference from lowest to highest. Yet the two lower cost “states” still had a noticeable advantage compared to those states that follow. Because the CWT EQ method indexes costs to the value of a CWT of milk, the higher milk price received in Ontario explains part of the Ontario advantage in purchased feed cost/CWT EQ and overall feed cost/CWT EQ.

- Several years of New York and Wisconsin confinement dairy farm data indicates that larger herds have lower levels of NFIFO per cow and NFIFO per CWT EQ than smaller herds. Larger herds hire a larger percent of their total labor requirements. This is why NFIFO without labor compensation is used along with NFIFO in this project. This pattern where larger herds have lower levels of NFIFO per cow and NFIFO per CWT EQ than smaller herds also appears in this grazing data (see Table 3-1 in this report). In most comparisons, paid labor costs explain part but not all of the differences.
- The average Michigan, Ohio and New York grazing herds in this project were larger than the average herds from the other states. However, the smaller herds in these states performed (in terms of NFIFO per cow and NFIFO per CWT EQ) less well than similar size herds from Ontario and Wisconsin in most years. Consequently, size appears to be only a minor factor in the state-to-state differences that were observed.

**Chart 1-5: The Six Year (2000-2005) Simple Average Number of Cows per Herd per State**

1	2	3	4	5
Ohio	Michigan	New York	Wisconsin	Ontario
127.50	109.80	101.90	63.10	50.80

Further analysis of grazing financial performance, milk prices and management practices is needed to further interpret state-to-state differences.

## **VII. Impact of Valuation of Assets on the Interpretation of the Balance Sheet and on Many Financial Measures**

Judgment must be exercised in determining the value of assets on any balance sheet. There is more than one appropriate way to value assets depending on one's objective. No single method is appropriate for all purposes. In fact, some purposes such as estate planning require two methods. Therefore, a balance sheet that makes provision for two or more valuation methods is needed to serve all purposes adequately. All purposes require an accurate inventory.

Parallel balance sheets are being used for this project. One track uses the historic cost (HC) value of assets—often called adjusted tax basis; the other track uses current market value (CMV). Each method has positives and negatives. A big advantage of the HC method is that measures of operating profit are not distorted by changes in asset unit values. Consequently, measures calculated by the HC method are the ones emphasized in this report. The CMV method is more useful for such tasks as making decisions about insurance coverage and for estimating the size of your estate. The CMV will often enable you to persuade your lender to loan more money. Both methods (CMV and HC) are needed for estate planning, planning a farm business transfer or arrangement, and estimating the tax consequences of many major business decisions. Unfortunately, relying too heavily on CMV balance sheets convinced many farm families and their lenders into overestimating the financial health of many family farms in the 1960s, '70s and '80s. Overestimating the financial health contributed to many uninformed decisions.

Because HC asset values are generally less than CMV values, the Rate of Return on Assets (ROROA) calculated with HC values will often be higher than the ROROA calculated with CMV values. In addition, the HC based NFIFO values are usually lower than the NFIFO values based on CMV.

ROROA is one of the most comprehensive and important measures of financial performance. However, because of its comprehensiveness it is not always calculated accurately or in the same way. When ROROA values from different sources are compared, it is important to verify how they were calculated. The HC asset valuation method is the standard method used to report profits of most businesses including Fortune 500 companies. The CMV asset valuation method is used to calculate the ROROA of mutual funds.

The AgFA© report titled 'Financial Measures' calculates and reports NFIFO and ROROA using both HC with tax depreciation (**page 1**) and CMV of assets and economic depreciation (**page 2**). This project focuses on the financial measures using the HC approach because it prevents asset unit value changes from influencing the operational profits. The HC based NFIFO values from the Financial Measures report are also used in the farm earnings and cost of production reports.

On the AgFA© balance sheet, the HC values for non-current assets are on the right-hand side. The CMV is in the middle and the net worth (or total equities) is calculated using market values. Notice the calculated cost of liquidation (contingent liabilities). Near the bottom of the balance sheet, the change in CMV net worth is divided into three sources:

- Retained earnings: generated by operating the business
- Contributed capital: monetary contributions to the business not earned by the business
- Valuation adjustment: asset value appreciation or depreciation

From a business operational profit analysis point of view, it is preferred that much of the net worth increase comes from the retained earnings category.

### **VIII. Contingent Liabilities (CMV only)**

Since few farm assets are liquid (meaning they are not readily available to pay bills, settle estates, etc.) there is often a cost connected to converting an asset to a more liquid form. These liquidation costs are often called contingent liabilities. AgFA© automatically makes the following calculations to estimate how much of the CMV track assets would be used for liquidation. All assets but cash and prepaid expenses are charged 7% for sales expenses. The remaining value (or basis in the use of resale items) of all the other current assets are charged 28% for federal income tax. For non-current assets, the 7% sales expense is charged, then any basis is subtracted and the calculated taxable gain is reduced by the 20% capital gains tax rate. AgFA© then reports all contingent liabilities as a one lump sum non-current liability. It does this instead of subtracting the cost of liquidation from asset values. Contingent liabilities are calculated only on current market values. Contingent liabilities do not influence the AgFA© farm earnings statement. The AgFA© calculation for contingent liabilities assumes the full consequences of a total liquidation in one tax year.

### **IX. Some Categories of Costs**

**Total costs** include all cash and non-cash costs including the opportunity cost of unpaid labor, management and equity capital. The total cost concept is needed to determine the minimum revenue required to meet long-run financial obligations of the business. All long-run financial obligations include a satisfactory reward for the owners' unpaid labor, management and equity capital (opportunity costs).

In the calculation of NFIFO, all costs are accounted for EXCEPT the opportunity cost of unpaid labor, management and equity capital. All costs combined except opportunity costs are called total allocated costs. Total allocated costs are subtracted from total income to calculate NFIFO. When opportunity costs are calculated and added to total allocated costs, the result is what economists call total costs. A simple definition of opportunity cost is: "The return to unpaid labor or unpaid management or equity capital in its best realistic alternative use."

In large companies such as publicly traded companies, there are NO opportunity costs of **unpaid labor**, management and equity capital, because all work and management is performed by paid employees, and dividends are paid to the stockholders which own the equity. Total income for such businesses must regularly exceed total costs to be considered profitable. Most industries are dominated by businesses that are able to pay total costs.

However, in the case of many dairy farms, one person or family supplies all of the unpaid labor, management and equity capital. In such cases, the value of unpaid labor, management and equity capital must be estimated to determine if total income exceeds total cost.

The total cost of production for businesses that have no unpaid labor, management and equity capital is more accurate than those which have unpaid costs because there isn't a universally agreed upon best method for calculating the opportunity cost of unpaid labor, management and equity. Therefore, special caution is required when interpreting total cost data from businesses such as small family farms when you do not know the method used to calculate the opportunity costs or the amount of those costs.

**NFIFO** is the return to the resources that farm families contribute to the farm business. The resources are unpaid family labor, unpaid family management, and the family's equity (net worth) in the farm business. **Quite often, NFIFO is less than the opportunity cost of unpaid family labor, management and equity capital.** NFIFO is seldom all cash.

**For the farm family without non-farm income, NFIFO** (plus depreciation taken) is the source of funds for family living expenses, including housing and furnishings, food, medical expenses, children's education, the family car, entertainment, social security taxes, income taxes and other personal items. It also represents money to pay principal on borrowings for land, buildings and equipment and is a source of funds for new business and personal savings.

**When there is no outside source of income and NFIFO is less than the family living expenses, equity will decline**, whether or not NFIFO exceeds opportunity costs. The cash to pay for living expenses above NFIFO may come from loans, savings, or from the portion of net farm earnings allocated to capital item or inventory adjustment. When the latter happens, it is often said that the family is living off of depreciation. This is a way in which cash flow can hide a lack of profitability.

Traditionally, total cost is divided into fixed and variable costs; these traditional cost breakdowns are still valid. However, there are some difficulties associated with comparing the financial performance of farms greatly differing size and type that are not adequately handled by these traditional measures. Therefore, other measures can also be useful.

**Total allocated cost** equals total cost minus the opportunity cost of unpaid labor, management and capital supplied by the owning family. Allocated cost also equals total income minus NFIFO. NFIFO can be smaller, larger or equal to the combined opportunity cost of unpaid labor, management and capital supplied by the owning family. Since opportunity cost is not consciously calculated by everyone, allocated cost is often used by non-economists as a default proxy for total cost.

**Non-basic costs** are the four costs subtracted from allocated costs to become basic costs. The four non-basic costs are interest, non-livestock depreciation, paid labor and paid management.

**Total basic cost** is another useful measure. Basic costs are all the cash and non-cash costs except the opportunity costs, interest, non-livestock depreciation, paid labor and paid management. Livestock depreciation is included as a basic cost to reflect the depreciation costs associated with differing cull rates between systems. It is included with basic costs, because like all other basic cost items, it is greatly influenced by management decisions.

Some farms have only unpaid labor while others pay family members or non-family hired help. Basic cost is a useful measure for comparing one farm to another that differs by:

- the amount of paid versus unpaid labor
- the amount of paid versus unpaid management
- the amount of debt
- the investment level
- the capital consumption claimed (depreciation)

Basic cost is very similar to the cost of goods concept that is commonly used by many non-farm businesses.

Since basic cost primarily includes variable expenses (those most affected by short-run decisions), it comes close to determining the minimum amount of income needed per unit of production to continue producing in the short run.

A comprehensive evaluation of the cost of production of any business will examine several levels of cost including basic, non-basic, allocated and total costs. All of these cost categories are calculated on the AgFA© cost of production report. Appendix 2 also has a worksheet that can be used to calculate these cost categories.

## **X. Cost per Hundredweight Equivalent (CWT EQ) vs. CWT Sold**

CWT EQ is an indexing procedure focusing on the primary product that is sold and standardizes farms in terms of milk price and other variables for analysis purposes.



Dairy farms have numerous sources of income: milk, cull cows, calves, Commodity Credit Corporation (CCC) milk assessment refund, cooperative dividends, property tax credit on income taxes, crop-related government payments, etc. making the use of an equivalent unit essential. In addition, most dairy farms do not separate the cost of producing crops sold for cash from the cost of producing the crops fed to the dairy herd. The farm's total income (including cash sales of crops and changes in the value of feed and cattle inventories) must be included when calculating equivalent units.

The use of an equivalent unit is the most meaningful comparable measure when calculating the cost of producing milk, because dairy farm businesses have multiple sources of income. The measure is calculated by summing the income from the sale of all products produced on the dairy farm and dividing by the price of milk.

For most analyses, the equivalent unit is Hundredweight of Milk Sales Equivalent (CWT EQ). The output measure for an individual farm is calculated with the following formula:

$$\frac{\text{Total Farm Income from all Sources}}{\text{Average Price Received per Hundredweight of Milk Sold by that Farm}}$$

However, when studying a group of farms or comparing farms that may be receiving different milk prices, all producers should use the same price. Therefore the formula should be:

$$\frac{\text{Total Farm Income from all Sources}}{\text{U.S. All Milk Price per Hundredweight (for the year in question)}}$$

The U.S. All Milk Price per Hundredweight for 2005 is \$15.14.

Note: If the income from non-dairy enterprises exceed 30 percent of total income, additional calculations to separate out the non-dairy enterprises' costs are required.

***The U.S. All Milk Price** is calculated by the USDA as the total gross income from milk sales from all of the farms in the country and divided by the total hundredweights of milk sold by all the farms in the country. This price is used for the Hundredweight of Milk Sales Equivalent (CWT EQ) calculation.*

*In contrast, the number at the top of the CWT **sold** column on the cost of production reports is the **INCOME per 100 pounds of milk sold** by the business. **It is not the milk price.** The income per 100 pounds of milk sold is calculated by dividing total farm income by the hundredweight of milk sold. This is necessary because each expense item is divided by the hundredweight of milk sold. Therefore these expense amounts must be compared to the INCOME per hundredweight of milk sold and not to the price of milk.*

## **XI. Comparing the Average Cost of Production of Multi-State Graziers with Your Cost of Production**

Table 1-1 summarizes selected numbers (mainly from Tables 1-2 to 1-5) for 115 graziers in 2005 and repeats comparable numbers from 101 graziers in 2004, 102 graziers in 2003, 103 graziers in 2002, 126 graziers in 2001, and 92 graziers in 2000.

The farm earnings statement (Table 1-2) presents values on a whole farm, per cow and per CWT EQ basis. Table 1-3 shows the average cost of production values from all the graziers in 2005, presenting values on a whole farm, per CWT sold, and per CWT EQ basis. Use the per CWT EQ columns to compare costs for each cost category. If your costs are greatly different, try to figure out why they are so different and then decide if it is something that could or should be changed.

Some differences could be caused by variations in data categorization. For example, an expense that might have been called "marketing" by you might have been included as "other farm expense" by the group. While much more interpretation remains, the data in this report may confirm some beliefs and may contradict others. Unless you use the CWT sold method instead of the CWT EQ method of calculating cost of production, you cannot make apples to apples comparisons of cost of production.

Benjamin Franklin said, "A penny saved is a penny earned." This is as true today as it was in Franklin's day, but how much difference does a penny make? If multiplied by a large enough number, a penny can amount to a lot. For example, a penny amounts to \$10,000 if multiplied by a million. **A penny saved per 100 pounds of milk sold per average grazer in this analysis would add about \$115 of profit per year** (assuming that no income was lost in the action taken to save the penny of cost). A penny added to the price per 100 pounds of milk sold

would have the same effect (assuming that no expense increased in the action taken to earn an extra penny of income).

Not to dismiss Benjamin Franklin, it is obvious that to the average grazer in this analysis, it takes more than a few pennies per 100 pounds of milk sold to make a big difference in profitability. Still, enough pennies in enough places can add up to important differences.

## **XII. The Average Performance of 115 Grazing Farms in 2005, 101 in 2004, 102 in 2003, 103 in 2002, 126 in 2001 and 92 in 2000 (Also see Chapter XVIII Entitled Major Cost Items)**

The historic cost (HC) asset valuation method was used to calculate measures of profitability in the detailed cost of production and farm earnings reports in the tables, to provide a better measure of profit levels generated by operating the farm business. Any comparison between the measures in this report and data based on the current market value (CMV) of assets will be misleading. The grazing dairy farm families providing usable data display an average financial performance level that many farm families would be satisfied with. This level of financial performance along with some other characteristics of grazing systems suggests grazing may be a viable alternative for farm families who want to be financially successful, especially on a dairy farm that relies primarily on family labor.

The number of summarized herds increased from 92 in 2000 to 126 in 2001, and decreased to 103, 102 and 101 respectively in 2002 through 2004 before increasing to 115 in 2005. Some herds have been new to the study each year. Some year-to-year differences come from this change in participating farms. Primarily because the sharing of farm financial data is a voluntary act, data are not collected via a random selection procedure. In general, the larger the group, the more likely that the group is a representative sample. Also in general, most groups of less than 20 may not be representative of the larger population they come from.

The financial performance of graziers was respectable in 2003, 2002, and 2000 and was considerably higher in 2001, 2004, and 2005. Some of the year-to-year differences are explained by changes in the average multi-state grazer mailbox milk price received (from \$16.79 in 2005, to \$17.68 in 2004, to \$14.39 in 2003 to \$13.73 in 2002 to \$16.31 in 2001 to \$13.16 in 2000). *The average mailbox milk price received in this report is calculated by summing the gross income from milk sales from all of the farms in the group and dividing that sum by the sum of the total hundredweights of milk sold by all the farms in the group. The U.S. All Milk Price is calculated by the USDA by summing the gross income from milk sales from all of the farms in the country, and dividing that sum by the sum of the total hundredweights of milk sold by all the farms in the country. This price is used for the Hundredweight of Milk Sales Equivalent (CWT EQ) calculation (see Chapter X).*

The US All Milk Price was \$15.14 in 2005, \$16.10 in 2004, \$12.50 in 2003, \$12.15 in 2002, \$14.94 in 2001, and \$12.33 in 2000. The financial performance (based on NFIFO/CWT EQ and per cow) in 2005 was the third highest of six years exceeded by the 2004 and 2001 performance. Basic, allocated and non-basic costs were highest in 2004 and lowest in 2003. It is fairly common for the cost per unit to increase in years of higher prices. This is at least partly explained by patterns of behavior. Farm managers often decrease discretionary purchases in lower milk price years and increase discretionary purchases in higher milk price years. This is influenced by the desire to balance cash flows and tax liabilities from one year to another.

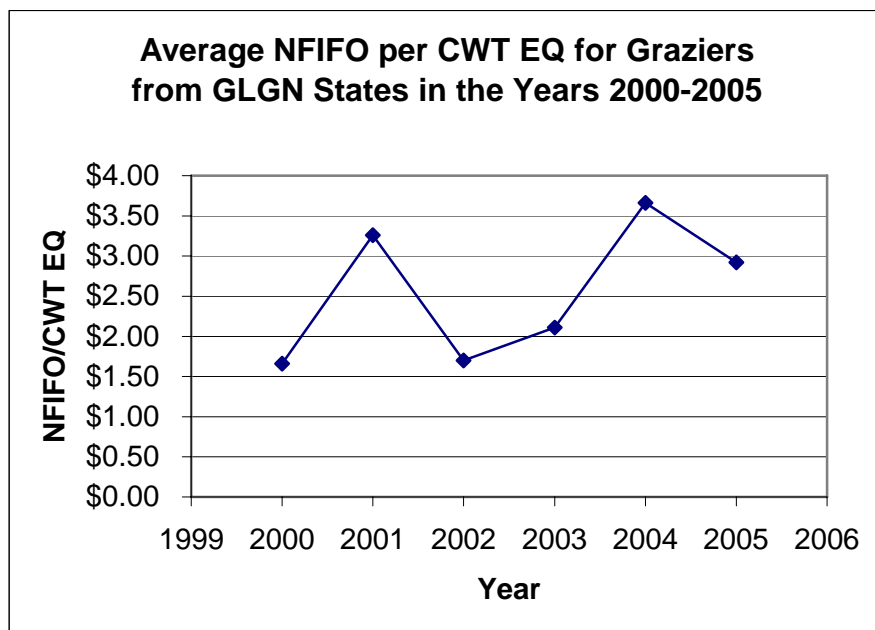
Total NFIFO in 2005 was a bit lower than in 2004, a bit higher than in 2001 and much higher than in the other years. Graph 1-1 provides a snapshot of the average NFIFO per CWT EQ from Table 1-1.

The pounds of milk sold per cow appeared to be on a downward trend the first three years. The decline was substantial from 2000 to 2001. Now, the last four years show a more level "pattern" to a slight upward trend. Many factors influence the change in the average pounds of milk sold per cow including weather and the fact that about only 70% of the herds in the data were the same from one year to another.

NFIFO if all labor and management was unpaid is not a common measure. It is used in this project because some comparisons are made between farms that rely mainly on hired labor and farms that rely entirely on unpaid labor. In such cases, this uncommon measure provides additional insight to the comparisons.

If all labor and management compensation was unpaid, NFIFO per CWT EQ would increase substantially in all years. Paid labor and management compensation averaged \$1.13/CWT EQ in 2005, \$1.08/CWT EQ in 2004, \$0.96/CWT EQ in 2003, \$1.10/CWT EQ in 2002, \$1.13/CWT EQ in 2001, and \$0.94/CWT EQ in 2000.

**Graph 1-1**



Because of rounding, some small mathematical differences might be found in the summary tables below.

**Table 1-1**

**Performance Measures Selected from Tables**

**1-2 to 1-5 Summarizing the Average Performance  
of Grazing Dairy Farms From Many States**

	2000	2001	2002	2003	2004	2005
Number of Herds	92	126	103	102	101	115
Number of Cows per Herd	90	84	86	87	93	99
Average Lbs. Milk per Cow	16,836	15,426	15,332	15,381	15,671	16,208
Average Lbs. Milk per Herd	1,511,264	1,303,333	1,318,507	1,344,643	1,462,136	1,602,456
Group Average Mailbox Milk Price	\$13.16	\$16.31	\$13.73	\$14.39	\$17.68	\$16.79
U.S. All Milk Price (used to calculate CWT EQ)*	\$12.33	\$14.94	\$12.15	\$12.50	\$16.10	\$15.14
Average Basic Cost per CWT EQ	\$7.83	\$8.60	\$7.74	\$7.79	\$9.32	\$9.12
Non-Basic Cost per CWT EQ	\$2.84	\$3.08	\$2.71	\$2.60	\$3.12	\$3.10
Allocated Cost per CWT EQ (Basic + Non-basic Cost)	\$10.67	\$11.68	\$10.45	\$10.39	\$12.44	\$12.22
NFIFO per Cow (if all labor was unpaid)	\$577	\$866	\$620	\$662	\$981	\$876
NFIFO per CWT EQ (if all labor was unpaid)	\$2.60	\$4.39	\$2.80	\$3.07	\$4.74	\$4.05
NFIFO per Farm	\$33,098	\$54,283	\$32,354	\$40,335	\$70,691	\$62,372
<b>NFIFO per Cow</b>	<b>\$395</b>	<b>\$643</b>	<b>\$376</b>	<b>\$461</b>	<b>\$758</b>	<b>\$631</b>
<b>NFIFO per CWT EQ</b>	<b>\$1.66</b>	<b>\$3.26</b>	<b>\$1.70</b>	<b>\$2.11</b>	<b>\$3.66</b>	<b>\$2.92</b>

\*See Chapters IX and X for more information about CWT EQ and cost categories.

**See the following tables (1-2 to 1-5) for more details about the average performance of the 115 graziers in 2005.**



**Table 1-2, p.1**  
**The Average AgFA© Farm Earnings Report for 115 Great Lakes Graziers**

<b>Income</b>	<b><u>2005</u></b> per Farm	<b><u>2005</u></b> per Head	<b><u>2005</u></b> per CWT EQ
<b>Cash Income - Basis Adjustments</b>			
Sales of Livestock and Other Items Bought for Resale	83.85	0.85	0.00
Basis in Resale Livestock Sold	0.00	0.00	0.00
Animal Product Sales	268,734.93	2,718.06	12.56
Raised Non-Breeding Livestock Sales	8,204.76	82.99	0.38
Crop Sales	1,424.95	14.41	0.07
Distributions Received from Cooperatives	828.30	8.38	0.04
Agricultural Program Payments	8,212.11	83.06	0.38
MILC Program Payments	38.27	0.39	0.00
Crop Insurance Proceeds and Certain Disaster Payments	12.44	0.13	0.00
Custom Hire (Machine Work) Income	1,038.17	10.50	0.05
Other Income, Incl. Tax Credits, Refunds	5,189.44	52.49	0.24
Sale of Purchased Breeding Livestock	68.46	0.69	0.00
Basis in Breeding Livestock Sold	(253.46)	(2.56)	-0.01
Sale of Raised Breeding Livestock	20,353.81	205.86	0.95
<b>Total Cash Income - Basis Adjustments</b>	<b>313,936.03</b>	<b>3,175.24</b>	<b>14.68</b>
<b>Non-Cash Income</b>			
Change in Raised Crop Inventories	(930.27)	(9.41)	-0.04
Change in Remaining Current Assets	1,521.08	15.38	0.07
Change in Raised Breeding Livestock	9,323.36	94.30	0.44
<b>Total Non-Cash Income</b>	<b>9,914.17</b>	<b>100.27</b>	<b>0.46</b>
<b>Total Income</b>	<b>323,850.20</b>	<b>3,275.52</b>	<b>15.14</b>



**Table 1-2 p. 2**  
**The Average AgFA© Farm Earnings Report for 115 Great Lakes Graziers**

<b>Expenses</b>	<b><u>2005</u> per Farm</b>	<b><u>2005</u> per Head</b>	<b><u>2005</u> per CWT EQ</b>
<b>Cash Expense</b>			
Cost of Items for Resale	159.49	1.61	0.01
Breeding Fees	3,101.49	31.37	0.14
Car and Truck Expenses	616.43	6.23	0.03
Chemicals	1,798.30	18.19	0.08
Conservation Expenses	12.17	0.12	0.00
Custom Heifer Raising Expenses	383.42	3.88	0.02
Custom Hire (Machine Work)	7,639.65	77.27	0.36
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	465.45	4.71	0.02
Feed Purchase	73,253.51	740.91	3.42
Fertilizer and Lime	7,468.09	75.53	0.35
Freight and Trucking	964.55	9.76	0.05
Gasoline, Fuel, and Oil	9,159.95	92.65	0.43
Farm Insurance	4,096.34	41.43	0.19
Mortgage Interest	9,698.19	98.09	0.45
Other Interest	2,786.27	28.18	0.13
Labor Hired - Dependents	13.91	0.14	0.00
Labor Hired - Non-Dependents	23,709.49	239.80	1.11
Pension and Profit-Sharing Plans - Non-Dependents	0.00	0.00	0.00
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Rent/Lease Equipment	445.02	4.50	0.02
Rent/Lease Other	6,773.70	68.51	0.32
Repairs and Maintenance	18,222.96	184.31	0.85
Building and Fence Repairs	761.70	7.70	0.04
Machinery Repairs	455.21	4.60	0.02
Seeds and Plants Purchased	3,987.19	40.33	0.19
Storage and Warehousing	12.07	0.12	0.00
Supplies Purchased	8,391.59	84.87	0.39
Taxes - Other	5,523.42	55.87	0.26
Taxes - Payroll	0.00	0.00	0.00
Utilities	7,330.32	74.14	0.34
Veterinary Fees and Medicine	6,281.07	63.53	0.29
Other Farm Expenses	7,498.72	75.84	0.35
Marketing & Hedging	10,405.27	105.24	0.49
Other Crop Expenses	301.04	3.04	0.01
Other Livestock Expenses	7,540.83	76.27	0.35
Selling Expense of Capital Items	0.27	0.00	0.00
<b>Total Cash Expense</b>	<b>229,257.09</b>	<b>2,318.77</b>	<b>10.72</b>
<b>Non-Cash Expenses</b>			
- Change in Prepaid Expenses	(1,112.53)	(11.25)	-0.05
Change in Accounts Payable	(38.04)	(0.38)	0.00
Machinery, Equipment and Building Depreciation	29,625.30	299.64	1.38
Livestock Depreciation	3,746.57	37.89	0.18
<b>Total Non-Cash Expenses</b>	<b>32,221.30</b>	<b>325.90</b>	<b>1.51</b>
<b>Total Expenses</b>	<b>261,478.39</b>	<b>2,644.67</b>	<b>12.22</b>
<b>Net Farm Income From Operations (NFIFO)</b>	<b>62,371.81</b>	<b>630.85</b>	<b>2.92</b>
Gain (Loss) on Sale of All Farm Capital Assets	2,681.82	27.12	0.13
<b>Net Farm Income (NFI)</b>	<b>65,053.63</b>	<b>657.97</b>	<b>3.04</b>



**Table 1-3, p. 1**

**The Average Cost of Production Report for 115 Great Lakes Graziers. This report shows Basic Costs, Allocated Costs, Total Costs, NFIFO and Other Financial Details.**

<b>Income</b>		<b><u>2005</u></b>	<b><u>2005</u></b>	<b><u>2005</u></b>
		<b><u>per Farm</u></b>	<b><u>per CWT Sold</u></b>	<b><u>per CWT EQ</u></b>
	<b>Total Income</b>	<b>323,850.20</b>	<b>20.21</b>	<b>15.14</b>
<b>Expenses</b>				
<b>Basic Cost</b>				
	<b>Cost of Items for Resale</b>	159.49	0.01	0.01
	<b>Breeding Fees</b>	3,101.49	0.19	0.14
	<b>Car and Truck Expenses</b>	616.43	0.04	0.03
	<b>Chemicals</b>	1,798.30	0.11	0.08
	<b>Conservation Expenses</b>	12.17	0.00	0.00
	<b>Custom Heifer Raising Expenses</b>	383.42	0.02	0.02
	<b>Custom Hire (Machine Work)</b>	7,639.65	0.48	0.36
	<b>Feed Purchase</b>	73,253.51	4.57	3.42
	<b>Fertilizer and Lime</b>	7,468.09	0.47	0.35
	<b>Freight and Trucking</b>	964.55	0.06	0.05
	<b>Gasoline, Fuel, and Oil</b>	9,159.95	0.57	0.43
	<b>Farm Insurance</b>	4,096.34	0.26	0.19
	<b>Rent/Lease Equipment</b>	445.02	0.03	0.02
	<b>Rent/Lease Other</b>	6,773.70	0.42	0.32
	<b>Repairs and Maintenance</b>	18,222.96	1.14	0.85
	<b>Building and Fence Repairs</b>	761.70	0.05	0.04
	<b>Machinery Repairs</b>	455.21	0.03	0.02
	<b>Seeds and Plants Purchased</b>	3,987.19	0.25	0.19
	<b>Storage and Warehousing</b>	12.07	0.00	0.00
	<b>Supplies Purchased</b>	8,391.59	0.52	0.39
	<b>Taxes - Other</b>	5,523.42	0.34	0.26
	<b>Taxes - Payroll</b>	0.00	0.00	0.00
	<b>Utilities</b>	7,330.32	0.46	0.34
	<b>Veterinary Fees and Medicine</b>	6,281.07	0.39	0.29
	<b>Other Farm Expenses</b>	7,498.72	0.47	0.35
	<b>Marketing &amp; Hedging</b>	10,405.27	0.65	0.49
	<b>Other Crop Expenses</b>	301.04	0.02	0.01
	<b>Other Livestock Expenses</b>	7,540.83	0.47	0.35
	<b>- Change in Prepaid Expenses</b>	(1,112.53)	(0.07)	(0.05)
	<b>Change in Accounts Payable</b>	(38.04)	(0.00)	(0.00)
	<b>Selling Expense of Capital Items</b>	0.27	0.00	0.00
	<b>Depreciation on Purchased Breeding Livestock</b>	3,746.57	0.23	0.18
	<b>Total Basic Cost</b>	<b>195,179.77</b>	<b>12.18</b>	<b>9.12</b>



Table 1-3, p. 2

**The Average Cost of Production Report for 115 Great Lakes Graziers. This report shows Basic Costs, Allocated Costs, Total Costs, NFIFO and Other Financial Details.**

	<u>2005</u>	<u>2005</u>	<u>2005</u>
	per Farm	per CWT Sold	per CWT EQ
<b>Interest Cost</b>			
Mortgage Interest	9,698.19	0.61	0.45
Other Interest	2,786.27	0.17	0.13
<b>Total Interest Cost</b>	<b>12,484.46</b>	<b>0.78</b>	<b>0.58</b>
<b>Labor Cost</b>			
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	465.45	0.03	0.02
Labor Hired - Dependents	13.91	0.00	0.00
Labor Hired - Non-Dependents	23,709.49	1.48	1.11
Pension and Profit-Sharing Plans - Non-Dependents	0.00	0.00	0.00
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Value of Unpaid Labor & Management	40,006.44	2.50	1.87
<b>Total Labor Cost</b>	<b>64,195.29</b>	<b>4.01</b>	<b>3.00</b>
<b>Depreciation &amp; Equity Cost</b>			
Machinery, Equipment, Building Depreciation	29,625.30	1.85	1.38
Interest on Equity Capital	22,367.65	1.40	1.05
<b>Total Depreciation &amp; Equity Cost</b>	<b>51,992.95</b>	<b>3.24</b>	<b>2.43</b>
<b>Total Expenses</b>	<b>323,852.48</b>	<b>20.21</b>	<b>15.14</b>
<b>Total Income - Total Expenses</b>	<b>(2.28)</b>	<b>(0.00)</b>	<b>(0.00)</b>
<b>Net Farm Income from Operations (NFIFO) Summary</b>			
Total Allocated Costs	261,478.39	16.32	12.22
<b>Net Farm Income From Operations (NFIFO)</b>	<b>62,371.81</b>	<b>3.89</b>	<b>2.92</b>
Gain (Loss) on Sale of All Farm Capital Assets	2,681.82	0.17	0.13
<b>Net Farm Income (NFI)</b>	<b>65,053.63</b>	<b>4.06</b>	<b>3.04</b>



Table 1-4 p. 1

## The Average AgFA® Financial Measures Report Showing Selected Measures of Financial Performance for 115 Great Lakes Graziers

These Financial Measures Were Calculated Using the Cost Basis of Assets and Cost (Tax) Depreciation

The financial calculations using the Market Basis of Assets and Economic Depreciation are on the following page.

<b>Profitability</b>		<b>2005</b>	<b>2005</b>	<b>2005</b>
		<b>per Farm</b>	<b>per Cow</b>	<b>per CWT EQ</b>
	Net Farm Income From Operations	\$62,371.81	\$630.85	\$2.92
	Net Farm Income	\$65,053.63	\$657.97	\$3.04
	Rate of Return on Assets (ROROA)	10.11%	10.11%	10.11%
	Cost (Tax) Depreciation Claimed	\$33,371.88	\$337.53	\$1.56
	Rate of Return on Equity	16.94 %	16.94 %	16.94 %
	Net Profit Margin	11.59 %	11.59 %	11.59 %
<b>Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)</b>				
	Asset Turnover Ratio	0.872	0.872	0.872
Note: Some methods of calculating ratios combine the Basic Cost and Wages Paid Ratios into a single ratio (Operating Cost Ratio).	Basic Cost Ratio	0.603	0.603	0.603
	Wages Paid Ratio	0.075	0.075	0.075
	Interest Paid Ratio	0.039	0.039	0.039
	Depreciation Ratio	0.091	0.091	0.091
	Net Farm Income from Operations Ratio	0.193	0.193	0.193
<b>Repayment Capacity</b>				
	Capital Replacement & Debt Repayment Capacity	\$61,748.33	\$624.54	\$2.89
	Coverage Margin	\$30,338.54	\$306.85	\$1.42
	Term Debt Coverage Ratio	2.64	2.64	2.64
<b>Liquidity</b>				
	Net Cash Income	\$84,932.40	\$859.03	\$3.97
	Working Capital	\$30,485.98	\$308.34	\$1.43
	Current Ratio	1.78	1.78	1.78
<b>Solvency (Assets at Cost, including current assets and raised breeding livestock)</b>				
	Beginning Total Farm Assets	\$364,315.88	\$3,684.80	\$17.03
	Beginning Total Farm Liabilities	\$216,674.03	\$2,191.50	\$10.13
	Beginning Farm Net Worth	\$147,641.85	\$1,493.29	\$6.90
	Farm Debt to Asset Ratio - Beginning of Year	0.632	0.632	0.632
	Ending Total Farm Assets	\$378,286.54	\$3,826.10	\$17.68
	Ending Total Farm Liabilities	\$230,226.04	\$2,328.57	\$10.76
	Ending Farm Net Worth	\$148,060.50	\$1,497.53	\$6.92
	Year Ending Farm Debt to Asset Ratio	0.609	0.609	0.609
	Cost Basis Change in Farm Net Worth	\$418.65	\$4.23	\$0.02





Table 1-4 p.2

**The Average AgFA® Financial Measures Report Showing Selected Measures of Financial Performance for 115 Great Lakes Graziers**

These Financial Measures Were Calculated Using the Market Value of Assets and Economic Depreciation

The financial calculations using the Cost Basis of Assets and Cost (Tax) Depreciation are on the previous page.

**Profitability**

	2005 per Farm	2005 per Cow	2005 per CWT EQ
Net Farm Income From Operations	\$72,878.24	\$737.11	\$3.41
Net Farm Income	\$75,560.06	\$764.24	\$3.53
Rate of Return on Assets (ROROA)	6.14 %	6.14 %	6.14 %
Economic Depreciation Claimed	\$22,865.45	\$231.27	\$1.07
Rate of Return on Equity	6.36 %	6.36 %	6.36 %
Net Profit Margin	14.83 %	14.83 %	14.83 %

**Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)**

	Asset Turnover Ratio	0.414	0.414	0.414
Note: Some methods of calculating ratios combine the Basic Cost and Wages Paid Ratios into a single ratio (Operating Cost Ratio).	Basic Cost Ratio	0.604	0.604	0.604
	Wages Paid Ratio	0.075	0.075	0.075
	Interest Paid Ratio	0.039	0.039	0.039
	Depreciation Ratio	0.058	0.058	0.058
	Net Farm Income from Operations Ratio	0.225	0.225	0.225

**Repayment Capacity**

Capital Replacement & Debt Repayment Capacity	\$61,748.33	\$624.54	\$4,065.94
Coverage Margin	\$30,338.54	\$306.85	\$1.42
Term Debt Coverage Ratio	2.64	2.64	3,095.54

**Liquidity**

Net Cash Income	\$84,932.40	\$859.03	\$3.97
Working Capital	\$30,485.98	\$308.34	\$1.43
Current Ratio	1.78	1.78	1.78

**Solvency (Assets at Market Value)**

Beginning Total Farm Assets	\$760,662.26	\$7,693.56	\$35.56
Beginning Total Farm Liabilities	\$216,674.03	\$2,191.50	\$10.13
Beginning Farm Net Worth	\$543,988.23	\$5,502.06	\$25.43
Farm Debt to Asset Ratio - Beginning of Year	0.285	0.285	0.285
Ending Total Farm Assets	\$804,620.15	\$8,138.16	\$37.62
Ending Total Farm Liabilities	\$230,226.04	\$2,328.57	\$10.76
Ending Farm Net Worth	\$574,394.10	\$5,809.59	\$26.85
Year Ending Farm Debt to Asset Ratio	0.286	0.286	0.286
Total Change in Farm Net Worth	\$30,405.87	\$307.53	\$1.42



**Table 1-5**

**The Average AgFA® Balance Sheet of 115 Great Lakes Graziers in 2005 Showing the Current Market Values and Historic Cost Values of Assets**

	<u>Beg. Dollars</u>	<u>End Dollars</u>		
<b>Current Assets</b>				
Cash Accounts	7,705	6,500		
Prepaid Expenses & Purchased Inventories	11,770	12,882		
Raised Feed Inventories	34,587	33,657		
Basis in Resale Livestock Purchased	76	76		
Accounts Receivable	12,829	14,133		
Market Livestock & Etc.	2,205	2,422		
<b>Total Current Assets</b>	<b>69,172</b>	<b>69,670</b>		
<b>Non-Current Assets</b>			<u><b>Cost Basis</b></u>	
Raised Breeding Livestock	183,773	193,096	<u>Beg. Dollars</u>	<u>End Dollars</u>
Purchased Breeding Livestock	1,619	1,381	1,717	1,778
Machinery & Equipment	120,432	132,802	18,928	19,486
Buildings	37,873	39,740	23,178	23,879
Land & House	333,645	353,033	63,493	67,231
Other Non-Current Assets	14,149	14,899	4,056	3,146
<b>Total Non-Current Assets</b>	<b>691,491</b>	<b>734,950</b>	<b>111,372</b>	<b>115,521</b>
<b>Total Farm Assets</b>	<b>760,662</b>	<b>804,620</b>		
<b>Current Liabilities</b>				
Accounts Payable	8,216	8,195		
Current Portion of Non-Current Liabilities	15,615	18,613		
Other Current Liabilities	7,342	12,410		
<b>Total Current Liabilities</b>	<b>31,173</b>	<b>39,218</b>		
<b>Non-Current Liabilities</b>				
Intermediate Liabilities	25,420	27,104		
Long-Term Liabilities	160,098	163,938		
Contingent Liabilities	114,848	121,819		
<b>Total Non-Current Liabilities</b>	<b>300,366</b>	<b>312,861</b>		
<b>Total Farm Liabilities</b>	<b>331,540</b>	<b>352,079</b>		
Non-Farm Assets	40,546	31,266		
Non-Farm Liabilities	1,594	1,498		

**Statement of Equities (Net Worth)**

	<u>Beginning</u>	<u>Ending</u>	<u>Change</u>
Contributed Capital	1,472	1,816	344
Retained Earnings <sup>1</sup>	146,152	146,210	57
Valuation Adjustment	281,498	304,515	23,017
<b>Total Farm Equities</b>	<b>429,123</b>	<b>452,541</b>	<b>23,418</b>
Non-Farm Equities	38,952	29,768	-9,184
<b>Total Equities</b>	<b>468,074</b>	<b>482,308</b>	<b>14,234</b>

1 All current assets and raised breeding livestock are included in retained earnings.

### XIII. Comparing the Top Half to the Bottom Half of Graziers Sorted by NFIFO per CWT EQ<sup>7</sup>

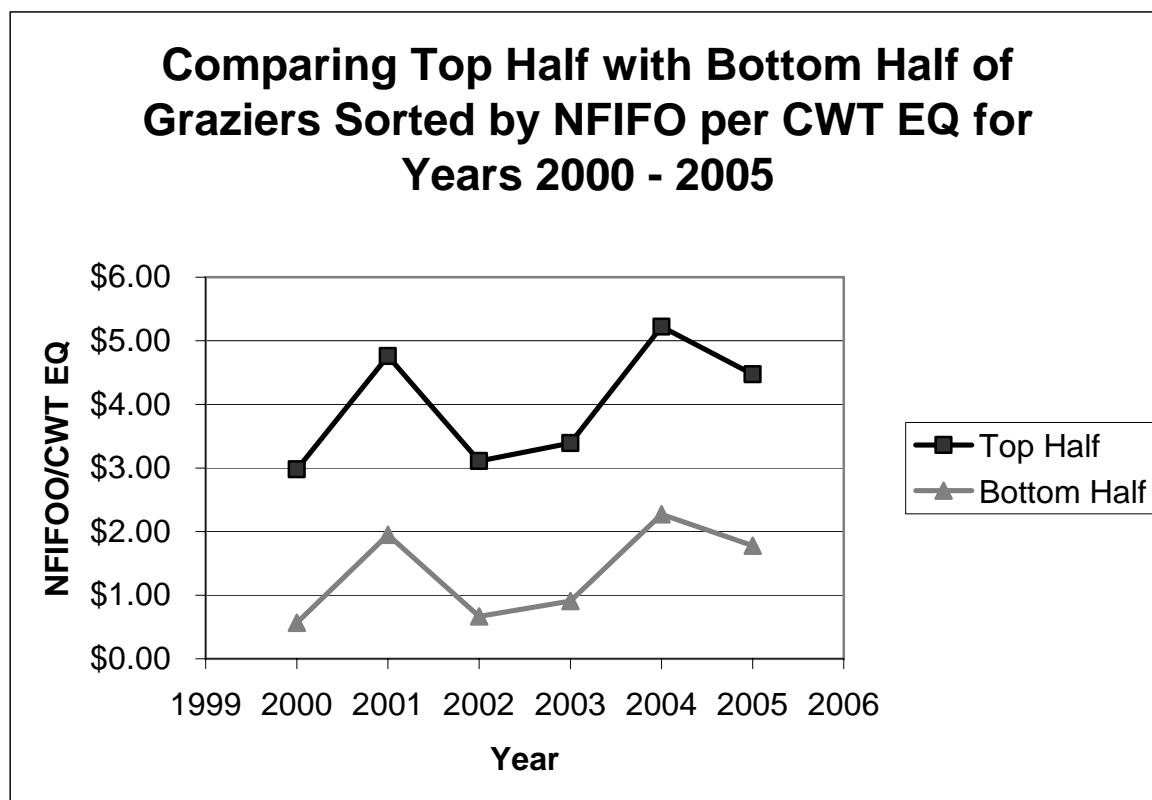
The average “top half” herd in 2005 was smaller, produced slightly less milk per cow, had lower basic, non-basic, allocated and total costs per CWT EQ, and had about two and a half times as much NFIFO per CWT EQ and NFIFO per cow than the “bottom half” herds. For most basic cost items, the top half spent less per CWT EQ than the bottom group. *The cost categories in which the top group had their biggest advantage in 2005 were (in order of most to least \$/CWT EQ) paid labor and management (\$0.76), other livestock expenses (\$0.28), depreciation (\$0.26), interest (\$0.23) and feed purchased (\$0.20).*

Overall, the top herds had a \$1.44 advantage in basic cost per CWT EQ and another \$1.25 per CWT EQ advantage in the four non-basic cost categories that are added to the basic cost category to create the allocated cost category. More specifically, the top group spent \$0.23 per CWT EQ less for interest, \$0.76 per CWT EQ less for paid labor and management and \$0.26 less per CWT EQ for depreciation. This accounts for the \$2.69 (\$4.47-\$1.78) advantage that the top herds had in NFIFO per CWT EQ.

If all labor and management was unpaid, the NFIFO per CWT EQ would increase to \$5.15 for the top half and to \$3.22 for the bottom half.

The year 2005 comparison of the top versus bottom half was more similar to the 2004 and 2001 comparison, than to the other years. The top half had over four times as much NFIFO per CWT EQ and NFIFO per cow in 2003, 2002, and 2000 and about two and one-half times more NFIFO per CWT EQ and per cow in 2005, 2004 and 2001. **The ratio between the most profitable half and the least profitable half’s NFIFO per CWT EQ and NFIFO per cow was greater in the lower profit years (usually with lower milk price) than in the higher profit years.**

**Graph 2-1**



<sup>7</sup> CWT EQ sold is not the same as actual hundredweights of milk sold. See Chapter X for more information about CWT EQ.

Because of rounding, some small mathematical differences might be found in the summary tables below.

<b>Table 2-1</b> <b>Comparing the Top Half with the Bottom Half of</b> <b>Graziers Sorted by NFIFO per CWT EQ Most</b> <b>Performance Measures Selected from</b> <b>Tables 2-2 to 2-9</b>						
	<b>Top Half</b>					
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Number of Herds	46	61	50	50	50	57
Number of Cows per Herd	78	80	75	77	89	83
Average Lbs. Milk per Cow	17,380	15,578	15,587	15,938	14,988	15,851
Average Lbs. Milk per Herd	1,361,892	1,244,299	1,167,013	1,221,182	1,326,548	1,313,862
Group Average Mailbox Milk Price	N/A	\$16.15	\$14.23	\$15.09	\$17.64	\$16.42
U.S. All Milk Price (used to calculate CWT EQ)*	12.33	\$14.94	\$12.15	\$12.50	\$16.10	\$15.14
Average Basic Cost per CWT EQ	\$6.96	\$7.82	\$6.76	\$6.84	\$8.44	\$8.28
Non-Basic Cost per CWT EQ	\$2.39	\$2.36	\$2.28	\$2.27	\$2.44	\$2.39
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$9.35	\$10.18	\$9.04	\$9.11	\$10.88	\$10.67
NFIFO per Cow (if all labor was unpaid)	\$869	\$1,101	\$971	\$1,023	\$1,199	\$1,086
NFIFO per CWT EQ (if all labor was unpaid)	\$3.77	\$5.49	\$3.99	\$4.18	\$5.88	\$5.15
NFIFO per Farm	\$53,876	\$76,462	\$56,608	\$63,470	\$94,036	\$78,094
<b>NFIFO per Cow</b>	<b>\$687</b>	<b>\$962</b>	<b>\$756</b>	<b>\$828</b>	<b>\$1,062</b>	<b>\$942</b>
<b>NFIFO per CWT EQ</b>	<b>\$2.98</b>	<b>\$4.76</b>	<b>\$3.11</b>	<b>\$3.39</b>	<b>\$5.22</b>	<b>\$4.47</b>

<b>Table 2-1 continued</b> <b>Comparing the Top Half with the Bottom Half of</b> <b>Graziers Sorted by NFIFO per CWT EQ Most</b> <b>Performance Measures Selected from</b> <b>Tables 2-2 to 2-9</b>						
	<b>Bottom Half</b>					
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Number of Herds	44	62	50	50	50	58
Number of Cows per Herd	104	91	97	98	99	119
Average Lbs. Milk per Cow	16,530	15,416	15,282	14,845	16,273	16,472
Average Lbs. Milk per Herd	1,718,782	1,407,833	1,488,501	1,460,414	1,617,693	1,966,220
Group Average Mailbox Milk Price	N/A	\$16.47	\$13.39	\$13.87	\$17.73	\$16.93
U.S. All Milk Price (used to calculate CWT EQ)*	\$12.33	\$14.94	\$12.15	\$12.50	\$16.10	\$15.14
Average Basic Cost per CWT EQ	\$8.56	\$9.22	\$8.44	\$8.70	\$10.11	\$9.72
Non-Basic Cost per CWT EQ	\$3.20	\$3.77	\$3.04	\$2.89	\$3.72	\$3.64
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$11.76	\$12.99	\$11.48	\$11.59	\$13.83	\$13.36
NFIFO per Cow (if all labor was unpaid)	\$356	\$676	\$409	\$410	\$780	\$705
NFIFO per CWT EQ (if all labor was unpaid)	\$1.64	\$3.45	\$1.95	\$2.02	\$3.71	\$3.22
NFIFO per Farm	\$12,790	\$34,907	\$13,590	\$18,249	\$47,517	\$46,518
<b>NFIFO per Cow</b>	<b>\$123</b>	<b>\$382</b>	<b>\$140</b>	<b>\$186</b>	<b>\$478</b>	<b>\$390</b>
<b>NFIFO per CWT EQ</b>	<b>\$0.57</b>	<b>\$1.95</b>	<b>\$0.67</b>	<b>\$0.91</b>	<b>\$2.27</b>	<b>\$1.78</b>

\*See Chapters IX and X for more information about CWT EQ and cost categories.

See tables 2-2 to 2-9 for more details about the average financial performance of the top and bottom half herds.



Table 2-2 p. 1

The Average AgFA© Farm Earnings Report for the Top Half of Great Lakes Graziers.  
The 57 Top Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ

Income	<u>2005</u> per Farm	<u>2005</u> per Head	<u>2005</u> per CWT EQ
<b>Cash Income - Basis Adjustments</b>			
Sales of Livestock and Other Items Bought for Resale	11.19	0.14	0
Basis in Resale Livestock Sold	0.00	0.00	0
Animal Product Sales	214,914.39	2,592.89	12
Raised Non-Breeding Livestock Sales	7,401.25	89.29	0
Crop Sales	642.49	7.75	0
Distributions Received from Cooperatives	992.51	11.97	0
Agricultural Program Payments	7,669.87	92.54	0
MILC Program Payments	17.02	0.21	0
Crop Insurance Proceeds and Certain Disaster Payments	14.65	0.18	0
Custom Hire (Machine Work) Income	1,136.61	13.71	0
Other Income, Incl. Tax Credits, Refunds	5,145.89	62.08	0
Sale of Purchased Breeding Livestock	138.12	1.67	0
Basis in Breeding Livestock Sold	(306.63)	(3.70)	-0
Sale of Raised Breeding Livestock	17,780.51	214.52	1
<b>Total Cash Income - Basis Adjustments</b>	<b>255,557.88</b>	<b>3,083.25</b>	<b>14</b>
<b>Non-Cash Income</b>			
Change in Raised Crop Inventories	945.34	11.41	0
Change in Remaining Current Assets	910.98	10.99	0
Change in Raised Breeding Livestock	7,048.46	85.04	0
<b>Total Non-Cash Income</b>	<b>8,904.79</b>	<b>107.43</b>	<b>0</b>
<b>Total Income</b>	<b>264,462.66</b>	<b>3,190.68</b>	<b>15</b>



Table 2-2, p. 2

The Average AgFA© Farm Earnings Report for the Top Half of Great Lakes Graziers.

The 57 Top Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ

Expenses	2005 per Farm	2005 per Head	2005 per CWT EQ
<b>Cash Expense</b>			
Cost of Items for Resale	42.89	0.52	0.00
Breeding Fees	2,562.00	30.91	0.15
Car and Truck Expenses	714.34	8.62	0.04
Chemicals	1,121.21	13.53	0.06
Conservation Expenses	0.00	0.00	0.00
Custom Heifer Raising Expenses	0.00	0.00	0.00
Custom Hire (Machine Work)	5,247.28	63.31	0.30
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	913.71	11.02	0.05
Feed Purchase	57,467.18	693.33	3.29
Fertilizer and Lime	8,882.40	107.16	0.51
Freight and Trucking	955.64	11.53	0.05
Gasoline, Fuel, and Oil	5,710.91	68.90	0.33
Farm Insurance	3,351.95	40.44	0.19
Mortgage Interest	5,521.77	66.62	0.32
Other Interest	2,539.58	30.64	0.15
Labor Hired - Dependents	28.07	0.34	0.00
Labor Hired - Non-Dependents	10,997.09	132.68	0.63
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Rent/Lease Equipment	245.58	2.96	0.01
Rent/Lease Other	4,827.39	58.24	0.28
Repairs and Maintenance	13,705.89	165.36	0.78
Building and Fence Repairs	1,135.09	13.69	0.06
Machinery Repairs	465.51	5.62	0.03
Seeds and Plants Purchased	2,890.14	34.87	0.17
Storage and Warehousing	24.20	0.29	0.00
Supplies Purchased	7,257.84	87.56	0.42
Taxes - Other	4,648.70	56.09	0.27
Utilities	5,980.51	72.15	0.34
Veterinary Fees and Medicine	4,419.73	53.32	0.25
Other Farm Expenses	5,039.84	60.80	0.29
Marketing & Hedging	7,698.87	92.89	0.44
Other Crop Expenses	358.63	4.33	0.02
Other Livestock Expenses	3,361.78	40.56	0.19
Selling Expense of Capital Items	0.55	0.01	0.00
<b>Total Cash Expense</b>	<b>168,116.25</b>	<b>2,028.28</b>	<b>9.62</b>
<b>Non-Cash Expenses</b>			
- Change in Prepaid Expenses	(3,015.60)	(36.38)	-0.17
Change in Accounts Payable	(879.70)	(10.61)	-0.05
Machinery, Equipment and Building Depreciation	21,721.32	262.06	1.24
Livestock Depreciation	426.51	5.15	0.02
<b>Total Non-Cash Expenses</b>	<b>18,252.53</b>	<b>220.21</b>	<b>1.04</b>
<b>Total Expenses</b>	<b>186,368.78</b>	<b>2,248.50</b>	<b>10.67</b>
<b>Net Farm Income From Operations (NFIFO)</b>	<b>78,093.88</b>	<b>942.18</b>	<b>4.47</b>
Gain (Loss) on Sale of All Farm Capital Assets	2,468.44	29.78	0.14
<b>Net Farm Income (NFI)</b>	<b>80,562.32</b>	<b>971.97</b>	<b>4.61</b>



**Table 2-3 p. 1**

**The Average AgFA© Cost of Production Report for the Top Half of Great Lakes Graziers.**  
**The 57 Top Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ. This report shows Basic Costs, Allocated Costs, Total Costs, NFIFO and Other Financial Details.**

<b>Income</b>		<b><u>2005</u></b>	<b><u>2005</u></b>	<b><u>2005</u></b>
		<b><u>per Farm</u></b>	<b><u>per CWT Sold</u></b>	<b><u>per CWT EQ</u></b>
	<b>Total Income</b>	<b>264,462.66</b>	<b>20.13</b>	<b>15.14</b>
<b>Expenses</b>				
<b>Basic Cost</b>				
	Cost of Items for Resale	42.89	0.00	0.00
	Breeding Fees	2,562.00	0.19	0.15
	Car and Truck Expenses	714.34	0.05	0.04
	Chemicals	1,121.21	0.09	0.06
	Conservation Expenses	0.00	0.00	0.00
	Custom Heifer Raising Expenses	0.00	0.00	0.00
	Custom Hire (Machine Work)	5,247.28	0.40	0.30
	Feed Purchase	57,467.18	4.37	3.29
	Fertilizer and Lime	8,882.40	0.68	0.51
	Freight and Trucking	955.64	0.07	0.05
	Gasoline, Fuel, and Oil	5,710.91	0.43	0.33
	Farm Insurance	3,351.95	0.26	0.19
	Rent/Lease Equipment	245.58	0.02	0.01
	Rent/Lease Other	4,827.39	0.37	0.28
	Repairs and Maintenance	13,705.89	1.04	0.78
	Building and Fence Repairs	1,135.09	0.09	0.06
	Machinery Repairs	465.51	0.04	0.03
	Seeds and Plants Purchased	2,890.14	0.22	0.17
	Storage and Warehousing	24.20	0.00	0.00
	Supplies Purchased	7,257.84	0.55	0.42
	Taxes - Other	4,648.70	0.35	0.27
	Utilities	5,980.51	0.46	0.34
	Veterinary Fees and Medicine	4,419.73	0.34	0.25
	Other Farm Expenses	5,039.84	0.38	0.29
	Marketing & Hedging	7,698.87	0.59	0.44
	Other Crop Expenses	358.63	0.03	0.02
	Other Livestock Expenses	3,361.78	0.26	0.19
	- Change in Prepaid Expenses	(3,015.60)	(0.23)	(0.17)
	Change in Accounts Payable	(879.70)	(0.07)	(0.05)
	Selling Expense of Capital Items	0.55	0.00	0.00
	Depreciation on Purchased Breeding Livestock	426.51	0.03	0.02
	<b>Total Basic Cost</b>	<b>144,647.24</b>	<b>11.01</b>	<b>8.28</b>



Table 2-3 p. 2

The Average AgFA® Cost of Production Report for the Top Half of Great Lakes Graziers.  
The 57 Top Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ.  
This report shows Basic Costs, Allocated Costs, Total Costs, NFIFO and Other Financial Details.

	<u>2005</u> per Farm	<u>2005</u> per CWT Sold	<u>2005</u> per CWT EQ
<b>Interest Cost</b>			
Mortgage Interest	5,521.77	0.42	0.32
Other Interest	2,539.58	0.19	0.15
<b>Total Interest Cost</b>	<b>8,061.35</b>	<b>0.61</b>	<b>0.46</b>
<b>Labor Cost</b>			
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	913.71	0.07	0.05
Labor Hired - Dependents	28.07	0.00	0.00
Labor Hired - Non-Dependents	10,997.09	0.84	0.63
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Value of Unpaid Labor & Management	37,652.25	2.87	2.16
<b>Total Labor Cost</b>	<b>49,591.12</b>	<b>3.77</b>	<b>2.84</b>
<b>Depreciation &amp; Equity Cost</b>			
Machinery, Equipment, Building Depreciation	21,721.32	1.65	1.24
Interest on Equity Capital	20,457.69	1.56	1.17
<b>Total Depreciation &amp; Equity Cost</b>	<b>42,179.01</b>	<b>3.21</b>	<b>2.41</b>
<b>Total Expenses</b>	<b>244,478.72</b>	<b>18.61</b>	<b>14.00</b>
<b>Total Income - Total Expenses</b>	<b>19,983.94</b>	<b>1.52</b>	<b>1.14</b>
<b>Net Farm Income from Operations (NFIFO) Summary</b>			
Total Allocated Costs	186,368.78	14.18	10.67
<b>Net Farm Income From Operations (NFIFO)</b>	<b>78,093.88</b>	<b>5.94</b>	<b>4.47</b>
Gain (Loss) on Sale of All Farm Capital Assets	2,468.44	0.19	0.14
<b>Net Farm Income (NFI)</b>	<b>80,562.32</b>	<b>6.13</b>	<b>4.61</b>





Table 2-4 p. 1

**The Average AgFA© Financial Measures Report for the Top Half of Great Lakes Graziers.**

**The 57 Top Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ.**

These Financial Measures Were Calculated Using the Cost Basis of Assets and Cost (Tax) Depreciation

The financial calculations using the Market Basis of Assets and Economic Depreciation are on the following page.

**Profitability**

	2005 per Farm	2005 per Cow	2005 per CWT EQ
Net Farm Income From Operations	\$78,093.88	\$942.18	\$4.47
Net Farm Income	\$80,562.32	\$971.97	\$4.61
Rate of Return on Assets (ROROA)	15.71%	15.71%	15.71%
Cost (Tax) Depreciation Claimed	\$22,147.82	\$267.21	\$1.27
Rate of Return on Equity	23.06 %	23.06 %	23.06 %
Net Profit Margin	19.27 %	19.27 %	19.27 %

**Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)**

	Asset Turnover Ratio	0.815	0.815	0.815
Note: Some methods of calculating ratios combine the Basic Cost and Wages Paid Ratios into a single ratio (Operating Cost Ratio).	Basic Cost Ratio	0.547	0.547	0.547
	Wages Paid Ratio	0.045	0.045	0.045
	Interest Paid Ratio	0.030	0.030	0.030
	Depreciation Ratio	0.082	0.082	0.082
	Net Farm Income from Operations Ratio	0.295	0.295	0.295

**Repayment Capacity**

Capital Replacement & Debt Repayment Capacity	\$66,165.11	\$798.27	\$3.79
Coverage Margin	\$44,183.46	\$533.06	\$2.53
Term Debt Coverage Ratio	3.91	3.91	3.91

**Liquidity**

Net Cash Income	\$87,748.26	\$1,058.66	\$5.02
Working Capital	\$32,376.09	\$390.61	\$1.85
Current Ratio	2.19	2.19	2.19

**Solvency (Assets at Cost, including current assets and raised breeding livestock)**

Beginning Total Farm Assets	\$315,571.36	\$3,807.30	\$18.07
Beginning Total Farm Liabilities	\$134,822.79	\$1,626.61	\$7.72
Beginning Farm Net Worth	\$180,748.57	\$2,180.69	\$10.35
Farm Debt to Asset Ratio - Beginning of Year	0.450	0.450	0.450
Ending Total Farm Assets	\$333,416.19	\$4,022.59	\$19.09
Ending Total Farm Liabilities	\$141,956.14	\$1,712.67	\$8.13
Ending Farm Net Worth	\$191,460.05	\$2,309.92	\$10.96
Year Ending Farm Debt to Asset Ratio	0.426	0.426	0.426
Cost Basis Change in Farm Net Worth	\$10,711.48	\$129.23	\$0.61



Table 2-4 p. 2

**The Average AgFA© Financial Measures Report for the Top Half of Great Lakes Graziers.  
The 57 Top Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ.**

These Financial Measures Were Calculated Using the Market Value of Assets and Economic Depreciation

The financial calculations using the Cost Basis of Assets and Cost (Tax) Depreciation are on the previous page.

**Profitability**

	2005 Per Farm	2005 Per Cow	2005 Per CWT EQ
Net Farm Income From Operations	\$84,910.02	\$1,024.42	\$4.86
Net Farm Income	\$87,378.46	\$1,054.20	\$5.00
Rate of Return on Assets (ROROA)	8.89 %	8.89 %	8.89 %
Economic Depreciation Claimed	\$15,331.69	\$184.97	\$0.88
Rate of Return on Equity	9.72 %	9.72 %	9.72 %
Net Profit Margin	21.85 %	21.85 %	21.85 %

**Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)**

Asset Turnover Ratio	0.407	0.407	0.407
Note: Some methods of calculating ratios combine the Basic Cost and Wages Paid Ratios into a single ratio (Operating Cost Ratio).	Basic Cost Ratio	0.547	0.547
	Wages Paid Ratio	0.045	0.045
	Interest Paid Ratio	0.030	0.030
	Depreciation Ratio	0.056	0.056
Net Farm Income from Operations Ratio	0.321	0.321	0.321

**Repayment Capacity**

Capital Replacement & Debt Repayment Capacity	\$66,165.11	\$798.27	\$516.86
Coverage Margin	\$44,183.46	\$533.06	\$2.53
Term Debt Coverage Ratio	3.91	3.91	475.60

**Liquidity**

Net Cash Income	\$87,748.26	\$1,058.66	\$5.02
Working Capital	\$32,376.09	\$390.61	\$1.85
Current Ratio	2.19	2.19	2.19

**Solvency (Assets at Market Value)**

Beginning Total Farm Assets	\$625,077.22	\$7,541.41	\$35.78
Beginning Total Farm Liabilities	\$134,822.79	\$1,626.61	\$7.72
Beginning Farm Net Worth	\$490,254.43	\$5,914.81	\$28.07
Farm Debt to Asset Ratio - Beginning of Year	0.216	0.216	0.216
Ending Total Farm Assets	\$674,586.43	\$8,138.73	\$38.62
Ending Total Farm Liabilities	\$141,956.14	\$1,712.67	\$8.13
Ending Farm Net Worth	\$532,630.29	\$6,426.06	\$30.49
Year Ending Farm Debt to Asset Ratio	0.210	0.210	0.210
Total Change in Farm Net Worth	\$42,375.85	\$511.25	\$2.43



**Table 2-5**

**The Average AgFA© Balance Sheet Report for the Top Half of Great Lakes Graziers in 2005**  
**Showing the Current Market Values and Historic Cost Values of Assets.**  
**The 57 Top Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ.**

	<u>Beg. Dollars</u>	<u>End Dollars</u>		
<b>Current Assets</b>				
Cash Accounts	6,726	8,732		
Prepaid Expenses & Purchased Inventories	10,216	13,231		
Raised Feed Inventories	24,232	25,177		
Basis in Resale Livestock Purchased	154	154		
Accounts Receivable	9,402	9,668		
Market Livestock & Etc.	1,921	2,565		
<b>Total Current Assets</b>	<b>52,650</b>	<b>59,527</b>		
<b>Non-Current Assets</b>			<u><b>Cost Basis</b></u>	
			<u>Beg. Dollars</u>	<u>End Dollars</u>
Raised Breeding Livestock	161,014	168,063		
Purchased Breeding Livestock	0	0	993	1,046
Machinery & Equipment	99,623	110,670	16,135	16,819
Buildings	38,660	39,554	20,679	21,308
Land & House	255,286	278,234	59,619	62,409
Other Non-Current Assets	17,845	18,538	4,481	4,245
<b>Total Non-Current Assets</b>	<b>572,428</b>	<b>615,059</b>	<b>101,908</b>	<b>105,826</b>
<b>Total Farm Assets</b>	<b>625,077</b>	<b>674,586</b>		
<b>Current Liabilities</b>				
Accounts Payable	5,086	4,206		
Current Portion of Non-Current Liabilities	10,939	12,726		
Other Current Liabilities	5,650	10,219		
<b>Total Current Liabilities</b>	<b>21,674</b>	<b>27,151</b>		
<b>Non-Current Liabilities</b>				
Intermediate Liabilities	23,781	20,815		
Long-Term Liabilities	89,367	93,990		
Contingent Liabilities	91,828	99,748		
<b>Total Non-Current Liabilities</b>	<b>204,976</b>	<b>214,553</b>		
<b>Total Farm Liabilities</b>	<b>226,651</b>	<b>241,704</b>		
Non-Farm Assets	45,098	42,880		
Non-Farm Liabilities	2,954	1,851		

**Statement of Equities (Net Worth)**

	<u>Beginning</u>	<u>Ending</u>	<u>Change</u>
Contributed Capital	1,461	1,461	0
Retained Earnings <sup>1</sup>	179,288	189,999	10,711
Valuation Adjustment	217,678	241,423	23,744
<b>Total Farm Equities</b>	<b>398,427</b>	<b>432,883</b>	<b>34,456</b>
Non-Farm Equities	42,144	41,029	-1,115
<b>Total Equities</b>	<b>440,571</b>	<b>473,911</b>	<b>33,341</b>

<sup>1</sup> All current assets and raised breeding livestock are included in retained earnings.



Table 2-6, p. 1

The Average AgFA© Farm Earnings Report for the Bottom Half of Great Lakes Graziers.  
The 58 Bottom Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ.

Income	2005 per Farm	2005 per Head	2005 per CWT EQ
<b>Cash Income - Basis Adjustments</b>			
Sales of Livestock and Other Items Bought for Resale	155.26	1.30	0.01
Basis in Resale Livestock Sold	0.00	0.00	0.00
Animal Product Sales	333,102.53	2,790.57	12.77
Raised Non-Breeding Livestock Sales	8,995.76	75.36	0.34
Crop Sales	2,250.10	18.85	0.09
Distributions Received from Cooperatives	624.57	5.23	0.02
Agricultural Program Payments	9,208.14	77.14	0.35
MILC Program Payments	58.76	0.49	0.00
Crop Insurance Proceeds and Certain Disaster Payments	10.28	0.09	0.00
Custom Hire (Machine Work) Income	941.43	7.89	0.04
Other Income, Incl. Tax Credits, Refunds	5,132.03	42.99	0.20
Basis in Breeding Livestock Sold	(201.21)	(1.69)	-0.01
Sale of Raised Breeding Livestock	23,118.02	193.67	0.89
<b>Total Cash Income - Basis Adjustments</b>	<b>383,395.67</b>	<b>3,211.90</b>	<b>14.70</b>
<b>Non-Cash Income</b>			
Change in Raised Crop Inventories	(2,753.92)	(23.07)	-0.11
Change in Remaining Current Assets	2,220.05	18.60	0.09
Change in Raised Breeding Livestock	12,143.68	101.73	0.47
<b>Total Non-Cash Income</b>	<b>11,609.81</b>	<b>97.26</b>	<b>0.44</b>
<b>Total Income</b>	<b>395,005.49</b>	<b>3,309.16</b>	<b>15.14</b>



Table 2-6, p. 2

The Average AgFA© Farm Earnings Report for the Bottom Half of Great Lakes Graziers.

The 58 Bottom Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ.

Expenses	2005 per Farm	2005 per Head	2005 per CWT EQ
<b>Cash Expense</b>			
Cost of Items for Resale	274.07	2.30	0.01
Breeding Fees	3,713.64	31.11	0.14
Car and Truck Expenses	453.64	3.80	0.02
Chemicals	2,779.19	23.28	0.11
Conservation Expenses	24.14	0.20	0.00
Custom Heifer Raising Expenses	760.22	6.37	0.03
Custom Hire (Machine Work)	10,236.03	85.75	0.39
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	24.91	0.21	0.00
Feed Purchase	91,140.24	763.53	3.49
Fertilizer and Lime	6,612.00	55.39	0.25
Freight and Trucking	944.78	7.91	0.04
Gasoline, Fuel, and Oil	13,056.57	109.38	0.50
Farm Insurance	5,056.45	42.36	0.19
Mortgage Interest	15,003.36	125.69	0.58
Other Interest	3,028.71	25.37	0.12
Labor Hired - Dependents	0.00	0.00	0.00
Labor Hired - Non-Dependents	37,659.19	315.49	1.44
Pension and Profit-Sharing Plans - Non-Dependents	0.00	0.00	0.00
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Rent/Lease Equipment	635.50	5.32	0.02
Rent/Lease Other	9,291.03	77.84	0.36
Repairs and Maintenance	24,183.03	202.59	0.93
Building and Fence Repairs	347.19	2.91	0.01
Machinery Repairs	445.09	3.73	0.02
Seeds and Plants Purchased	5,605.10	46.96	0.21
Storage and Warehousing	0.14	0.00	0.00
Supplies Purchased	9,887.33	82.83	0.38
Taxes - Other	6,535.84	54.75	0.25
Taxes - Payroll	0.00	0.00	0.00
Utilities	8,893.43	74.50	0.34
Veterinary Fees and Medicine	8,285.62	69.41	0.32
Other Farm Expenses	10,003.86	83.81	0.38
Marketing & Hedging	13,723.50	114.97	0.53
Other Crop Expenses	239.50	2.01	0.01
Other Livestock Expenses	12,311.24	103.14	0.47
<b>Total Cash Expense</b>	<b>301,154.55</b>	<b>2,522.92</b>	<b>11.54</b>
<b>Non-Cash Expenses</b>			
- Change in Prepaid Expenses	464.03	3.89	0.02
Change in Accounts Payable	797.14	6.68	0.03
Machinery, Equipment and Building Depreciation	39,075.79	327.36	1.50
Livestock Depreciation	6,996.29	58.61	0.27
<b>Total Non-Cash Expenses</b>	<b>47,333.26</b>	<b>396.53</b>	<b>1.81</b>
<b>Total Expenses</b>	<b>348,487.81</b>	<b>2,919.46</b>	<b>13.36</b>
<b>Net Farm Income From Operations (NFIFO)</b>	<b>46,517.67</b>	<b>389.70</b>	<b>1.78</b>
Gain (Loss) on Sale of All Farm Capital Assets	3,055.31	25.60	0.12
<b>Net Farm Income (NFI)</b>	<b>49,572.99</b>	<b>415.30</b>	<b>1.90</b>



Table 2-7, p. 1

The Average AgFA© Cost of Production Report for the Bottom Half of Great Lakes Graziers.  
The 58 Bottom Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ.  
This Report Shows Basic Costs, Allocated Costs, Total Costs, NFIFO and other Financial Details.

Income		<u>2005</u>	<u>2005</u>	<u>2005</u>
		per Farm	per CWT Sold	per CWT EQ
	Total Income	<b>395,005.49</b>	<b>20.09</b>	<b>15.14</b>
<b>Expenses</b>				
<b>Basic Cost</b>				
	Cost of Items for Resale	274.07	0.01	0.01
	Breeding Fees	3,713.64	0.19	0.14
	Car and Truck Expenses	453.64	0.02	0.02
	Chemicals	2,779.19	0.14	0.11
	Conservation Expenses	24.14	0.00	0.00
	Custom Heifer Raising Expenses	760.22	0.04	0.03
	Custom Hire (Machine Work)	10,236.03	0.52	0.39
	Feed Purchase	91,140.24	4.64	3.49
	Fertilizer and Lime	6,612.00	0.34	0.25
	Freight and Trucking	944.78	0.05	0.04
	Gasoline, Fuel, and Oil	13,056.57	0.66	0.50
	Farm Insurance	5,056.45	0.26	0.19
	Rent/Lease Equipment	635.50	0.03	0.02
	Rent/Lease Other	9,291.03	0.47	0.36
	Repairs and Maintenance	24,183.03	1.23	0.93
	Building and Fence Repairs	347.19	0.02	0.01
	Machinery Repairs	445.09	0.02	0.02
	Seeds and Plants Purchased	5,605.10	0.29	0.21
	Storage and Warehousing	0.14	0.00	0.00
	Supplies Purchased	9,887.33	0.50	0.38
	Taxes - Other	6,535.84	0.33	0.25
	Taxes - Payroll	0.00	0.00	0.00
	Utilities	8,893.43	0.45	0.34
	Veterinary Fees and Medicine	8,285.62	0.42	0.32
	Other Farm Expenses	10,003.86	0.51	0.38
	Marketing & Hedging	13,723.50	0.70	0.53
	Other Crop Expenses	239.50	0.01	0.01
	Other Livestock Expenses	12,311.24	0.63	0.47
	- Change in Prepaid Expenses	464.03	0.02	0.02
	Change in Accounts Payable	797.14	0.04	0.03
	Depreciation on Purchased Breeding Livestock	6,996.29	0.36	0.27
	<b>Total Basic Cost</b>	<b>253,695.85</b>	<b>12.90</b>	<b>9.72</b>



Table 2-7, p. 2

The Average AgFA© **Cost of Production** Report for the Bottom Half of Great Lakes Graziers.  
The 58 Bottom Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ.  
This Report Shows Basic Costs, Allocated Costs, Total Costs, NFIFO and other Financial Details.

	<u>2005</u>	<u>2005</u>	<u>2005</u>
Interest Cost	per Farm	per CWT Sold	per CWT EQ
Mortgage Interest	15,003.36	0.76	0.58
Other Interest	3,028.71	0.15	0.12
<b>Total Interest Cost</b>	<b>18,032.07</b>	<b>0.92</b>	<b>0.69</b>
<b>Labor Cost</b>			
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	24.91	0.00	0.00
Labor Hired - Dependents	0.00	0.00	0.00
Labor Hired - Non-Dependents	37,659.19	1.92	1.44
Pension and Profit-Sharing Plans - Non-Dependents	0.00	0.00	0.00
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Value of Unpaid Labor & Management	42,899.36	2.18	1.64
<b>Total Labor Cost</b>	<b>80,583.47</b>	<b>4.10</b>	<b>3.09</b>
<b>Depreciation &amp; Equity Cost</b>			
Machinery, Equipment, Building Depreciation	39,075.79	1.99	1.50
Interest on Equity Capital	24,673.22	1.25	0.95
<b>Total Depreciation &amp; Equity Cost</b>	<b>63,749.01</b>	<b>3.24</b>	<b>2.44</b>
<b>Total Expenses</b>	<b>416,060.40</b>	<b>21.16</b>	<b>15.95</b>
<b>Total Income - Total Expenses</b>	<b>(21,054.91)</b>	<b>(1.07)</b>	<b>(0.81)</b>
<b>Net Farm Income from Operations (NFIFO) Summary</b>			
Total Allocated Costs	348,487.81	17.72	13.36
<b>Net Farm Income From Operations (NFIFO)</b>	<b>46,517.67</b>	<b>2.37</b>	<b>1.78</b>
Gain (Loss) on Sale of All Farm Capital Assets	3,055.31	0.16	0.12
<b>Net Farm Income (NFI)</b>	<b>49,572.99</b>	<b>2.52</b>	<b>1.90</b>



**Table 2-8 p. 1**

**The Average AgFA© Financial Measures Report for the Bottom Half of Great Lakes Graziers.  
The 58 Bottom Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ.**

These Financial Measures Were Calculated Using the Cost Basis of Assets and Cost (Tax) Depreciation

The financial calculations using the Market Basis of Assets and Economic Depreciation are on the following page.

		2005	2005	2005
		per Farm	per Cow	per CWT EQ
<b>Profitability</b>	Net Farm Income From Operations	\$46,517.67	\$389.70	\$1.78
	Net Farm Income	\$49,572.99	\$415.30	\$1.90
	Rate of Return on Assets (ROROA)	5.71%	5.71%	5.71%
	Cost (Tax) Depreciation Claimed	\$46,072.09	\$385.97	\$1.77
	Rate of Return on Equity	6.79 %	6.79 %	6.79 %
<b>Financi</b>	Net Profit Margin	6.25 %	6.25 %	6.25 %
Note:	Asset Turnover Ratio	0.915	0.915	0.915
	Basic Cost Ratio	0.642	0.642	0.642
	Wages Paid Ratio	0.095	0.095	0.095
	Interest Paid Ratio	0.046	0.046	0.046
	Depreciation Ratio	0.099	0.099	0.099
<b>Repaym</b>	Net Farm Income from Operations Ratio	0.118	0.118	0.118
	Capital Replacement & Debt Repayment Capacity	\$59,798.62	\$500.96	\$2.29
	Coverage Margin	\$4,471.37	\$37.46	\$0.17
	Term Debt Coverage Ratio	1.47	1.47	1.47
<b>Liquidit</b>				
	Net Cash Income	\$82,442.33	\$690.66	\$3.16
	Working Capital	\$19,935.54	\$167.01	\$0.76
	Current Ratio	1.30	1.30	1.30
<b>Solvenc</b>				
	Beginning Total Farm Assets	\$426,579.12	\$3,573.67	\$16.35
	Beginning Total Farm Liabilities	\$324,582.59	\$2,719.19	\$12.44
	Beginning Farm Net Worth	\$101,996.53	\$854.48	\$3.91
	Farm Debt to Asset Ratio - Beginning of Year	0.806	0.806	0.806
	Ending Total Farm Assets	\$437,135.38	\$3,662.11	\$16.75
	Ending Total Farm Liabilities	\$343,677.50	\$2,879.16	\$13.17
	Ending Farm Net Worth	\$93,457.88	\$782.94	\$3.58
	Year Ending Farm Debt to Asset Ratio	0.786	0.786	0.786
	Cost Basis Change in Farm Net Worth	\$-8,538.65	\$-71.53	\$-0.33





**Table 2-8 p. 2**

**The Average AgFA© Financial Measures Report for the Bottom Half of Great Lakes Graziers.  
The 58 Bottom Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ.**

These Financial Measures Were Calculated Using the Market Value of Assets and Economic Depreciation

The financial calculations using the Cost Basis of Assets and Cost (Tax) Depreciation are on the previous page.

**Profitability**

	<b>2005 per Farm</b>	<b>2005 per Cow</b>	<b>2005 per CWT EQ</b>
Net Farm Income From Operations	\$62,563.19	\$524.12	\$2.40
Net Farm Income	\$65,618.50	\$549.72	\$2.52
Rate of Return on Assets (ROROA)	4.29 %	4.29 %	4.29 %
Economic Depreciation Claimed	\$29,992.09	\$251.26	\$1.15
Rate of Return on Equity	3.68 %	3.68 %	3.68 %
Net Profit Margin	10.32 %	10.32 %	10.32 %

**Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)**

	Asset Turnover Ratio	0.415	0.415	0.415
Note: Some methods of calculating ratios combine the Basic Cost and Wages Paid Ratios into a single ratio (Operating Cost Ratio).	Basic Cost Ratio	0.644	0.644	0.644
	Wages Paid Ratio	0.095	0.095	0.095
	Interest Paid Ratio	0.046	0.046	0.046
	Depreciation Ratio	0.057	0.057	0.057
	Net Farm Income from Operations Ratio	0.158	0.158	0.158

**Repayment Capacity**

Capital Replacement & Debt Repayment Capacity	\$59,798.62	\$500.96	\$7,554.18
Coverage Margin	\$4,471.37	\$37.46	\$0.17
Term Debt Coverage Ratio	1.47	1.47	3,730.32

**Liquidity**

Net Cash Income	\$82,442.33	\$690.66	\$3.16
Working Capital	\$19,935.54	\$167.01	\$0.76
Current Ratio	1.30	1.30	1.30

**Solvency (Assets at Market Value)**

Beginning Total Farm Assets	\$930,445.51	\$7,794.81	\$35.66
Beginning Total Farm Liabilities	\$324,582.59	\$2,719.19	\$12.44
Beginning Farm Net Worth	\$605,862.93	\$5,075.62	\$23.22
Farm Debt to Asset Ratio - Beginning of Year	0.349	0.349	0.349
Ending Total Farm Assets	\$971,372.21	\$8,137.68	\$37.23
Ending Total Farm Liabilities	\$343,677.50	\$2,879.16	\$13.17
Ending Farm Net Worth	\$627,694.71	\$5,258.52	\$24.06
Year Ending Farm Debt to Asset Ratio	0.354	0.354	0.354
Total Change in Farm Net Worth	\$21,831.78	\$182.90	\$0.84



**Table 2-9**

**The Average AgFA® Balance Sheet Report for the Bottom Half of Great Lakes Graziers**  
**Showing the Current Market Values and Historic Cost Values of Assets.**  
**The 58 Bottom Half Graziers were sorted by Net Farm Income from Operations (NFIFO) per CWT EQ.**

	<u>Beq. Dollars</u>	<u>End Dollars</u>		
<b>Current Assets</b>				
Cash Accounts	8,694	3,977		
Prepaid Expenses & Purchased Inventories	15,765	15,301		
Raised Feed Inventories	47,845	45,091		
Basis in Resale Livestock Purchased	0	0		
Accounts Receivable	16,812	19,236		
Market Livestock & Etc.	2,485	2,282		
<b>Total Current Assets</b>	<b>91,601</b>	<b>85,886</b>		
<b>Non-Current Assets</b>			<u><b>Cost Basis</b></u>	
Raised Breeding Livestock	217,562	229,705	<u>Beq. Dollars</u>	<u>End Dollars</u>
Purchased Breeding Livestock	3,210	2,738	2,353	2,437
Machinery & Equipment	147,227	162,275	20,985	21,327
Buildings	36,209	38,858	24,934	25,536
Land & House	423,595	439,771	65,506	70,177
Other Non-Current Assets	11,042	12,138	3,638	2,066
<b>Total Non-Current Assets</b>	<b>838,844</b>	<b>885,486</b>	<b>117,416</b>	<b>121,544</b>
<b>Total Farm Assets</b>	<b>930,446</b>	<b>971,372</b>		
<b>Current Liabilities</b>				
Accounts Payable	11,314	12,146		
Current Portion of Non-Current Liabilities	34,807	39,241		
Other Current Liabilities	9,004	14,564		
<b>Total Current Liabilities</b>	<b>55,126</b>	<b>65,951</b>		
<b>Non-Current Liabilities</b>				
Intermediate Liabilities	27,030	33,284		
Long-Term Liabilities	242,427	244,442		
Contingent Liabilities	144,985	151,585		
<b>Total Non-Current Liabilities</b>	<b>414,442</b>	<b>429,312</b>		
<b>Total Farm Liabilities</b>	<b>469,568</b>	<b>495,263</b>		
Non-Farm Assets	35,425	19,231		
Non-Farm Liabilities	259	1,152		

**Statement of Equities (Net Worth)**

	<u>Beginning</u>	<u>Ending</u>	<u>Change</u>
Contributed Capital	1,483	2,165	682
Retained Earnings <sup>1</sup>	100,514	91,293	-9,221
Valuation Adjustment	358,881	382,651	23,770
<b>Total Farm Equities</b>	<b>460,878</b>	<b>476,109</b>	<b>15,232</b>
Non-Farm Equities	35,167	18,079	-17,088
<b>Total Equities</b>	<b>496,044</b>	<b>494,188</b>	<b>-1,856</b>

<sup>1</sup> All current assets and raised breeding livestock are included in retained earnings.

#### XIV. Comparing Herds by Size: Less Than 100 Cows vs. 100 Cows or More

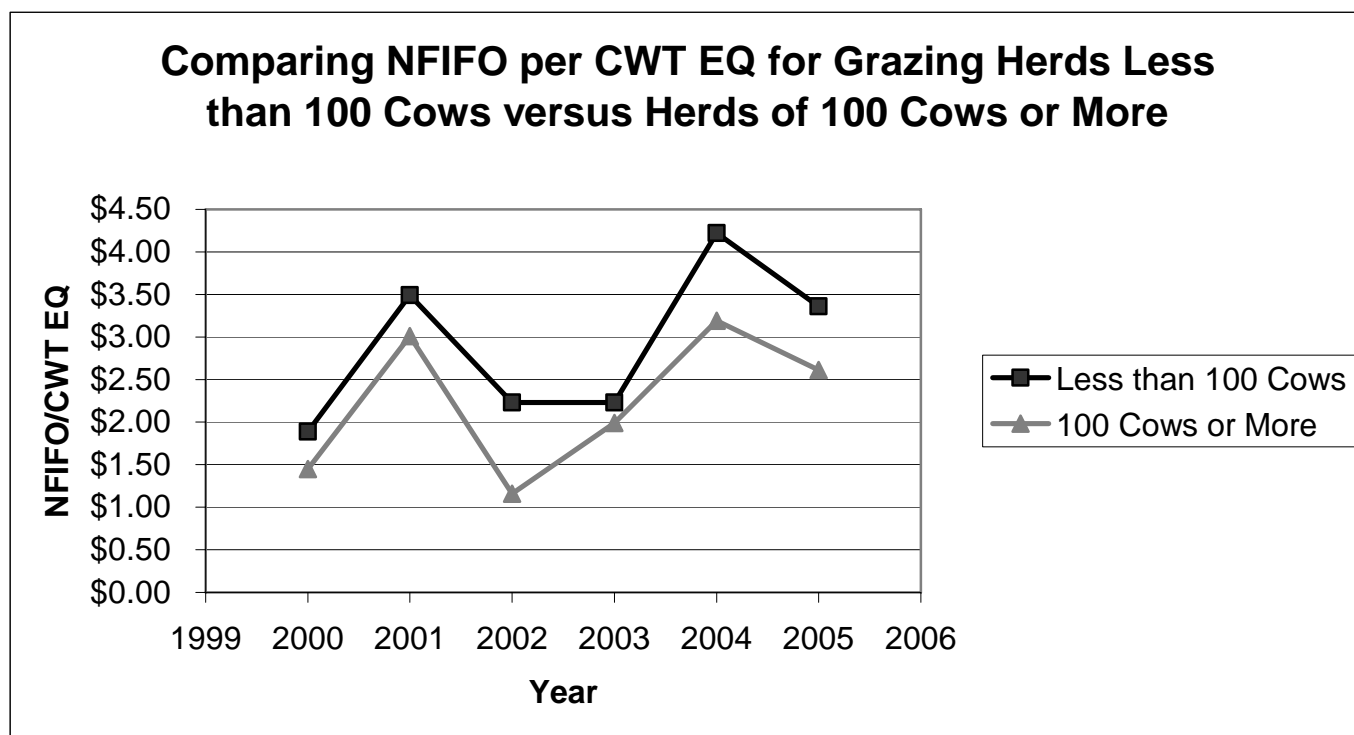
The average “large” herd in 2005 had over three times as many cows, produced about three percent less milk per cow, and was less profitable on a per cow and a per CWT EQ basis than the smaller herds. The average “large” farm produced more total dollars of NFIFO per farm. For about half of the basic cost items, the larger herds spent more per CWT EQ than the smaller herds.

Overall, the smaller herds had a \$0.09 disadvantage in basic cost per CWT EQ and an \$0.84 per CWT EQ advantage in the four non-basic cost categories that are added to the basic cost category to create the allocated cost category. More specifically, the smaller herds spent \$0.06 per CWT EQ less for interest, \$0.89 per CWT EQ less for paid labor and management, but \$0.11 more per CWT EQ for depreciation than the large herds.

This accounts for the \$0.75 (\$3.36-\$2.61) overall advantage that the smaller herds had in NFIFO per CWT EQ.

The larger herds’ cost of paid labor, which was \$0.89 per CWT EQ higher in 2005, provides the smaller herds with most of their advantage in NFIFO per CWT EQ from 2000 to 2005. If all labor expenses were unpaid, the smaller herd size would still have a higher NFIFO per cow in three years and a higher NFIFO per CWT EQ in two years.

**Graph 3-1**



Because of rounding, some small mathematical differences might be found in the summary tables below.

<b>Table 3-1</b>						
<b>Comparing Herds by Size:</b>						
<b>Less Than 100 vs. 100 Cows or More</b>						
<b>Most Performance Measures Selected from</b>						
<b>Tables 3-2 to 3-9</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Number of Herds	68	96	75	77	73	79
Number of Cows per Herd	59	57**	57**	57**	56	57**
Average Lbs. Milk per Cow	16,900	16,145	16,418	16,081	16,337	16,553
Average Lbs. Milk per Herd	1,000,211	917,335	936,493	924,568	919,975	951,279
Group Average Mailbox Milk Price	NA	\$16.11	\$13.44	\$14.22	\$17.61	\$16.68
U.S. All Milk Price (used to calculate CWT EQ)*	12.33	\$14.94	\$12.15	\$12.50	\$16.10	\$15.14
Average Basic Cost per CWT EQ	\$7.90	\$8.72	\$7.63	\$7.91	\$9.26	\$9.18
Non-Basic Cost per CWT EQ	\$2.54	\$2.73	\$2.29	\$2.36	\$2.62	\$2.60
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$10.44	\$11.45	\$9.92	\$10.27	\$11.88	\$11.78
NFIFO per Cow (if all labor was unpaid)	\$553	\$869	\$683	\$648	\$1,038	\$870
NFIFO per CWT EQ (if all labor was unpaid)	\$2.55	\$4.26	\$2.96	\$2.83	\$4.77	\$3.96
NFIFO per Farm	\$24,256	\$40,057	\$29,465	\$29,335	\$51,195	\$42,355
<b>NFIFO per Cow</b>	<b>\$428</b>	<b>\$705</b>	<b>\$516</b>	<b>\$510</b>	<b>\$909</b>	<b>\$737</b>
<b>NFIFO per CWT EQ</b>	<b>\$1.89</b>	<b>\$3.49</b>	<b>\$2.23</b>	<b>\$2.23</b>	<b>\$4.22</b>	<b>\$3.36</b>

<b>Table 3-1 continued</b>						
<b>Comparing Herds by Size:</b>						
<b>Less Than 100 vs. 100 Cows or More</b>						
<b>Most Performance Measures Selected from</b>						
<b>Tables 3-2 to 3-9</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Number of Herds	24	30	28	25	28	36
Number of Cows per Herd	176	173	164	180	190**	190**
Average Lbs. Milk per Cow	16,744	14,671	14,318	14,691	15,156	15,978
Average Lbs. Milk per Herd	2,959,249	2,538,523	2,341,760	2,638,474	2,875,625	3,031,429
Group Average Mailbox Milk Price	NA	\$16.54	\$14.04	\$14.58	\$17.74	\$16.87
U.S. All Milk Price (used to calculate CWT EQ)*	\$12.33	\$14.94	\$12.15	\$12.50	\$16.10	\$15.14
Average Basic Cost per CWT EQ	\$7.77	\$8.41	\$7.86	\$7.66	\$9.37	\$9.09
Non-Basic Cost per CWT EQ	\$3.11	\$3.52	\$3.13	\$2.85	\$3.54	\$3.44
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$10.88	\$11.93	\$10.99	\$10.51	\$12.91	\$12.53
NFIFO per Cow (if all labor was unpaid)	\$601	\$864	\$560	\$689	\$938	\$879
NFIFO per CWT EQ (if all labor was unpaid)	\$2.65	\$4.51	\$2.65	\$3.33	\$4.67	\$4.10
NFIFO per Farm	\$58,150	\$99,837	\$40,095	\$74,215	\$121,520	\$106,298
<b>NFIFO per Cow</b>	<b>\$365</b>	<b>\$557</b>	<b>\$245</b>	<b>\$413</b>	<b>\$640</b>	<b>\$560</b>
<b>NFIFO per CWT EQ</b>	<b>\$1.45</b>	<b>\$3.01</b>	<b>\$1.16</b>	<b>\$1.99</b>	<b>\$3.19</b>	<b>\$2.61</b>

\*See Chapters IX and X for more information about CWT EQ and cost categories.

\*\*By coincidence, these herd sizes are equal.

**Tables 3-2 to 3-9 provide more information about the financial performance of the average herd with less than 100 cows to the average herd with 100 cows or more.**



Table 3-2 p. 1

The Average AgFA© Farm Earnings Report for the 79 Great Lakes Graziers with Less than 100 Cows

Income	<u>2005</u> per Farm	<u>2005</u> per Head	<u>2005</u> per CWT EQ
<b>Cash Income - Basis Adjustments</b>			
Sales of Livestock and Other Items Bought for Resale	28.97	0.50	0.00
Basis in Resale Livestock Sold	0.00	0.00	0.00
Animal Product Sales	157,974.67	2,748.87	12.54
Raised Non-Breeding Livestock Sales	4,966.16	86.41	0.39
Crop Sales	885.54	15.41	0.07
Distributions Received from Cooperatives	781.87	13.61	0.06
Agricultural Program Payments	4,966.52	86.42	0.39
MILC Program Payments	13.28	0.23	0.00
Crop Insurance Proceeds and Certain Disaster Payments	18.11	0.32	0.00
Custom Hire (Machine Work) Income	504.53	8.78	0.04
Other Income, Incl. Tax Credits, Refunds	3,385.89	58.92	0.27
Sale of Purchased Breeding Livestock	78.77	1.37	0.01
Basis in Breeding Livestock Sold	(344.43)	(5.99)	-0.03
Sale of Raised Breeding Livestock	12,263.67	213.40	0.97
<b>Total Cash Income - Basis Adjustments</b>	<b>185,523.56</b>	<b>3,228.24</b>	<b>14.73</b>
<b>Non-Cash Income</b>			
Change in Raised Crop Inventories	1,687.49	29.36	0.13
Change in Remaining Current Assets	614.13	10.69	0.05
Change in Raised Breeding Livestock	2,861.92	49.80	0.23
<b>Total Non-Cash Income</b>	<b>5,163.54</b>	<b>89.85</b>	<b>0.41</b>
<b>Total Income</b>	<b>190,687.10</b>	<b>3,318.09</b>	<b>15.14</b>



Table 3-2, p. 2

The Average AgFA© Farm Earnings Report for the 79 Great Lakes Graziers with Less than 100 Cows

Expenses	2005 per Farm	2005 per Head	2005 per CWT EQ
<b>Cash Expense</b>			
Cost of Items for Resale	30.95	0.54	0.00
Breeding Fees	2,089.56	36.36	0.17
Car and Truck Expenses	733.66	12.77	0.06
Chemicals	1,112.71	19.36	0.09
Conservation Expenses	0.00	0.00	0.00
Custom Heifer Raising Expenses	233.01	4.05	0.02
Custom Hire (Machine Work)	4,438.41	77.23	0.35
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	7.16	0.12	0.00
Feed Purchase	42,619.24	741.60	3.38
Fertilizer and Lime	3,615.60	62.91	0.29
Freight and Trucking	691.40	12.03	0.05
Gasoline, Fuel, and Oil	5,489.90	95.53	0.44
Farm Insurance	3,033.16	52.78	0.24
Mortgage Interest	5,033.14	87.58	0.40
Other Interest	1,861.61	32.39	0.15
Labor Hired - Dependents	20.25	0.35	0.00
Labor Hired - Non-Dependents	7,619.86	132.59	0.60
Rent/Lease Equipment	170.73	2.97	0.01
Rent/Lease Other	2,627.15	45.71	0.21
Repairs and Maintenance	10,048.17	174.85	0.80
Building and Fence Repairs	981.85	17.08	0.08
Machinery Repairs	486.13	8.46	0.04
Seeds and Plants Purchased	2,049.51	35.66	0.16
Storage and Warehousing	5.35	0.09	0.00
Supplies Purchased	6,034.99	105.01	0.48
Taxes - Other	3,845.59	66.92	0.31
Taxes - Payroll	0.00	0.00	0.00
Utilities	5,100.64	88.75	0.40
Veterinary Fees and Medicine	4,012.45	69.82	0.32
Other Farm Expenses	3,263.43	56.79	0.26
Marketing & Hedging	6,162.53	107.23	0.49
Other Crop Expenses	269.58	4.69	0.02
Other Livestock Expenses	4,556.08	79.28	0.36
<b>Total Cash Expense</b>	<b>128,243.80</b>	<b>2,231.53</b>	<b>10.18</b>
<b>Non-Cash Expenses</b>			
- Change in Prepaid Expenses	326.06	5.67	0.03
Change in Accounts Payable	(599.84)	(10.44)	-0.05
Machinery, Equipment and Building Depreciation	18,152.43	315.86	1.44
Livestock Depreciation	2,209.86	38.45	0.18
<b>Total Non-Cash Expenses</b>	<b>20,088.52</b>	<b>349.55</b>	<b>1.59</b>
<b>Total Expenses</b>	<b>148,332.32</b>	<b>2,581.08</b>	<b>11.78</b>
<b>Net Farm Income From Operations (NFIFO)</b>	<b>42,354.78</b>	<b>737.00</b>	<b>3.36</b>
Gain (Loss) on Sale of All Farm Capital Assets	1,659.15	28.87	0.13
<b>Net Farm Income (NFI)</b>	<b>44,013.93</b>	<b>765.87</b>	<b>3.49</b>



Table 3-3 p. 1

**The Average Cost of Production Report for the 79 Great Lakes Graziers with Less than 100 Cows.**  
**This report shows Basic Costs, Allocated Costs, Total Costs, NFIFO and Other Financial Details.**

<b>Income</b>		<b><u>2005</u></b>	<b><u>2005</u></b>	<b><u>2005</u></b>
		<b>per Farm</b>	<b>per CWT Sold</b>	<b>per CWT EQ</b>
	<b>Total Income</b>	<b>190,687.10</b>	<b>20.05</b>	<b>15.14</b>
<b>Expenses</b>				
<b>Basic Cost</b>				
	<b>Cost of Items for Resale</b>	30.95	0.00	0.00
	<b>Breeding Fees</b>	2,089.56	0.22	0.17
	<b>Car and Truck Expenses</b>	733.66	0.08	0.06
	<b>Chemicals</b>	1,112.71	0.12	0.09
	<b>Conservation Expenses</b>	0.00	0.00	0.00
	<b>Custom Heifer Raising Expenses</b>	233.01	0.02	0.02
	<b>Custom Hire (Machine Work)</b>	4,438.41	0.47	0.35
	<b>Feed Purchase</b>	42,619.24	4.48	3.38
	<b>Fertilizer and Lime</b>	3,615.60	0.38	0.29
	<b>Freight and Trucking</b>	691.40	0.07	0.05
	<b>Gasoline, Fuel, and Oil</b>	5,489.90	0.58	0.44
	<b>Farm Insurance</b>	3,033.16	0.32	0.24
	<b>Rent/Lease Equipment</b>	170.73	0.02	0.01
	<b>Rent/Lease Other</b>	2,627.15	0.28	0.21
	<b>Repairs and Maintenance</b>	10,048.17	1.06	0.80
	<b>Building and Fence Repairs</b>	981.85	0.10	0.08
	<b>Machinery Repairs</b>	486.13	0.05	0.04
	<b>Seeds and Plants Purchased</b>	2,049.51	0.22	0.16
	<b>Storage and Warehousing</b>	5.35	0.00	0.00
	<b>Supplies Purchased</b>	6,034.99	0.63	0.48
	<b>Taxes - Other</b>	3,845.59	0.40	0.31
	<b>Taxes - Payroll</b>	0.00	0.00	0.00
	<b>Utilities</b>	5,100.64	0.54	0.40
	<b>Veterinary Fees and Medicine</b>	4,012.45	0.42	0.32
	<b>Other Farm Expenses</b>	3,263.43	0.34	0.26
	<b>Marketing &amp; Hedging</b>	6,162.53	0.65	0.49
	<b>Other Crop Expenses</b>	269.58	0.03	0.02
	<b>Other Livestock Expenses</b>	4,556.08	0.48	0.36
	<b>- Change in Prepaid Expenses</b>	326.06	0.03	0.03
	<b>Change in Accounts Payable</b>	(599.84)	(0.06)	(0.05)
	<b>Selling Expense of Capital Items</b>	0.27	0.00	0.00
	<b>Depreciation on Purchased Breeding Livestock</b>	2,209.86	0.23	0.18
	<b>Total Basic Cost</b>	<b>115,637.87</b>	<b>12.16</b>	<b>9.18</b>



**Table 3-3, p. 2**

**The Average Cost of Production Report for the 79 Great Lakes Graziers with Less than 100 Cows.**  
**This report shows Basic Costs, Allocated Costs, Total Costs, NFIFO and Other Financial Details.**

	2005	2005	2005
	per Farm	per CWT Sold	per CWT EQ
<b>Interest Cost</b>			
Mortgage Interest	5,033.14	0.53	0.40
Other Interest	1,861.61	0.20	0.15
<b>Total Interest Cost</b>	<b>6,894.75</b>	<b>0.72</b>	<b>0.55</b>
<b>Labor Cost</b>			
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	7.16	0.00	0.00
Labor Hired - Dependents	20.25	0.00	0.00
Labor Hired - Non-Dependents	7,619.86	0.80	0.60
Pension and Profit-Sharing Plans - Non-Dependents	0.00	0.00	0.00
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Value of Unpaid Labor & Management	34,484.46	3.63	2.74
<b>Total Labor Cost</b>	<b>42,131.73</b>	<b>4.43</b>	<b>3.35</b>
<b>Depreciation &amp; Equity Cost</b>			
Machinery, Equipment, Building Depreciation	18,152.43	1.91	1.44
Interest on Equity Capital	16,090.90	1.69	1.28
<b>Total Depreciation &amp; Equity Cost</b>	<b>34,243.33</b>	<b>3.60</b>	<b>2.72</b>
<b>Total Expenses</b>	<b>198,907.68</b>	<b>20.91</b>	<b>15.79</b>
<b>Total Income - Total Expenses</b>	<b>(8,220.58)</b>	<b>(0.86)</b>	<b>(0.65)</b>
<b>Net Farm Income from Operations (NFIFO) Summary</b>			
Total Allocated Costs	148,332.32	15.59	11.78
<b>Net Farm Income From Operations (NFIFO)</b>	<b>42,354.78</b>	<b>4.45</b>	<b>3.36</b>
Gain (Loss) on Sale of All Farm Capital Assets	1,659.15	0.17	0.13
<b>Net Farm Income (NFI)</b>	<b>44,013.93</b>	<b>4.63</b>	<b>3.49</b>





**Table 3-4, p. 1**

**The Average AgFA© Financial Measures Report for the 79 Great Lakes Graziers with less than 100 Cows.**

These Financial Measures Were Calculated Using the Cost Basis of Assets and Cost (Tax) Depreciation  
The financial calculations using the Market Basis of Assets and Economic Depreciation are on the following page.

<b>Profitability</b>	<b>2005 per Farm</b>	<b>2005 per Cow</b>	<b>2005 per CWT EQ</b>
Net Farm Income From Operations	\$42,354.78	\$737.00	\$3.36
Net Farm Income	\$44,013.93	\$765.87	\$3.49
Rate of Return on Assets (ROROA)	7.06%	7.06%	7.06%
Cost (Tax) Depreciation Claimed	\$20,362.29	\$354.32	\$1.62
Rate of Return on Equity	9.00 %	9.00 %	9.00 %
Net Profit Margin	8.61 %	8.61 %	8.61 %
<b>Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)</b>			
Asset Turnover Ratio	0.819	0.819	0.819
Basic Cost Ratio	0.606	0.606	0.606
Wages Paid Ratio	0.040	0.040	0.040
Interest Paid Ratio	0.036	0.036	0.036
Depreciation Ratio	0.095	0.095	0.095
Net Farm Income from Operations Ratio	0.222	0.222	0.222
<b>Repayment Capacity</b>			
Capital Replacement & Debt Repayment Capacity	\$33,481.78	\$582.61	\$2.66
Coverage Margin	\$14,000.13	\$243.61	\$1.11
Term Debt Coverage Ratio	2.42	2.42	2.42
<b>Liquidity</b>			
Net Cash Income	\$57,624.18	\$1,002.70	\$4.58
Working Capital	\$20,406.38	\$355.09	\$1.62
Current Ratio	1.95	1.95	1.95
<b>Solvency (Assets at Cost, including current assets and raised breeding livestock)</b>			
Beginning Total Farm Assets	\$226,925.18	\$3,948.65	\$18.02
Beginning Total Farm Liabilities	\$120,448.76	\$2,095.89	\$9.56
Beginning Farm Net Worth	\$106,476.42	\$1,852.76	\$8.45
Farm Debt to Asset Ratio - Beginning of Year	0.587	0.587	0.587
Ending Total Farm Assets	\$238,593.90	\$4,151.70	\$18.94
Ending Total Farm Liabilities	\$133,317.06	\$2,319.81	\$10.58
Ending Farm Net Worth	\$105,276.84	\$1,831.89	\$8.36
Year Ending Farm Debt to Asset Ratio	0.559	0.559	0.559
Cost Basis Change in Farm Net Worth	\$-1,199.58	\$-20.87	\$-0.10



**Table 3-4 p. 2**

**The Average AgFA© Financial Measures Report for the 79 Great Lakes Graziers with less than 100 Cows.**

These Financial Measures Were Calculated Using the Market Value of Assets and Economic Depreciation  
The financial calculations using the Cost Basis of Assets and Cost (Tax) Depreciation are on the previous page.

		2005 per Farm	2005 per Head	2005 per CWT EQ
<b>Profitability</b>				
	Net Farm Income From Operations	\$47,108.87	\$819.73	\$3.74
	Net Farm Income	\$48,768.02	\$848.60	\$3.87
	Rate of Return on Assets (ROROA)	4.00 %	4.00 %	4.00 %
	Economic Depreciation Claimed	\$15,608.20	\$271.59	\$1.24
	Rate of Return on Equity	3.55 %	3.55 %	3.55 %
	Net Profit Margin	11.11 %	11.11 %	11.11 %
<b>Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)</b>				
	Asset Turnover Ratio	0.360	0.360	0.360
Note: Some methods of calculating ratios combine the Basic Cost and Wages Paid Ratios into a single ratio (Operating Cost Ratio).	Basic Cost Ratio	0.609	0.609	0.609
	Wages Paid Ratio	0.040	0.040	0.040
	Interest Paid Ratio	0.036	0.036	0.036
	Depreciation Ratio	0.067	0.067	0.067
	Net Farm Income from Operations Ratio	0.247	0.247	0.247
<b>Repayment Capacity</b>				
	Capital Replacement & Debt Repayment Capacity	\$33,481.78	\$582.61	\$2,792.96
	Coverage Margin	\$14,000.13	\$243.61	\$1.11
	Term Debt Coverage Ratio	2.42	2.42	2,106.21
<b>Liquidity</b>				
	Net Cash Income	\$57,624.18	\$1,002.70	\$4.58
	Working Capital	\$20,406.38	\$355.09	\$1.62
	Current Ratio	1.95	1.95	1.95
<b>Solvency (Assets at Market Value)</b>				
	Beginning Total Farm Assets	\$516,587.19	\$8,988.97	\$41.02
	Beginning Total Farm Liabilities	\$120,448.76	\$2,095.89	\$9.56
	Beginning Farm Net Worth	\$396,138.43	\$6,893.08	\$31.45
	Farm Debt to Asset Ratio - Beginning of Year	0.233	0.233	0.233
	Ending Total Farm Assets	\$541,723.77	\$9,426.37	\$43.01
	Ending Total Farm Liabilities	\$133,317.06	\$2,319.81	\$10.58
	Ending Farm Net Worth	\$408,406.70	\$7,106.56	\$32.43
	Year Ending Farm Debt to Asset Ratio	0.246	0.246	0.246



**Table 3-5**

**The Average AgFA© Balance Sheet for the 79 Great Lakes Graziers in 2005 with less than 100 Cows, Showing Current Market Values and Historic Cost Values in Assets.**

	<u>Beg. Dollars</u>	<u>End Dollars</u>		
<b>Current Assets</b>				
Cash Accounts	6,208	5,970		
Prepaid Expenses & Purchased Inventories	6,530	6,204		
Raised Feed Inventories	20,352	22,039		
Basis in Resale Livestock Purchased	0	0		
Accounts Receivable	5,939	6,508		
Market Livestock & Etc.	1,108	1,153		
<b>Total Current Assets</b>	<b>40,136</b>	<b>41,874</b>		
<b>Non-Current Assets</b>			<u><b>Beg. Dollars</b></u>	<u><b>End Dollars</b></u>
Raised Breeding Livestock	111,506	114,368		
Purchased Breeding Livestock	2,205	1,858	2,091	2,318
Machinery & Equipment	87,064	97,234	14,371	15,444
Buildings	33,964	36,807	18,521	20,502
Land & House	233,912	241,531	36,648	40,331
Other Non-Current Assets	7,801	8,052	3,651	3,757
<b>Total Non-Current Assets</b>	<b>476,451</b>	<b>499,850</b>	<b>75,283</b>	<b>82,352</b>
<b>Total Farm Assets</b>	<b>516,587</b>	<b>541,724</b>		
<b>Current Liabilities</b>				
Accounts Payable	4,890	4,316		
Current Portion of Non-Current Liabilities	9,810	12,747		
Other Current Liabilities	4,462	4,455		
<b>Total Current Liabilities</b>	<b>19,162</b>	<b>21,518</b>		
<b>Non-Current Liabilities</b>				
Intermediate Liabilities	21,159	25,925		
Long-Term Liabilities	80,153	85,924		
Contingent Liabilities	76,600	79,915		
<b>Total Non-Current Liabilities</b>	<b>177,912</b>	<b>191,764</b>		
<b>Total Farm Liabilities</b>	<b>197,074</b>	<b>213,283</b>		
Non-Farm Assets	48,656	37,602		
Non-Farm Liabilities	1,621	1,290		

**Statement of Equities (Net Worth)**

	<u>Beginning</u>	<u>Ending</u>	<u>Change</u>
Contributed Capital	2,143	2,644	501
Retained Earnings <sup>1</sup>	104,308	102,583	-1,726
Valuation Adjustment	213,062	223,215	10,153
<b>Total Farm Equities</b>	<b>319,513</b>	<b>328,441</b>	<b>8,928</b>
Non-Farm Equities	47,035	36,312	-10,723
<b>Total Equities</b>	<b>366,548</b>	<b>364,753</b>	<b>-1,794</b>

<sup>1</sup> All current assets and raised breeding livestock are included in retained earnings.



**Table 3-6 p. 1**

**The Average AgFA© Farm Earnings Report for the 36 Great Lakes Graziers with 100 or More Cows**

<b>Income</b>	<b>2005</b> per Farm	<b>2005</b> per Head	<b>2005</b> per CWT EQ
<b>Cash Income - Basis Adjustments</b>			
Sales of Livestock and Other Items Bought for Resale	204.28	1.08	0.01
Basis in Resale Livestock Sold	0.00	0.00	0.00
Animal Product Sales	511,792.17	2,697.59	12.58
Raised Non-Breeding Livestock Sales	15,311.67	80.71	0.38
Crop Sales	2,608.64	13.75	0.06
Distributions Received from Cooperatives	930.17	4.90	0.02
Agricultural Program Payments	15,334.38	80.83	0.38
MILC Program Payments	93.11	0.49	0.00
Crop Insurance Proceeds and Certain Disaster Payments	0.00	0.00	0.00
Custom Hire (Machine Work) Income	2,209.22	11.64	0.05
Other Income, Incl. Tax Credits, Refunds	9,147.24	48.21	0.22
Sale of Purchased Breeding Livestock	45.83	0.24	0.00
Basis in Breeding Livestock Sold	(53.83)	(0.28)	0.00
Sale of Raised Breeding Livestock	38,107.17	200.86	0.94
<b>Total Cash Income - Basis Adjustments</b>	<b>595,730.05</b>	<b>3,140.01</b>	<b>14.64</b>
<b>Non-Cash Income</b>			
Change in Raised Crop Inventories	(6,674.79)	(35.18)	-0.16
Change in Remaining Current Assets	3,511.33	18.51	0.09
Change in Raised Breeding Livestock	23,502.61	123.88	0.58
<b>Total Non-Cash Income</b>	<b>20,339.15</b>	<b>107.20</b>	<b>0.50</b>
<b>Total Income</b>	<b>616,069.20</b>	<b>3,247.22</b>	<b>15.14</b>



**Table 3-6 p. 2**

**The Average AgFA© Farm Earnings Report for the 36 Great Lakes Graziers with 100 or More Cows**

<b>Expenses</b>	<b>2005 per Farm</b>	<b>2005 per Head</b>	<b>2005 per CWT EQ</b>
<b>Cash Expense</b>			
Cost of Items for Resale	441.56	2.33	0.01
Breeding Fees	5,322.11	28.05	0.13
Car and Truck Expenses	359.20	1.89	0.01
Chemicals	3,302.81	17.41	0.08
Conservation Expenses	38.89	0.20	0.00
Custom Heifer Raising Expenses	713.47	3.76	0.02
Custom Hire (Machine Work)	14,664.61	77.30	0.36
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	1,471.13	7.75	0.04
Feed Purchase	140,478.73	740.44	3.45
Fertilizer and Lime	15,922.18	83.92	0.39
Freight and Trucking	1,563.99	8.24	0.04
Gasoline, Fuel, and Oil	17,213.66	90.73	0.42
Farm Insurance	6,429.41	33.89	0.16
Mortgage Interest	19,935.39	105.08	0.49
Other Interest	4,815.39	25.38	0.12
Labor Hired - Dependents	0.00	0.00	0.00
Labor Hired - Non-Dependents	59,017.28	311.07	1.45
Pension and Profit-Sharing Plans - Non-Dependents	0.00	0.00	0.00
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Rent/Lease Equipment	1,046.91	5.52	0.03
Rent/Lease Other	15,873.06	83.66	0.39
Repairs and Maintenance	36,162.07	190.61	0.89
Building and Fence Repairs	278.61	1.47	0.01
Machinery Repairs	387.36	2.04	0.01
Seeds and Plants Purchased	8,239.33	43.43	0.20
Storage and Warehousing	26.79	0.14	0.00
Supplies Purchased	13,563.00	71.49	0.33
Taxes - Other	9,205.31	48.52	0.23
Taxes - Payroll	0.00	0.00	0.00
Utilities	12,223.22	64.43	0.30
Veterinary Fees and Medicine	11,259.43	59.35	0.28
Other Farm Expenses	16,792.83	88.51	0.41
Marketing & Hedging	19,715.73	103.92	0.48
Other Crop Expenses	370.08	1.95	0.01
Other Livestock Expenses	14,090.71	74.27	0.35
Selling Expense of Capital Items	0.87	0.00	0.00
<b>Total Cash Expense</b>	<b>450,925.12</b>	<b>2,376.76</b>	<b>11.08</b>
<b>Non-Cash Expenses</b>			
- Change in Prepaid Expenses	(4,269.45)	(22.50)	-0.10
Change in Accounts Payable	1,194.78	6.30	0.03
Machinery, Equipment and Building Depreciation	54,801.89	288.85	1.35
Livestock Depreciation	7,118.81	37.52	0.17
<b>Total Non-Cash Expenses</b>	<b>58,846.03</b>	<b>310.17</b>	<b>1.45</b>
<b>Total Expenses</b>	<b>509,771.14</b>	<b>2,686.93</b>	<b>12.53</b>
<b>Net Farm Income From Operations (NFIFO)</b>	<b>106,298.06</b>	<b>560.28</b>	<b>2.61</b>
Gain (Loss) on Sale of All Farm Capital Assets	4,926.00	25.96	0.12
<b>Net Farm Income (NFI)</b>	<b>111,224.06</b>	<b>586.25</b>	<b>2.73</b>



Table 3-7, p. 1

The Average Cost of Production Report for the 36 Great Lakes Graziers with 100 or more Cows. This report shows Basic Costs, Allocated Costs, Total Costs, NFIFO and Other Financial Details.

Income		<u>2005</u>	<u>2005</u>	<u>2005</u>
		per Farm	per CWT Sold	per CWT EQ
Total Income		<b>616,069.20</b>	<b>20.32</b>	<b>15.14</b>
<b>Expenses</b>				
<b>Basic Cost</b>				
Cost of Items for Resale	441.56	0.01	0.01	
Breeding Fees	5,322.11	0.18	0.13	
Car and Truck Expenses	359.20	0.01	0.01	
Chemicals	3,302.81	0.11	0.08	
Conservation Expenses	38.89	0.00	0.00	
Custom Heifer Raising Expenses	713.47	0.02	0.02	
Custom Hire (Machine Work)	14,664.61	0.48	0.36	
Feed Purchase	140,478.73	4.63	3.45	
Fertilizer and Lime	15,922.18	0.53	0.39	
Freight and Trucking	1,563.99	0.05	0.04	
Gasoline, Fuel, and Oil	17,213.66	0.57	0.42	
Farm Insurance	6,429.41	0.21	0.16	
Rent/Lease Equipment	1,046.91	0.03	0.03	
Rent/Lease Other	15,873.06	0.52	0.39	
Repairs and Maintenance	36,162.07	1.19	0.89	
Building and Fence Repairs	278.61	0.01	0.01	
Machinery Repairs	387.36	0.01	0.01	
Seeds and Plants Purchased	8,239.33	0.27	0.20	
Storage and Warehousing	26.79	0.00	0.00	
Supplies Purchased	13,563.00	0.45	0.33	
Taxes - Other	9,205.31	0.30	0.23	
Taxes - Payroll	0.00	0.00	0.00	
Utilities	12,223.22	0.40	0.30	
Veterinary Fees and Medicine	11,259.43	0.37	0.28	
Other Farm Expenses	16,792.83	0.55	0.41	
Marketing & Hedging	19,715.73	0.65	0.48	
Other Crop Expenses	370.08	0.01	0.01	
Other Livestock Expenses	14,090.71	0.46	0.35	
- Change in Prepaid Expenses	(4,269.45)	(0.14)	(0.10)	
Change in Accounts Payable	1,194.78	0.04	0.03	
Selling Expense of Capital Items	0.87	0.00	0.00	
Depreciation on Purchased Breeding Livestock	7,118.81	0.23	0.17	
<b>Total Basic Cost</b>	<b>369,730.07</b>	<b>12.20</b>	<b>9.09</b>	



**Table 3-7 p. 2**

**The Average Cost of Production Report for the 36 Great Lakes Graziers with 100 or more Cows.**  
**This report shows Basic Costs, Allocated Costs, Total Costs, NFIFO and Other Financial Details.**

	<u>2005</u> per Farm	<u>2005</u> per CWT Sold	<u>2005</u> per CWT EQ
<b>Interest Cost</b>			
Mortgage Interest	19,935.39	0.66	0.49
Other Interest	4,815.39	0.16	0.12
<b>Total Interest Cost</b>	<b>24,750.78</b>	<b>0.82</b>	<b>0.61</b>
<b>Labor Cost</b>			
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	1,471.13	0.05	0.04
Labor Hired - Dependents	0.00	0.00	0.00
Labor Hired - Non-Dependents	59,017.28	1.95	1.45
Pension and Profit-Sharing Plans - Non-Dependents	0.00	0.00	0.00
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Value of Unpaid Labor & Management	52,124.14	1.72	1.28
<b>Total Labor Cost</b>	<b>112,612.55</b>	<b>3.71</b>	<b>2.77</b>
<b>Depreciation &amp; Equity Cost</b>			
Machinery, Equipment, Building Depreciation	54,801.89	1.81	1.35
Interest on Equity Capital	36,141.61	1.19	0.89
<b>Total Depreciation &amp; Equity Cost</b>	<b>90,943.50</b>	<b>3.00</b>	<b>2.23</b>
<b>Total Expenses</b>	<b>598,036.89</b>	<b>19.73</b>	<b>14.70</b>
<b>Total Income - Total Expenses</b>	<b>18,032.31</b>	<b>0.59</b>	<b>0.44</b>
<b>Net Farm Income from Operations (NFIFO) Summary</b>			
Total Allocated Costs	509,771.14	16.82	12.53
<b>Net Farm Income From Operations (NFIFO)</b>	<b>106,298.06</b>	<b>3.51</b>	<b>2.61</b>
Gain (Loss) on Sale of All Farm Capital Assets	4,926.00	0.16	0.12
<b>Net Farm Income (NFI)</b>	<b>111,224.06</b>	<b>3.67</b>	<b>2.73</b>



**Table 3-8, p. 1**

**The Average AgFA© Financial Measures Report for the 36 Great Lakes Graziers with 100 or more Cows**

These Financial Measures Were Calculated Using the Cost Basis of Assets and Cost (Tax) Depreciation  
The financial calculations using the Market Basis of Assets and Economic Depreciation are on the following page.

<b>Profitability</b>	<b>2005 per Farm</b>	<b>2005 per Cow</b>	<b>2005 per CWT EQ</b>
Net Farm Income From Operations	\$106,298.06	\$560.28	\$2.61
Net Farm Income	\$111,224.06	\$586.25	\$2.73
Rate of Return on Assets (ROROA)	12.42%	12.42%	12.42%
Cost (Tax) Depreciation Claimed	\$61,920.69	\$326.38	\$1.52
Rate of Return on Equity	24.63 %	24.63 %	24.63 %
Net Profit Margin	13.61 %	13.61 %	13.61 %
<b>Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)</b>			
Asset Turnover Ratio	0.912	0.912	0.912
Basic Cost Ratio	0.600	0.600	0.600
Wages Paid Ratio	0.098	0.098	0.098
Interest Paid Ratio	0.040	0.040	0.040
Depreciation Ratio	0.089	0.089	0.089
Net Farm Income from Operations Ratio	0.173	0.173	0.173
<b>Repayment Capacity</b>			
Capital Replacement & Debt Repayment Capacity	\$123,777.70	\$652.42	\$3.04
Coverage Margin	\$66,192.28	\$348.89	\$1.63
Term Debt Coverage Ratio	2.80	2.80	2.80
<b>Liquidity</b>			
Net Cash Income	\$144,858.77	\$763.53	\$3.56
Working Capital	\$52,605.10	\$277.27	\$1.29
Current Ratio	1.67	1.67	1.67
<b>Solvency (Assets at Cost, including current assets and raised breeding livestock)</b>			
Beginning Total Farm Assets	\$665,812.14	\$3,509.41	\$16.36
Beginning Total Farm Liabilities	\$427,835.03	\$2,255.06	\$10.51
Beginning Farm Net Worth	\$237,977.11	\$1,254.34	\$5.85
Farm Debt to Asset Ratio - Beginning of Year	0.665	0.665	0.665
Ending Total Farm Assets	\$684,834.28	\$3,609.67	\$16.83
Ending Total Farm Liabilities	\$442,887.42	\$2,334.40	\$10.88
Ending Farm Net Worth	\$241,946.87	\$1,275.27	\$5.95
Year Ending Farm Debt to Asset Ratio	0.647	0.647	0.647
Cost Basis Change in Farm Net Worth	\$3,969.75	\$20.92	\$0.10





**Table 3-8, p. 2**

**The Average AgFA© Financial Measures Report for the 36 Great Lakes Graziers with 100 or more Cows**

These Financial Measures Were Calculated Using the Market Value of Assets and Economic Depreciation  
The financial calculations using the Cost Basis of Assets and Cost (Tax) Depreciation are on the previous page.

<b>Profitability</b>		<b>2005 per Farm</b>	<b>2005 per Cow</b>	<b>2005 per CWT EQ</b>
	Net Farm Income From Operations	\$129,427.68	\$682.20	\$3.18
	Net Farm Income	\$134,353.68	\$708.16	\$3.30
	Rate of Return on Assets (ROROA)	7.99 %	7.99 %	7.99 %
	Economic Depreciation Claimed	\$38,791.07	\$204.46	\$0.95
	Rate of Return on Equity	9.10 %	9.10 %	9.10 %
	Net Profit Margin	17.36 %	17.36 %	17.37 %
<b>Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)</b>				
	Asset Turnover Ratio	0.460	0.460	0.460
Note: Some methods of calculating ratios combine the Basic Cost and Wages Paid Ratios into a single ratio (Operating Cost Ratio).	Basic Cost Ratio	0.600	0.600	0.600
	Wages Paid Ratio	0.098	0.098	0.098
	Interest Paid Ratio	0.040	0.040	0.040
	Depreciation Ratio	0.052	0.052	0.052
	Net Farm Income from Operations Ratio	0.210	0.210	0.210
<b>Repayment Capacity</b>				
	Capital Replacement & Debt Repayment Capacity	\$123,777.70	\$652.42	\$6,859.04
	Coverage Margin	\$66,192.28	\$348.89	\$1.63
	Term Debt Coverage Ratio	2.80	2.80	5,256.15
<b>Liquidity</b>				
	Net Cash Income	\$144,858.77	\$763.53	\$3.56
	Working Capital	\$52,605.10	\$277.27	\$1.29
	Current Ratio	1.67	1.67	1.67
<b>Solvency (Assets at Market Value)</b>				
	Beginning Total Farm Assets	\$1,296,271.42	\$6,832.47	\$31.86
	Beginning Total Farm Liabilities	\$427,835.03	\$2,255.06	\$10.51
	Beginning Farm Net Worth	\$868,436.39	\$4,577.41	\$21.34
	Farm Debt to Asset Ratio - Beginning of Year	0.330	0.330	0.330
	Ending Total Farm Assets	\$1,381,531.64	\$7,281.87	\$33.95
	Ending Total Farm Liabilities	\$442,887.42	\$2,334.40	\$10.88
	Ending Farm Net Worth	\$938,644.23	\$4,947.47	\$23.07
	Year Ending Farm Debt to Asset Ratio	0.321	0.321	0.321
	Total Change in Farm Net Worth	\$70,207.84	\$370.06	\$1.73



### Table 3-9

**The Average AgFA© Balance Sheet for the 36 Great Lakes Graziers in 2005 with 100 or more Cows, Showing the Current Market Values and Historic Cost Values of Assets**

Current Assets		Beg. Dollars	End Dollars		
	Cash Accounts	10,991	7,662		
	Prepaid Expenses & Purchased Inventories	23,267	27,537		
	Raised Feed Inventories	65,826	59,152		
	Basis in Resale Livestock Purchased	243	243		
	Accounts Receivable	27,948	30,865		
	Market Livestock & Etc.	4,613	5,208		
	<b>Total Current Assets</b>	<b>132,888</b>	<b>130,666</b>		
Non-Current Assets				<b>Cost Basis</b>	
				<b>Beg. Dollars</b>	<b>End Dollars</b>
	Raised Breeding Livestock	342,358	365,861		
	Purchased Breeding Livestock	333	333	895	594
	Machinery & Equipment	193,657	210,854	28,927	28,356
	Buildings	46,451	46,175	33,398	31,290
	Land & House	552,505	597,720	122,401	126,262
	Other Non-Current Assets	28,079	29,922	4,944	1,805
	<b>Total Non-Current Assets</b>	<b>1,163,383</b>	<b>1,250,866</b>	<b>190,566</b>	<b>188,307</b>
	<b>Total Farm Assets</b>	<b>1,296,271</b>	<b>1,381,532</b>		
Current Liabilities					
	Accounts Payable	15,515	16,709		
	Current Portion of Non-Current Liabilities	28,355	31,484		
	Other Current Liabilities	13,662	29,867		
	<b>Total Current Liabilities</b>	<b>57,531</b>	<b>78,061</b>		
Non-Current Liabilities					
	Intermediate Liabilities	34,769	29,690		
	Long-Term Liabilities	335,534	335,137		
	Contingent Liabilities	198,781	213,774		
	<b>Total Non-Current Liabilities</b>	<b>569,085</b>	<b>578,601</b>		
	<b>Total Farm Liabilities</b>	<b>626,616</b>	<b>656,661</b>		
	Non-Farm Assets	22,750	17,362		
	Non-Farm Liabilities	1,536	1,956		

## Statement of Equities (Net Worth)

	<u>Beginning</u>	<u>Ending</u>	<u>Change</u>
Contributed Capital	0	0	0
Retained Earnings <sup>1</sup>	237,977	241,947	3,970
Valuation Adjustment	<u>431,678</u>	<u>482,923</u>	<u>51,245</u>
<b>Total Farm Equities</b>	669,655	724,870	55,215
Non-Farm Equities	<u>21,214</u>	<u>15,406</u>	<u>-5,807</u>
<b>Total Equities</b>	<b><u>690,869</u></b>	<b><u>740,277</u></b>	<b><u>49,408</u></b>

1 All current assets and raised breeding livestock are included in retained earnings.

## **XV. Why the Changes in the Seasonal Calving/Milking Strategy Comparison from 2000 to 2005?**

### ***Defined***

In this study, a herd is considered to be employing the seasonal calving/milking system if they stop milking at least one day or more each calendar year. They may be referred to as simply "seasonal" hereafter. A semi-seasonal calving/milking herd milks at least one cow every day of the year **and** makes a serious attempt to "bunch" their calving to one or two times of the year, but are less likely to cull healthy, productive animals that don't conceive in the preferred breeding window. Continuous calving/milking herds distribute calving among most months of the year. Any calving strategies not meeting the seasonal definition is also referred to as non-seasonal in this analysis and is comprised of continuous and semi-seasonal (bunch calving) herds.

### ***Challenge of Seasonal Calving/Milking***

The biggest challenge in managing a seasonal dairy herd is maintaining a 12-month calving interval. There are three ways of maintaining the 12-month interval; (1) Shortening or increasing the voluntary waiting period to first breeding, (2) Shorten the lactation for cows that were late in breeding back and (3) Cull cows that do not fit the seasonal calving/milking strategy, requiring more raised or purchased replacements that are due to freshen in the appropriate calving window. The small number of seasonal herds in the dataset is an indicator of the challenge of maintaining the 12-month calving interval. There are fewer than 20 seasonal herds in any of the years analyzed.

### ***Comparing the Six Years (also see the Wisconsin version below)***

A lot of variability in the financial performance has appeared in the calving strategy comparison in this multi-state data from 2000 to 2005.

The seasonal herds in 2005 had a slight advantage in NFIFO/CWT EQ (\$2.95 vs. \$2.89) over the non-seasonal herds, but a disadvantage in NFIFO/cow (\$543 vs. \$631). Wisconsin non-seasonal herds had the advantage via both measures (\$3.50 vs. \$3.19) and (\$800 vs. \$648). The 14 GLGN (5 WI) seasonal herds were a small group. The 2005 price pattern was remarkably level and therefore didn't favor spring seasonal systems as had been the case in 2001 and 2004.

The seasonal group had a substantial advantage in NFIFO per cow and per CWT EQ over non-seasonal herds in 2004. As in 2001, the milk price pattern was unusually favorable to the spring calving/milking strategy, compared to many years of price history.

The 2003 results are somewhat unique in that the NFIFO per cow were nearly the same for seasonal and non-seasonal herds at \$462 and \$461 respectively. At the same time, the seasonal herds had a noticeable advantage in NFIFO per CWT EQ of \$2.58 versus \$2.01.

In 2002, the non-seasonal herds had a nearly two-to-one advantage in NFIFO per cow. The non-seasonal NFIFO per CWT EQ was 34% higher than the seasonal NFIFO per CWT EQ in 2002.

In 2001, the seasonal herds had almost 1.5 times as much NFIFO per cow and NFIFO per CWT EQ as the non-seasonal herds.

In 2000, the non-seasonal herds had more than twice the NFIFO per CWT EQ and NFIFO per cow compared to seasonal herds.

The highest NFIFO per cow achieved by a non-seasonal herd was twice as high as the highest NFIFO per cow achieved by a seasonal herd in all years. The highest non-seasonal NFIFO per CWT EQ typically was 30 – 40% higher than the highest seasonal NFIFO per CWT EQ in most years.

The seasonal herds exhibit a smaller range in NFIFO per cow and per CWT EQ than non-seasonal herds within a given year. In fact, the non-seasonal range was typically at least double the seasonal range. In all years, the high and low performances were in the non-seasonal group.

The average herd size of the average seasonal herd was much smaller in the two high milk price years (85 in 2001 and 107 in 2004 versus at least 128 in the other four years). Part of the change in herd size occurred because the largest herd providing seasonal data in the project provided seasonal data in 2002 and 2003, but not in the other years.

## ***Looking at Wisconsin Seasonal Calving/Milking to Minimize the Impact of State-to-State Differences***

As explained further in Chapter VI, relatively consistent differences in financial performance between states appeared in all years. Because of these state-to-state differences, it was recognized early in the project that comparing graziers from a higher performing state to confinement from a lower performing state could produce a very different result than obtained when graziers were compared to confinement herds from the same state. Therefore the grazer versus confinement comparison has been made within states. As explained in Chapter VI, the average Wisconsin grazer consistently had a higher NFIFO per CWT EQ than the average grazer from any other state contributing ten or more observations per year. Wisconsin seasonal graziers also had a higher NFIFO per CWT EQ than multi-state seasonal graziers in four of six years. Most of the other seasonal data came from states that contribute very little non-seasonal data. Since Wisconsin provided a much higher proportion of seasonal data than non-seasonal data, **the multi-state seasonal calving/milking financial performance from 2000 to 2005 (and illustrated in Chapters XV and XVI) was enhanced because a high proportion of seasonal herds were from Wisconsin.**

In 2005, Wisconsin non-seasonal herds had an advantage over seasonal herds in NFIFO/CWT EQ (\$3.54 vs. \$3.19) and NFIFO/cow (\$800 vs. \$648). Wisconsin and multi-state seasonal herds had an advantage over non-seasonal herds in 2001 and 2004, but the Wisconsin seasonal herds' advantage over Wisconsin non-seasonal herds was much smaller. In 2003, the Wisconsin seasonal herds had a small disadvantage over non-seasonal herds in contrast to a small advantage for multi-state seasonal herds over multi-state non-seasonal herds. Wisconsin and multi-state seasonal herds had a disadvantage in 2000 and 2002.

Comparing Wisconsin seasonal with Wisconsin non-seasonal herds from 1995 to 2005, the non-seasonal herds had higher NFIFO per CWT EQ in eight of eleven years and higher NFIFO per cow in nine of eleven years compared to seasonal herds. In most years, Wisconsin seasonal herds also had a disadvantage compared to Wisconsin continuous and semi-seasonal herds.

In six years of multi-state data and eleven years of Wisconsin data, no seasonal herd has attained the NFIFO per cow or NFIFO per CWT EQ levels achieved by the highest performing non-seasonal herds, including 2004 and 2001, years in which (as explained later) the milk price pattern was extremely favorable for seasonal herds. When all the evidence is considered, it appears **more likely that a non-seasonal herd will perform better than a seasonal herd** in terms of NFIFO per cow and NFIFO per CWT EQ.

## ***Selection Bias Appears To Be a Major Factor in Explaining The Year-to-Year Differences***

*Twenty-eight different seasonal calving/milking herds have submitted at least one year of useable data to this multi-state project. Of these herds, 18 have been a part of the Prograssstinators, a multi-state grazing network that deliberately examines the actual farm financial performance of its members. Their interest in financial performance is an important reason for their inclusion in this project. A high percent of the Prograssstinators members have practiced seasonal calving/milking for a number of years.*

The number of summarized seasonal farms changed from 7 in 2000, 18 in 2001, 13 in 2002, 14 in 2003, 12 in 2004, and 14 in 2005. Of all the seasonal herds summarized in 2001, twice as many were new to the summary than were repeats from 2000. Since one of the seasonal herds in 2000 became semi-seasonal in 2001, twelve of the seasonal herds summarized in 2001 were not part of the 2000 seasonal summary. Many of the twelve new herds were well-established seasonal herds. This group of experienced seasonal graziers made their seasonal system function efficiently in 2001 and 2004.

Of the 14 seasonal herds included in the 2005 summary, 11 were included in 2004 and in 2003, 9 were included in 2002, 7 were included in 2001, and 2 were included in 2000. Some seasonal herds supplying more than one year of data missed a year because of not meeting the seasonal definition or by not submitting data in that year.

Of the 12 seasonal herds included in the 2004 summary, 10 were included in 2003, 7 were included in 2002, 6 were included in 2001, and 2 were included in 2000.

Of the 14 seasonal herds included in the 2003 summary, 10 were included in 2002, 9 were included in 2001, and 2 were included in 2000.

Of the 13 seasonal herds included in the 2002 summary, 10 were included in 2001 and two were included in 2000.

Because farms entered and left the study during the six years, some variation in comparison results is to be expected. Primarily because the sharing of farm financial data is a voluntary act, data are not collected via a random selection procedure. It is difficult to know if one year has a more representative sample than the other. In general, the larger the group, the more likely that the group is a representative sample. Also in general, most groups of less than 20 may not be representative of the larger population that they came from.

As one way of seeing the impact of herd turnover on the seasonal results, the 2001 data was summarized from the seven herds included in the seasonal group summary in 2001 and 2000. The 2001 results from this group were noticeably below average at \$429 NFIFO per cow and \$2.40 NFIFO per CWT EQ. One of these seven herds dropped out of the seasonal group in 2001 by becoming semi-seasonal in 2001. A 2001 summary of the other six seasonal herds that were in the 2000 summary yielded an average of \$650 NFIFO per cow and \$3.53 NFIFO per CWT EQ—measures that are much higher than when the seventh herd was included and a bit above the all grazier average. The six seasonal herds that submitted data in both 2000 and 2001 were quite different from the 12 seasonal herds that were new to the summary in 2001. The 12 new herds had an average NFIFO per cow of \$983 and an average NFIFO per CWT EQ of \$5.32.

**The milk price pattern in 2001 and 2004 was more favorable for spring seasonal herds than for non-seasonal herds.** There was an **unusual pattern of higher prices in the spring months.** The 2001 price pattern was ideal for spring seasonal calving. Typically milk prices are highest in September, October and November. Milk prices in 2004 and 2001 were lowest in January, February, November and December – months of low milk output for most spring seasonal herds. All of the seasonal herds summarized in all years practice spring calving. In 2001, the annual average milk price advantage for the seasonal herds over the non-seasonal herds was \$1.36 in the multi-state data and \$2.75 in the Wisconsin data. In 2004, the annual average milk price advantage for the seasonal herds over the non-seasonal herds was \$1.64 in the multi-state data and \$2.60 in the Wisconsin data.

Prior to 2005, the multi-state "seasonal price advantage" ranged from \$0.64 to -\$0.80 in the other three years. The pattern in Wisconsin was similar with a range of -\$0.30 to \$1.61 in the other three years. The "seasonal price advantage" for Wisconsin seasonal herds from 1995 to 1999 ranged from \$1.07 to -\$0.58. Seasonal herds are less likely to have Holsteins but the data shows that price differences between calving/milking strategies was less influenced by breed than by price pattern in 2001 and 2004.

The 2005 price pattern was nearly flat and slightly disfavored spring seasonal systems contrary to the case in 2004 and especially in 2001.

Still in 2005, the annual average milk price advantage for the seasonal herds over the non-seasonal herds was \$0.87 in the multi-state data and \$3.13 in the Wisconsin data. This was the largest annual price advantage for Wisconsin seasonal herds over non-seasonal herds in 11 years.

Organic milk prices appear to explain most of the price differential between seasonal and non-seasonal herds in 2005. Twenty-one percent of the multi-state seasonal herds and 8% of the multi-state non-seasonal herds received organic milk prices in 2005. Sixty percent of the Wisconsin seasonal herds and 19% of the Wisconsin non-seasonal herds received organic milk prices in 2005. A similar but reduced impact of organic milk prices occurred in 2004 when 16% of the multi-state seasonal and 8% of the multi-state non-seasonal graziers and 50% of the Wisconsin seasonal and only 8% of the Wisconsin non-seasonal herds were organic.

As a separate report shows, organic production enhances milk prices more than it enhances NFIFO.

**In a few words, the relative financial performance of the average seasonal grazier in the 2001 and 2004 data is likely to be a better indicator of what can be achieved under favorable conditions by experienced and highly capable managers committed to the seasonal system.**

**Furthermore, the financial performance of the average seasonal grazier in the 2001 and 2004 data probably does not represent the kind of financial performance that less experienced or less capable managers could expect to achieve quickly and consistently while working toward the establishment of a seasonal system.**

This comparison of seasonal and non-seasonal calving systems illustrates the challenge in reaching confident conclusions from small groups of data and it reminds us of the danger in reaching confident conclusions from testimonials. It demonstrates the importance of using standardized and complete financial documentation to

compare different farms and systems. It also begs for a careful ongoing examination to understand what is happening and what factors can result in profitability shifts.

## XVI. Comparing Seasonal with Non-Seasonal Calving/Milking Strategy in 2005

The average non-seasonal grazer in 2005 had more desirable financial performance than the average seasonal herd, when NFIFO per cow or total NFIFO were used as the yardstick. Seasonal herds had a slight advantage in NFIFO/CWT EQ. The seasonal herds also had a large advantage in 2001 and 2004. **This is a sharp contrast** to the 2002 and 2000 data and with multiple years of other calving/milking strategy comparisons. The seasonal group had only a slight advantage in 2003.

Unfortunately for research purposes, less than 15 percent of the herds in the six years of summaries practiced seasonal calving/milking. The average seasonal herd in the 2005 data had 31% more cows and produced about 72% as much milk per cow as the cows in the non-seasonal herds.

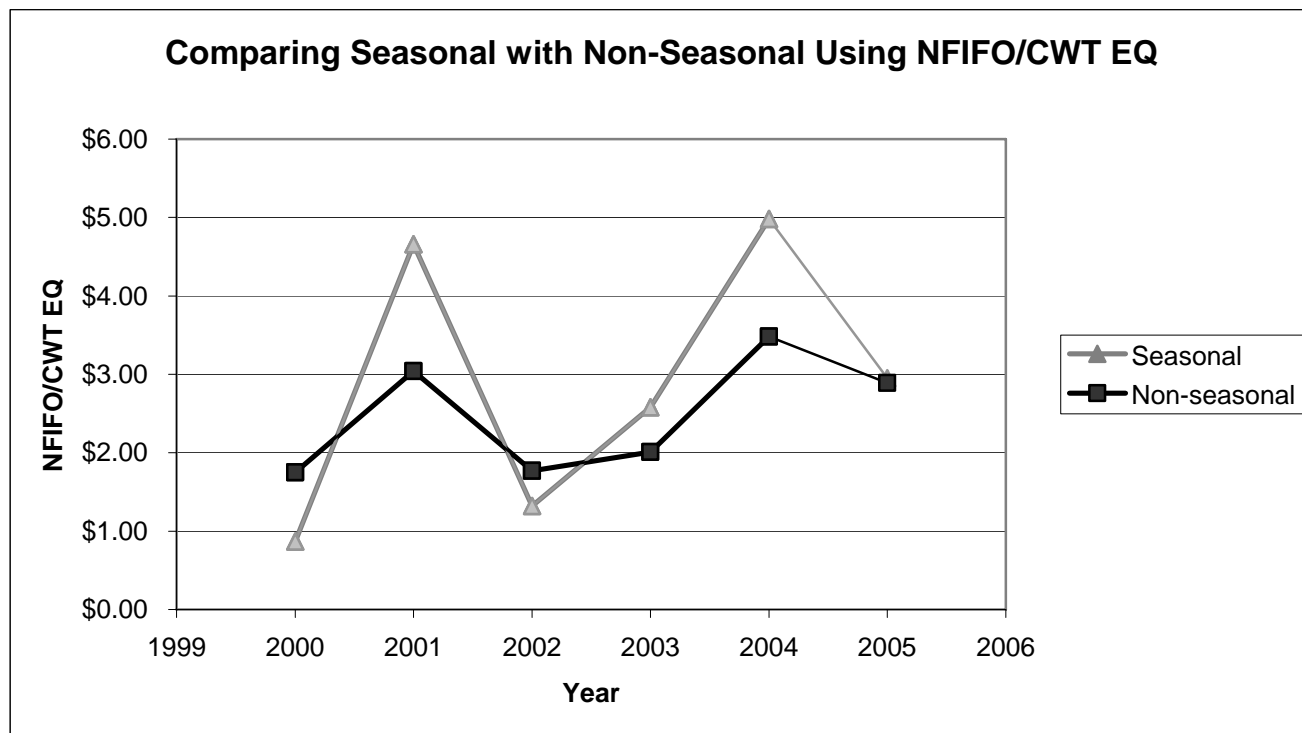
The seasonal herds spent a little bit less per CWT EQ for most of the basic cost categories compared to the non-seasonal herds. However, the seasonal herds spent \$0.47/CWT EQ more for depreciation of purchased livestock, \$0.33/CWT EQ more for purchased feed, \$0.23/CWT EQ more for rent and leases. Overall, the seasonal herds spent \$0.25 more per CWT EQ for all basic costs in 2005.

The seasonal herds also had a combined \$0.31 per CWT EQ advantage in the four non-basic cost categories that are added to the basic cost category to create the allocated cost category. More specifically, the average seasonal grazer in 2005 had a \$0.19 per CWT EQ advantage in paid labor and management expense, \$0.07 per CWT EQ in interest expense and a \$0.05 advantage in non-livestock depreciation per CWT EQ.

The \$0.31 per CWT EQ advantage in the non-basic costs of the seasonal herds barely offset the seasonal herd's total basic cost disadvantage of \$0.25 per CWT EQ, to account for the \$0.06 (\$2.95-\$2.89) advantage that the seasonal herds had in NFIFO per CWT EQ.

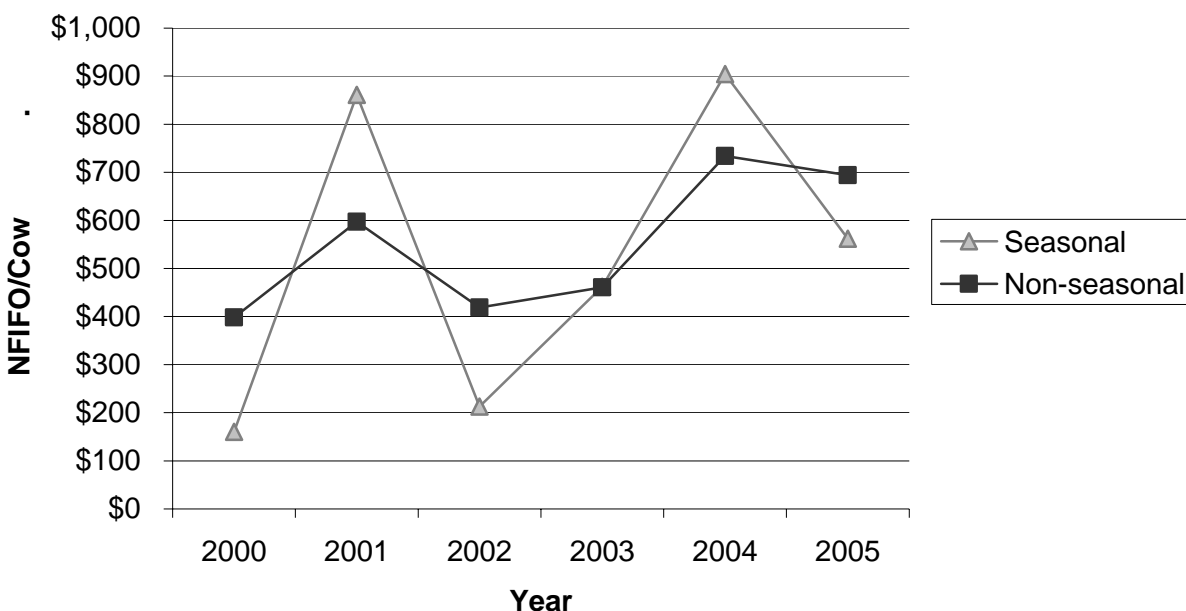
If all labor and management compensation were unpaid, the NFIFO per CWT EQ would increase to \$5.72 for the seasonal and to \$4.06 for the non-seasonal herds.

### Graph 4-1



## Graph 4-2

**Comparing Seasonal with non-Seasonal Using NFIFO/Cow**



**Seasonal calving/milking graziers represent no more than 15% of the data in any year.** Many of them are members of a multi-state grazing network called Prograssimators. Most of the network members are **highly experienced and emphasize financial performance**. The non-seasonal group also includes some graziers that tried to be seasonal but didn't fit the definition in a particular year.

**The milk price pattern was about ideal for spring seasonal calving/milking herds in 2001 and 2004.** The milk price pattern was more historically normal in the other years. A higher percent of seasonal herds received organic milk prices than non-organic herds in 2004 and 2005.

**State-to-state differences in financial performance favored seasonal herds in graph 4-1, 4-2, and table 4-1** because a disproportional number of seasonal graziers usually were from states that consistently exhibited higher financial performance and few were from states that consistently exhibited lower financial performance. See Chapter VI for a more extensive discussion about the state-to-state differences. When the state-to-state differences were minimized by comparing Wisconsin seasonal to non-seasonal performance, the **Wisconsin non-seasonal herds had a NFIFO per CWT EQ advantage in eight of eleven years and higher NFIFO per cow in nine of eleven years compared to Wisconsin seasonal herds.**

Because of rounding, some small mathematical differences might be found in the summary tables below.

<b>Table 4-1</b> <b>Comparing Seasonal with Non-seasonal</b> <b>Calving/Milking Herds</b> <b>Many Performance Measures</b> <b>from Tables 4-2 to 4-9</b>						
	<b>Seasonal</b>					
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Number of Herds	7	18	13	14	12	14
Number of Cows per Herd	145	85	141	143	107	128
Average Lbs. Milk per Cow	11,667	12,270	11,044	11,528	11,727	12,104
Average Lbs. Milk per Herd	1,691,715	1,044,970	1,560,561	1,645,234	1,230,137	1,548,838
Group Average Mailbox Milk Price	\$13.70	\$17.50	\$13.05	\$14.45	\$19.15	\$17.56
U.S. All Milk Price (used to calculate CWT EQ)*	\$12.33	\$14.94	\$12.15	\$12.50	\$16.10	\$15.14
Average Basic Cost per CWT EQ	\$6.73	\$7.67	\$8.02	\$7.57	\$8.86	\$9.34
Non-Basic Cost per CWT EQ	\$4.73	\$2.61	\$2.81	\$2.35	\$2.26	\$2.85
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$11.46	\$10.28	\$10.83	\$9.92	\$11.12	\$12.19
NFIFO per Cow (if all labor was unpaid)	\$404	\$1,101	\$381	\$609	\$1,038	\$701
NFIFO per CWT EQ (if all labor was unpaid)	\$2.20	\$5.46	\$2.36	\$3.40	\$5.72	\$3.91
NFIFO per Farm	\$23,202	\$73,322	\$30,061	\$65,921	\$97,114	\$69,425
<b>NFIFO per Cow</b>	<b>\$160</b>	<b>\$861</b>	<b>\$213</b>	<b>\$462</b>	<b>\$904</b>	<b>\$543</b>
<b>NFIFO per CWT EQ</b>	<b>\$0.87</b>	<b>\$4.66</b>	<b>\$1.32</b>	<b>\$2.58</b>	<b>\$4.98</b>	<b>\$2.95</b>

<b>Table 4-1 continued</b> <b>Comparing Seasonal with Non-seasonal</b> <b>Calving/Milking Herds</b> <b>Many Performance Measures</b> <b>from Tables 4-2 to 4-9</b>						
	<b>Non-seasonal</b>					
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Number of Herds	85	101	90	88	89	100
Number of Cows per Herd	85	84	78	79	91	97
Average Lbs. Milk per Cow	17,560	15,695	16,454	16,494	16,297	16,895
Average Lbs. Milk per Herd	1,496,401	1,325,900	1,283,544	1,296,821	1,489,367	1,638,746
Group Average Mailbox Milk Price	\$13.06	\$16.14	\$13.85	\$14.38	\$17.51	\$16.69
U.S. All Milk Price (used to calculate CWT EQ)*	\$12.33	\$14.94	\$12.15	\$12.50	\$16.10	\$15.14
Average Basic Cost per CWT EQ	\$7.96	\$8.69	\$7.69	\$7.84	\$9.39	\$9.09
Non-Basic Cost per CWT EQ	\$2.62	\$3.21	\$2.69	\$2.65	\$3.23	\$3.16
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$10.58	\$11.90	\$10.38	\$10.49	\$12.62	\$12.25
NFIFO per Cow (if all labor was unpaid)	\$602	\$825	\$683	\$687	\$972	\$899
NFIFO per CWT EQ (if all labor was unpaid)	\$2.64	\$4.21	\$2.89	\$2.99	\$4.60	\$4.06
NFIFO per Farm	\$33,913	\$50,413	\$32,686	\$36,264	\$67,128	\$62,070
<b>NFIFO per Cow</b>	<b>\$398</b>	<b>\$597</b>	<b>\$419</b>	<b>\$461</b>	<b>\$738</b>	<b>\$640</b>
<b>NFIFO per CWT EQ</b>	<b>\$1.75</b>	<b>\$3.04</b>	<b>\$1.77</b>	<b>\$2.01</b>	<b>\$3.48</b>	<b>\$2.89</b>

\*See Chapters IX and X for more information about CWT EQ and cost categories.

Tables 4-2 to 4-9 provide more information about the financial performance of the average seasonal and the average non-seasonal herd.





**Table 4-2 p. 1**  
**The Average AgFA© Farm Earnings Report for the 14 Seasonal Great Lakes Graziers**  
**(Stop Milking Herd at Least One Day Each Year)**

<b>Income</b>	<b><u>2005</u></b> per Farm	<b><u>2005</u></b> per Head	<b><u>2005</u></b> per CWT EQ
<b>Cash Income - Basis Adjustments</b>			
Sales of Livestock and Other Items Bought for Resale	525.29	4.10	0.02
Basis in Resale Livestock Sold	0.00	0.00	0.00
Animal Product Sales	272,048.14	2,125.97	11.57
Raised Non-Breeding Livestock Sales	18,338.79	143.31	0.78
Crop Sales	3,142.07	24.55	0.13
Distributions Received from Cooperatives	609.71	4.76	0.03
Agricultural Program Payments	7,921.71	61.91	0.34
MILC Program Payments	2.57	0.02	0.00
Custom Hire (Machine Work) Income	1,638.50	12.80	0.07
Other Income, Incl. Tax Credits, Refunds	1,820.57	14.23	0.08
Basis in Breeding Livestock Sold	0.00	0.00	0.00
Sale of Raised Breeding Livestock	33,450.93	261.41	1.42
<b>Total Cash Income - Basis Adjustments</b>	<b>339,498.29</b>	<b>2,653.07</b>	<b>14.44</b>
<b>Non-Cash Income</b>			
Change in Raised Crop Inventories	(4,436.29)	(34.67)	-0.19
Change in Remaining Current Assets	(568.00)	(4.44)	-0.02
Change in Raised Breeding Livestock	21,455.71	167.67	0.91
<b>Total Non-Cash Income</b>	<b>16,451.43</b>	<b>128.56</b>	<b>0.70</b>
<b>Total Income</b>	<b>355,949.71</b>	<b>2,781.63</b>	<b>15.14</b>



Table 4-2, p. 2

**The Average AgFA© Farm Earnings Report for the 14 Seasonal Great Lakes Graziers  
(Stop Milking Herd at Least One Day Each Year)**

Expenses	<u>2005</u> per Farm	<u>2005</u> per Head	<u>2005</u> per CWT EQ
<b>Cash Expense</b>			
Cost of Items for Resale	498.93	3.90	0.02
Breeding Fees	3,050.07	23.84	0.13
Car and Truck Expenses	645.21	5.04	0.03
Chemicals	1,281.43	10.01	0.05
Conservation Expenses	100.00	0.78	0.00
Custom Heifer Raising Expenses	0.00	0.00	0.00
Custom Hire (Machine Work)	4,191.71	32.76	0.18
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	106.64	0.83	0.00
Feed Purchase	86,876.50	678.91	3.70
Fertilizer and Lime	8,893.36	69.50	0.38
Freight and Trucking	1,507.21	11.78	0.06
Gasoline, Fuel, and Oil	8,074.50	63.10	0.34
Farm Insurance	3,355.86	26.22	0.14
Mortgage Interest	11,370.57	88.86	0.48
Other Interest	912.57	7.13	0.04
Labor Hired - Dependents	0.00	0.00	0.00
Labor Hired - Non-Dependents	22,530.50	176.07	0.96
Pension and Profit-Sharing Plans - Non-Dependents	0.00	0.00	0.00
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Rent/Lease Equipment	1,313.36	10.26	0.06
Rent/Lease Other	11,835.00	92.49	0.50
Repairs and Maintenance	18,341.50	143.33	0.78
Building and Fence Repairs	139.14	1.09	0.01
Seeds and Plants Purchased	3,328.00	26.01	0.14
Storage and Warehousing	0.00	0.00	0.00
Supplies Purchased	8,275.71	64.67	0.35
Taxes - Other	3,785.86	29.59	0.16
Taxes - Payroll	0.00	0.00	0.00
Utilities	7,774.14	60.75	0.33
Veterinary Fees and Medicine	6,158.86	48.13	0.26
Other Farm Expenses	10,608.07	82.90	0.45
Marketing & Hedging	10,261.43	80.19	0.44
Other Crop Expenses	92.71	0.72	0.00
Other Livestock Expenses	3,929.64	30.71	0.17
<b>Total Cash Expense</b>	<b>239,238.50</b>	<b>1,869.57</b>	<b>10.18</b>
<b>Non-Cash Expenses</b>			
- Change in Prepaid Expenses	486.41	3.80	0.02
Change in Accounts Payable	1,214.71	9.49	0.05
Machinery, Equipment and Building Depreciation	31,923.57	249.47	1.36
Livestock Depreciation	13,661.93	106.76	0.58
<b>Total Non-Cash Expenses</b>	<b>47,286.63</b>	<b>369.53</b>	<b>2.01</b>
<b>Total Expenses</b>	<b>286,525.13</b>	<b>2,239.10</b>	<b>12.19</b>
<b>Net Farm Income From Operations (NFIFO)</b>	<b>69,424.59</b>	<b>542.53</b>	<b>2.95</b>
Gain (Loss) on Sale of All Farm Capital Assets	2,486.57	19.43	0.11
<b>Net Farm Income (NFI)</b>	<b>71,911.16</b>	<b>561.96</b>	<b>3.06</b>



**Table 4-3 p. 1**  
**The Average AgFA© Cost of Production Report for the 14 Seasonal Great Lakes Graziers**  
**(Stop Milking Herd at Least One Day Each Year)**

<b>Income</b>		<b><u>2005</u></b>	<b><u>2005</u></b>	<b><u>2005</u></b>
		<b><u>per Farm</u></b>	<b><u>per CWT Sold</u></b>	<b><u>per CWT EQ</u></b>
	<b>Total Income</b>	<b>355,949.71</b>	<b>22.98</b>	<b>15.14</b>
<b>Expenses</b>				
<b>Basic Cost</b>				
	<b>Cost of Items for Resale</b>	498.93	0.03	0.02
	<b>Breeding Fees</b>	3,050.07	0.20	0.13
	<b>Car and Truck Expenses</b>	645.21	0.04	0.03
	<b>Chemicals</b>	1,281.43	0.08	0.05
	<b>Conservation Expenses</b>	100.00	0.01	0.00
	<b>Custom Heifer Raising Expenses</b>	0.00	0.00	0.00
	<b>Custom Hire (Machine Work)</b>	4,191.71	0.27	0.18
	<b>Feed Purchase</b>	86,876.50	5.61	3.70
	<b>Fertilizer and Lime</b>	8,893.36	0.57	0.38
	<b>Freight and Trucking</b>	1,507.21	0.10	0.06
	<b>Gasoline, Fuel, and Oil</b>	8,074.50	0.52	0.34
	<b>Farm Insurance</b>	3,355.86	0.22	0.14
	<b>Rent/Lease Equipment</b>	1,313.36	0.08	0.06
	<b>Rent/Lease Other</b>	11,835.00	0.76	0.50
	<b>Repairs and Maintenance</b>	18,341.50	1.18	0.78
	<b>Building and Fence Repairs</b>	139.14	0.01	0.01
	<b>Seeds and Plants Purchased</b>	3,328.00	0.21	0.14
	<b>Storage and Warehousing</b>	0.00	0.00	0.00
	<b>Supplies Purchased</b>	8,275.71	0.53	0.35
	<b>Taxes - Other</b>	3,785.86	0.24	0.16
	<b>Taxes - Payroll</b>	0.00	0.00	0.00
	<b>Utilities</b>	7,774.14	0.50	0.33
	<b>Veterinary Fees and Medicine</b>	6,158.86	0.40	0.26
	<b>Other Farm Expenses</b>	10,608.07	0.68	0.45
	<b>Marketing &amp; Hedging</b>	10,261.43	0.66	0.44
	<b>Other Crop Expenses</b>	92.71	0.01	0.00
	<b>Other Livestock Expenses</b>	3,929.64	0.25	0.17
	<b>- Change in Prepaid Expenses</b>	486.41	0.03	0.02
	<b>Change in Accounts Payable</b>	1,214.71	0.08	0.05
	<b>Depreciation on Purchased Breeding Livestock</b>	13,661.93	0.88	0.58
	<b>Total Basic Cost</b>	<b>219,681.27</b>	<b>14.18</b>	<b>9.34</b>



Table 4-3, p. 2

**The Average AgFA© Cost of Production Report for the 14 Seasonal Great Lakes Graziers  
(Stop Milking Herd at Least One Day Each Year)**

	<u>2005</u> per Farm	<u>2005</u> per CWT Sold	<u>2005</u> per CWT EQ
<b>Interest Cost</b>			
Mortgage Interest	11,370.57	0.73	0.48
Other Interest	912.57	0.06	0.04
<b>Total Interest Cost</b>	<b>12,283.14</b>	<b>0.79</b>	<b>0.52</b>
<b>Labor Cost</b>			
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	106.64	0.01	0.00
Labor Hired - Dependents	0.00	0.00	0.00
Labor Hired - Non-Dependents	22,530.50	1.45	0.96
Pension and Profit-Sharing Plans - Non-Dependents	0.00	0.00	0.00
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Value of Unpaid Labor & Management	39,550.64	2.55	1.68
<b>Total Labor Cost</b>	<b>62,187.79</b>	<b>4.02</b>	<b>2.65</b>
<b>Depreciation &amp; Equity Cost</b>			
Machinery, Equipment, Building Depreciation	31,923.57	2.06	1.36
Interest on Equity Capital	25,590.86	1.65	1.09
<b>Total Depreciation &amp; Equity Cost</b>	<b>57,514.43</b>	<b>3.71</b>	<b>2.45</b>
<b>Total Expenses</b>	<b>351,666.63</b>	<b>22.71</b>	<b>14.96</b>
<b>Total Income - Total Expenses</b>	<b>4,283.09</b>	<b>0.28</b>	<b>0.18</b>
<b>Net Farm Income from Operations (NFIFO) Summary</b>			
Total Allocated Costs	286,525.13	18.50	12.19
<b>Net Farm Income From Operations (NFIFO)</b>	<b>69,424.59</b>	<b>4.48</b>	<b>2.95</b>
Gain (Loss) on Sale of All Farm Capital Assets	2,486.57	0.16	0.11
<b>Net Farm Income (NFI)</b>	<b>71,911.16</b>	<b>4.64</b>	<b>3.06</b>



**Table 4-4, p. 1**

**The Average AgFA© Financial Measures Report for the 14 Seasonal Great Lakes Graziers**

These Financial Measures Were Calculated Using the Cost Basis of Assets and Cost (Tax) Depreciation  
The financial calculations using the Market Basis of Assets and Economic Depreciation are on the following page.

<b>Profitability</b>	<b>2005 per Farm</b>	<b>2005 per Cow</b>	<b>2005 per CWT EQ</b>
Net Farm Income From Operations	\$69,424.59	\$542.53	\$2.95
Net Farm Income	\$71,911.16	\$561.96	\$3.06
Rate of Return on Assets (ROROA)	12.85%	12.85%	12.85%
Cost (Tax) Depreciation Claimed	\$45,585.50	\$356.24	\$1.94
Rate of Return on Equity	22.34 %	22.34 %	22.34 %
Net Profit Margin	12.54 %	12.54 %	12.54 %
<b>Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)</b>			
Asset Turnover Ratio	1.024	1.024	1.024
Basic Cost Ratio	0.617	0.617	0.617
Wages Paid Ratio	0.064	0.064	0.064
Interest Paid Ratio	0.035	0.035	0.035
Depreciation Ratio	0.090	0.090	0.090
Net Farm Income from Operations Ratio	0.195	0.195	0.195
<b>Repayment Capacity</b>			
Capital Replacement & Debt Repayment Capacity	\$72,232.73	\$564.48	\$3.07
Coverage Margin	\$51,685.29	\$403.90	\$2.20
Term Debt Coverage Ratio	3.11	3.11	3.11
<b>Liquidity</b>			
Net Cash Income	\$100,259.79	\$783.50	\$4.26
Working Capital	\$6,308.55	\$49.30	\$0.27
Current Ratio	1.12	1.12	1.12
<b>Solvency (Assets at Cost, including current assets and raised breeding livestock)</b>			
Beginning Total Farm Assets	\$344,963.54	\$2,695.78	\$14.67
Beginning Total Farm Liabilities	\$182,067.29	\$1,422.80	\$7.74
Beginning Farm Net Worth	\$162,896.25	\$1,272.98	\$6.93
Farm Debt to Asset Ratio - Beginning of Year	0.647	0.647	0.647
Ending Total Farm Assets	\$350,030.69	\$2,735.38	\$14.89
Ending Total Farm Liabilities	\$223,168.00	\$1,743.99	\$9.49
Ending Farm Net Worth	\$126,862.69	\$991.39	\$5.40
Year Ending Farm Debt to Asset Ratio	0.638	0.638	0.638
Cost Basis Change in Farm Net Worth	-\$36,033.56	-\$281.59	-\$1.53



**Table 4-4, p. 2**

**The Average AgFA© Financial Measures Report for the 14 Seasonal Great Lakes Graziers**

These Financial Measures Were Calculated Using the Market Value of Assets and Economic Depreciation

The financial calculations using the Cost Basis of Assets and Cost (Tax) Depreciation are on the previous page.

<b>Profitability</b>	<b>2005 per Farm</b>	<b>2005 per Cow</b>	<b>2005 per CWT EQ</b>
Net Farm Income From Operations	\$86,807.04	\$678.37	\$3.69
Net Farm Income	\$89,293.61	\$697.80	\$3.80
Rate of Return on Assets (ROROA)	7.36 %	7.36 %	7.36 %
Economic Depreciation Claimed	\$28,203.05	\$220.40	\$1.20
Rate of Return on Equity	7.78 %	7.78 %	7.78 %
Net Profit Margin	17.43 %	17.43 %	17.43 %
<b>Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)</b>			
Asset Turnover Ratio	0.423	0.423	0.423
Basic Cost Ratio	0.617	0.617	0.617
Wages Paid Ratio	0.064	0.064	0.064
Interest Paid Ratio	0.035	0.035	0.035
Depreciation Ratio	0.041	0.041	0.041
Net Farm Income from Operations Ratio	0.244	0.244	0.244
<b>Repayment Capacity</b>			
Capital Replacement & Debt Repayment Capacity	\$72,232.73	\$564.48	\$13,606.42
Coverage Margin	\$51,685.29	\$403.90	\$2.20
Term Debt Coverage Ratio	3.11	3.11	11,759.73
<b>Liquidity</b>			
Net Cash Income	\$100,259.79	\$783.50	\$4.26
Working Capital	\$6,308.55	\$49.30	\$0.27
Current Ratio	1.12	1.12	1.12
<b>Solvency (Assets at Market Value)</b>			
Beginning Total Farm Assets	\$803,513.43	\$6,279.20	\$34.18
Beginning Total Farm Liabilities	\$182,067.29	\$1,422.80	\$7.74
Beginning Farm Net Worth	\$621,446.15	\$4,856.40	\$26.43
Farm Debt to Asset Ratio - Beginning of Year	0.227	0.227	0.227
Ending Total Farm Assets	\$881,264.62	\$6,886.80	\$37.48
Ending Total Farm Liabilities	\$223,168.00	\$1,743.99	\$9.49
Ending Farm Net Worth	\$658,096.62	\$5,142.81	\$27.99
Year Ending Farm Debt to Asset Ratio	0.253	0.253	0.253
Total Change in Farm Net Worth	\$36,650.47	\$286.41	\$1.56



**Table 4-5**

**The Average AgFA© Balance Sheet Report for the 14 Seasonal Great Lakes Graziers in 2005  
Showing the Current Market Values and Historic Cost Value of Assets  
(Stop Milking Herd at Least One Day Each Year)**

	<u>Beg. Dollars</u>	<u>End Dollars</u>		
<b>Current Assets</b>				
Cash Accounts	15,972	18,019		
Prepaid Expenses & Purchased Inventories	8,203	11,304		
Raised Feed Inventories	16,894	18,961		
Basis in Resale Livestock Purchased	0	0		
Accounts Receivable	12,871	15,031		
Market Livestock & Etc.	7,316	4,942		
<b>Total Current Assets</b>	<b>61,255</b>	<b>68,259</b>		
<b>Non-Current Assets</b>			<u><b>Cost Basis</b></u>	
			<u>Beg.</u>	<u>End</u>
			<u>Dollars</u>	<u>Dollars</u>
Raised Breeding Livestock	233,131	248,043		
Purchased Breeding Livestock	0	0	235	0
Machinery & Equipment	119,674	125,025	9,597	11,259
Buildings	39,729	38,915	24,180	22,066
Land & House	408,079	423,826	35,519	35,458
Other Non-Current Assets	8,728	9,557	1,865	1,925
<b>Total Non-Current Assets</b>	<b>809,339</b>	<b>845,366</b>	<b>71,395</b>	<b>70,708</b>
<b>Total Farm Assets</b>	<b>870,594</b>	<b>913,624</b>		
<b>Current Liabilities</b>				
Accounts Payable	6,877	6,123		
Current Portion of Non-Current Liabilities	29,707	26,810		
Other Current Liabilities	15,588	22,625		
<b>Total Current Liabilities</b>	<b>52,172</b>	<b>55,558</b>		
<b>Non-Current Liabilities</b>				
Intermediate Liabilities	24,217	28,145		
Long-Term Liabilities	211,220	207,635		
Contingent Liabilities	0	0		
<b>Total Non-Current Liabilities</b>	<b>235,436</b>	<b>235,780</b>		
<b>Total Farm Liabilities</b>	<b>287,608</b>	<b>291,338</b>		
Non-Farm Assets	16,616	21,402		
Non-Farm Liabilities	1,434	4,577		

**Statement of Equities (Net Worth)**

	<u>Beginnin</u>	<u>Ending</u>	<u>Change</u>
Contributed Capital	0	0	0
Retained Earnings <sup>1</sup>	78,173	95,671	17,499
Valuation Adjustment	504,814	526,615	21,801
<b>Total Farm Equities</b>	<b>582,986</b>	<b>622,286</b>	<b>39,300</b>
Non-Farm Equities	15,182	16,825	1,643
<b>Total Equities</b>	<b>598,168</b>	<b>639,110</b>	<b>40,942</b>

<sup>1</sup> All current assets and raised breeding livestock are included in retained earnings.



Table 4-6, p. 1

The Average AgFA© Farm Earnings Report for the 100 Non-Seasonal Great Lakes Graziers

Income	<u>2005</u> per Farm	<u>2005</u> per Head	<u>2005</u> per CWT EQ
<b>Cash Income - Basis Adjustments</b>			
Sales of Livestock and Other Items Bought for Resale	22.89	0.24	0.00
Basis in Resale Livestock Sold	0.00	0.00	0.00
Animal Product Sales	273,104.46	2,815.64	12.74
Raised Non-Breeding Livestock Sales	6,907.81	71.22	0.32
Crop Sales	1,549.16	15.97	0.07
Distributions Received from Cooperatives	867.18	8.94	0.04
Agricultural Program Payments	8,370.08	86.29	0.39
MILC Program Payments	43.65	0.45	0.00
Crop Insurance Proceeds and Certain Disaster Payments	14.31	0.15	0.00
Custom Hire (Machine Work) Income	964.51	9.94	0.04
Other Income, Incl. Tax Credits, Refunds	5,733.81	59.11	0.27
Sale of Purchased Breeding Livestock	78.73	0.81	0.00
Basis in Breeding Livestock Sold	(291.48)	(3.01)	-0.01
Sale of Raised Breeding Livestock	18,364.88	189.34	0.86
<b>Total Cash Income - Basis Adjustments</b>	<b>315,729.98</b>	<b>3,255.10</b>	<b>14.72</b>
<b>Non-Cash Income</b>			
Change in Raised Crop Inventories	(654.73)	(6.75)	-0.03
Change in Remaining Current Assets	1,733.35	17.87	0.08
Change in Raised Breeding Livestock	7,850.06	80.93	0.37
<b>Total Non-Cash Income</b>	<b>8,928.68</b>	<b>92.05</b>	<b>0.42</b>
<b>Total Income</b>	<b>324,658.66</b>	<b>3,347.15</b>	<b>15.14</b>





Table 4-6, p. 2

The Average AgFA© <u>Farm Earnings</u> Report for the 100 Non-Seasonal Great Lakes Graziers			
Expenses	<u>2005</u> per Farm	<u>2005</u> per Head	<u>2005</u> per CWT EQ
<b>Cash Expense</b>			
Cost of Items for Resale	113.56	1.17	0.01
Breeding Fees	3,165.81	32.64	0.15
Car and Truck Expenses	618.57	6.38	0.03
Chemicals	1,919.10	19.79	0.09
Conservation Expenses	0.00	0.00	0.00
Custom Heifer Raising Expenses	440.93	4.55	0.02
Custom Hire (Machine Work)	8,169.76	84.23	0.38
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	520.34	5.36	0.02
Feed Purchase	72,297.09	745.37	3.37
Fertilizer and Lime	7,330.82	75.58	0.34
Freight and Trucking	898.23	9.26	0.04
Gasoline, Fuel, and Oil	9,510.01	98.05	0.44
Farm Insurance	4,291.77	44.25	0.20
Mortgage Interest	9,644.83	99.44	0.45
Other Interest	3,076.45	31.72	0.14
Labor Hired - Dependents	16.00	0.16	0.00
Labor Hired - Non-Dependents	24,581.54	253.43	1.15
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Rent/Lease Equipment	327.90	3.38	0.02
Rent/Lease Other	6,557.19	67.60	0.31
Repairs and Maintenance	18,452.51	190.24	0.86
Building and Fence Repairs	856.48	8.83	0.04
Machinery Repairs	523.49	5.40	0.02
Seeds and Plants Purchased	4,254.52	43.86	0.20
Storage and Warehousing	13.88	0.14	0.00
Supplies Purchased	8,407.53	86.68	0.39
Taxes - Other	5,834.44	60.15	0.27
Taxes - Payroll	0.00	0.00	0.00
Utilities	7,378.74	76.07	0.34
Veterinary Fees and Medicine	6,413.10	66.12	0.30
Other Farm Expenses	7,133.81	73.55	0.33
Marketing & Hedging	10,698.02	110.29	0.50
Other Crop Expenses	333.22	3.44	0.02
Other Livestock Expenses	8,078.41	83.29	0.38
Selling Expense of Capital Items	0.31	0.00	0.00
<b>Total Cash Expense</b>	<b>231,858.36</b>	<b>2,390.40</b>	<b>10.81</b>
<b>Non-Cash Expenses</b>			
- Change in Prepaid Expenses	(1,254.43)	(12.93)	-0.06
Change in Accounts Payable	(210.85)	(2.17)	-0.01
Machinery, Equipment and Building Depreciation	29,836.05	307.60	1.39
Livestock Depreciation	2,359.17	24.32	0.11
<b>Total Non-Cash Expenses</b>	<b>30,729.94</b>	<b>316.82</b>	<b>1.43</b>
<b>Total Expenses</b>	<b>262,588.30</b>	<b>2,707.22</b>	<b>12.25</b>
<b>Net Farm Income From Operations (NFIFO)</b>	<b>62,070.37</b>	<b>639.93</b>	<b>2.89</b>
Gain (Loss) on Sale of All Farm Capital Assets	2,793.97	28.81	0.13
<b>Net Farm Income (NFI)</b>	<b>64,864.34</b>	<b>668.74</b>	<b>3.02</b>



Table 4-7, p. 1

**The Average AgFA© Cost of Production Report for the 100 Non-Seasonal Great Lakes Graziers  
Showing Basic Costs, Allocated Costs, Total Costs, NFIFO and Other Financial Details**

<b>Income</b>		<b><u>2005</u></b>	<b><u>2005</u></b>	<b><u>2005</u></b>
		<b><u>per Farm</u></b>	<b><u>per CWT Sold</u></b>	<b><u>per CWT EQ</u></b>
	<b>Total Income</b>	<b>324,658.66</b>	<b>19.81</b>	<b>15.14</b>
<b>Expenses</b>				
<b>Basic Cost</b>				
	<b>Cost of Items for Resale</b>	113.56	0.01	0.01
	<b>Breeding Fees</b>	3,165.81	0.19	0.15
	<b>Car and Truck Expenses</b>	618.57	0.04	0.03
	<b>Chemicals</b>	1,919.10	0.12	0.09
	<b>Conservation Expenses</b>	0.00	0.00	0.00
	<b>Custom Heifer Raising Expenses</b>	440.93	0.03	0.02
	<b>Custom Hire (Machine Work)</b>	8,169.76	0.50	0.38
	<b>Feed Purchase</b>	72,297.09	4.41	3.37
	<b>Fertilizer and Lime</b>	7,330.82	0.45	0.34
	<b>Freight and Trucking</b>	898.23	0.05	0.04
	<b>Gasoline, Fuel, and Oil</b>	9,510.01	0.58	0.44
	<b>Farm Insurance</b>	4,291.77	0.26	0.20
	<b>Rent/Lease Equipment</b>	327.90	0.02	0.02
	<b>Rent/Lease Other</b>	6,557.19	0.40	0.31
	<b>Repairs and Maintenance</b>	18,452.51	1.13	0.86
	<b>Building and Fence Repairs</b>	856.48	0.05	0.04
	<b>Machinery Repairs</b>	523.49	0.03	0.02
	<b>Seeds and Plants Purchased</b>	4,254.52	0.26	0.20
	<b>Storage and Warehousing</b>	13.88	0.00	0.00
	<b>Supplies Purchased</b>	8,407.53	0.51	0.39
	<b>Taxes - Other</b>	5,834.44	0.36	0.27
	<b>Taxes - Payroll</b>	0.00	0.00	0.00
	<b>Utilities</b>	7,378.74	0.45	0.34
	<b>Veterinary Fees and Medicine</b>	6,413.10	0.39	0.30
	<b>Other Farm Expenses</b>	7,133.81	0.44	0.33
	<b>Marketing &amp; Hedging</b>	10,698.02	0.65	0.50
	<b>Other Crop Expenses</b>	333.22	0.02	0.02
	<b>Other Livestock Expenses</b>	8,078.41	0.49	0.38
	<b>- Change in Prepaid Expenses</b>	(1,254.43)	(0.08)	(0.06)
	<b>Change in Accounts Payable</b>	(210.85)	(0.01)	(0.01)
	<b>Selling Expense of Capital Items</b>	0.31	0.00	0.00
	<b>Depreciation on Purchased Breeding Livestock</b>	2,359.17	0.14	0.11
	<b>Total Basic Cost</b>	<b>194,913.09</b>	<b>11.89</b>	<b>9.09</b>



Table 4-7 p. 2

**The Average AgFA© Cost of Production Report for the 100 Non-Seasonal Great Lakes Graziers  
Showing Basic Costs, Allocated Costs, Total Costs, NFIFO and Other Financial Details**

	<u>2005</u>	<u>2005</u>	<u>2005</u>
	per Farm	per CWT Sold	per CWT EQ
<b>Interest Cost</b>			
Mortgage Interest	9,644.83	0.59	0.45
Other Interest	3,076.45	0.19	0.14
<b>Total Interest Cost</b>	<b>12,721.28</b>	<b>0.78</b>	<b>0.59</b>
<b>Labor Cost</b>			
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	520.34	0.03	0.02
Labor Hired - Dependents	16.00	0.00	0.00
Labor Hired - Non-Dependents	24,581.54	1.50	1.15
Pension and Profit-Sharing Plans - Dependents	0.00	0.00	0.00
Value of Unpaid Labor & Management	40,165.32	2.45	1.87
<b>Total Labor Cost</b>	<b>65,283.20</b>	<b>3.98</b>	<b>3.04</b>
<b>Depreciation &amp; Equity Cost</b>			
Machinery, Equipment, Building Depreciation	29,836.05	1.82	1.39
Interest on Equity Capital	22,580.84	1.38	1.05
<b>Total Depreciation &amp; Equity Cost</b>	<b>52,416.89</b>	<b>3.20</b>	<b>2.44</b>
<b>Total Expenses</b>	<b>325,334.46</b>	<b>19.85</b>	<b>15.17</b>
<b>Total Income - Total Expenses</b>	<b>(675.79)</b>	<b>(0.04)</b>	<b>(0.03)</b>
<b>Net Farm Income from Operations (NFIFO) Summary</b>			
Total Allocated Costs	262,588.30	16.02	12.25
<b>Net Farm Income From Operations (NFIFO)</b>	<b>62,070.37</b>	<b>3.79</b>	<b>2.89</b>
Gain (Loss) on Sale of All Farm Capital Assets	2,793.97	0.17	0.13
<b>Net Farm Income (NFI)</b>	<b>64,864.34</b>	<b>3.96</b>	<b>3.02</b>



**Table 4-8, p. 1**

**The Average AgFA© Financial Measures Report for the 100 Non-Seasonal Great Lakes Graziers**

These Financial Measures Were Calculated Using the Cost Basis of Assets and Cost (Tax) Depreciation

The financial calculations using the Market Basis of Assets and Economic Depreciation are on the following page.

<b>Profitability</b>	<b>2005 per Farm</b>	<b>2005 per Cow</b>	<b>2005 per CWT EQ</b>
Net Farm Income From Operations	\$62,070.37	\$639.93	\$2.89
Net Farm Income	\$64,864.34	\$668.74	\$3.02
Rate of Return on Assets (ROROA)	9.83%	9.83%	9.83%
Cost (Tax) Depreciation Claimed	\$32,195.22	\$331.92	\$1.50
Rate of Return on Equity	16.31 %	16.31 %	16.31 %
Net Profit Margin	11.53 %	11.53 %	11.53 %
<b>Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)</b>			
Asset Turnover Ratio	0.852	0.852	0.852
Basic Cost Ratio	0.600	0.600	0.600
Wages Paid Ratio	0.077	0.077	0.077
Interest Paid Ratio	0.039	0.039	0.039
Depreciation Ratio	0.092	0.092	0.092
Net Farm Income from Operations Ratio	0.191	0.191	0.191
<b>Repayment Capacity</b>			
Capital Replacement & Debt Repayment Capacity	\$61,233.60	\$631.30	\$2.86
Coverage Margin	\$27,412.63	\$282.62	\$1.28
Term Debt Coverage Ratio	2.57	2.57	2.57
<b>Liquidity</b>			
Net Cash Income	\$84,163.10	\$867.70	\$3.92
Working Capital	\$33,735.93	\$347.81	\$1.57
Current Ratio	1.88	1.88	1.88
<b>Solvency (Assets at Cost, including current assets and raised breeding livestock)</b>			
Beginning Total Farm Assets	\$373,293.96	\$3,848.57	\$17.41
Beginning Total Farm Liabilities	\$224,992.92	\$2,319.62	\$10.49
Beginning Farm Net Worth	\$148,301.04	\$1,528.95	\$6.92
Farm Debt to Asset Ratio - Beginning of Year	0.626	0.626	0.626
Ending Total Farm Assets	\$388,398.45	\$4,004.29	\$18.11
Ending Total Farm Liabilities	\$233,742.45	\$2,409.83	\$10.90
Ending Farm Net Worth	\$154,656.00	\$1,594.47	\$7.21
Year Ending Farm Debt to Asset Ratio	0.602	0.602	0.602
Cost Basis Change in Farm Net Worth	\$6,354.96	\$65.52	\$0.30



**Table 4-8 p. 2**

**The Average AgFA© Financial Measures Report for the 100 Non-Seasonal Great Lakes Graziers**

These Financial Measures Were Calculated Using the Market Value of Assets and Economic Depreciation

The financial calculations using the Cost Basis of Assets and Cost (Tax) Depreciation are on the previous page.

<b>Profitability</b>		<b>2005</b>	<b>2005</b>	<b>2005</b>
		<b>per Farm</b>	<b>per Cow</b>	<b>per CWT EQ</b>
	Net Farm Income From Operations	\$71,914.64	\$741.42	\$3.35
	Net Farm Income	\$74,708.61	\$770.23	\$3.48
	Rate of Return on Assets (ROROA)	5.95 %	5.95 %	5.95 %
	Economic Depreciation Claimed	\$22,350.95	\$230.43	\$1.04
	Rate of Return on Equity	6.12 %	6.12 %	6.12 %
	Net Profit Margin	14.56 %	14.56 %	14.56 %
<b>Financial Efficiency Ratios (These ratios are calculated using Total Farm Income, not Value of Farm Production.)</b>				
	Asset Turnover Ratio	0.409	0.409	0.409
Note: Some methods of calculating ratios combine the Basic Cost and Wages Paid Ratios into a single ratio (Operating Cost Ratio).	Basic Cost Ratio	0.602	0.602	0.602
	Wages Paid Ratio	0.077	0.077	0.077
	Interest Paid Ratio	0.039	0.039	0.039
	Depreciation Ratio	0.060	0.060	0.060
	Net Farm Income from Operations Ratio	0.222	0.222	0.222
<b>Repayment Capacity</b>				
	Capital Replacement & Debt Repayment Capacity	\$61,233.60	\$631.30	\$2,734.19
	Coverage Margin	\$27,412.63	\$282.62	\$1.28
	Term Debt Coverage Ratio	2.57	2.57	2,038.86
<b>Liquidity</b>				
	Net Cash Income	\$84,163.10	\$867.70	\$3.92
	Working Capital	\$33,735.93	\$347.81	\$1.57
	Current Ratio	1.88	1.88	1.88
<b>Solvency (Assets at Market Value)</b>				
	Beginning Total Farm Assets	\$774,348.31	\$7,983.34	\$36.11
	Beginning Total Farm Liabilities	\$224,992.92	\$2,319.62	\$10.49
	Beginning Farm Net Worth	\$549,355.39	\$5,663.72	\$25.62
	Farm Debt to Asset Ratio - Beginning of Year	0.291	0.291	0.291
	Ending Total Farm Assets	\$813,429.11	\$8,386.26	\$37.93
	Ending Total Farm Liabilities	\$233,742.45	\$2,409.83	\$10.90
	Ending Farm Net Worth	\$579,686.66	\$5,976.43	\$27.03
	Year Ending Farm Debt to Asset Ratio	0.287	0.287	0.287
	Total Change in Farm Net Worth	\$30,331.27	\$312.71	\$1.41



**Table 4-9**

**The Average AgFA© Balance Sheet Report for the 100 Non-Seasonal Great Lakes Graziers in 2005  
Showing the Current Market Values and Historic Cost Values of Assets**

	<u>Beg. Dollars</u>	<u>End Dollars</u>		
<b>Current Assets</b>				
Cash Accounts	6,755	5,576		
Prepaid Expenses & Purchased Inventories	11,306	12,560		
Raised Feed Inventories	38,149	37,494		
Basis in Resale Livestock Purchased	88	88		
Accounts Receivable	12,668	13,960		
Market Livestock & Etc.	2,107	2,548		
<b>Total Current Assets</b>	<b>71,072</b>	<b>72,226</b>		
<b>Non-Current Assets</b>			<u><b>Beg. Dollars</b></u>	<u><b>End Dollars</b></u>
Raised Breeding Livestock	183,027	190,877		
Purchased Breeding Livestock	1,862	1,588	1,955	2,034
Machinery & Equipment	124,342	136,011	20,161	20,970
Buildings	37,890	39,944	24,059	25,406
Land & House	340,653	356,639	68,429	72,738
Other Non-Current Assets	15,501	16,144	4,590	4,147
<b>Total Non-Current Assets</b>	<b>703,276</b>	<b>741,203</b>	<b>119,195</b>	<b>125,295</b>
<b>Total Farm Assets</b>	<b>774,348</b>	<b>813,429</b>		
<b>Current Liabilities</b>				
Accounts Payable	9,224	9,013		
Current Portion of Non-Current Liabilities	16,042	18,663		
Other Current Liabilities	8,263	10,813		
<b>Total Current Liabilities</b>	<b>33,529</b>	<b>38,490</b>		
<b>Non-Current Liabilities</b>				
Intermediate Liabilities	26,160	28,289		
Long-Term Liabilities	165,304	166,964		
Contingent Liabilities	116,433	122,391		
<b>Total Non-Current Liabilities</b>	<b>307,897</b>	<b>317,644</b>		
<b>Total Farm Liabilities</b>	<b>341,426</b>	<b>356,134</b>		
Non-Farm Assets	43,077	31,792		
Non-Farm Liabilities	1,289	1,059		

**Statement of Equities (Net Worth)**

	<u>Beginning</u>	<u>Ending</u>	<u>Change</u>
Contributed Capital	1,693	2,088	396
Retained Earnings <sup>1</sup>	146,608	152,568	5,959
Valuation Adjustment	284,622	302,639	18,018
<b>Total Farm Equities</b>	<b>432,923</b>	<b>457,295</b>	<b>24,373</b>
Non-Farm Equities	41,787	30,734	-11,054
<b>Total Equities</b>	<b>474,710</b>	<b>488,029</b>	<b>13,319</b>

<sup>1</sup> All current assets and raised breeding livestock are included in retained earnings.

## XVII. Comparing Grazing Herds to Confinement Herds

### Six Year Summary

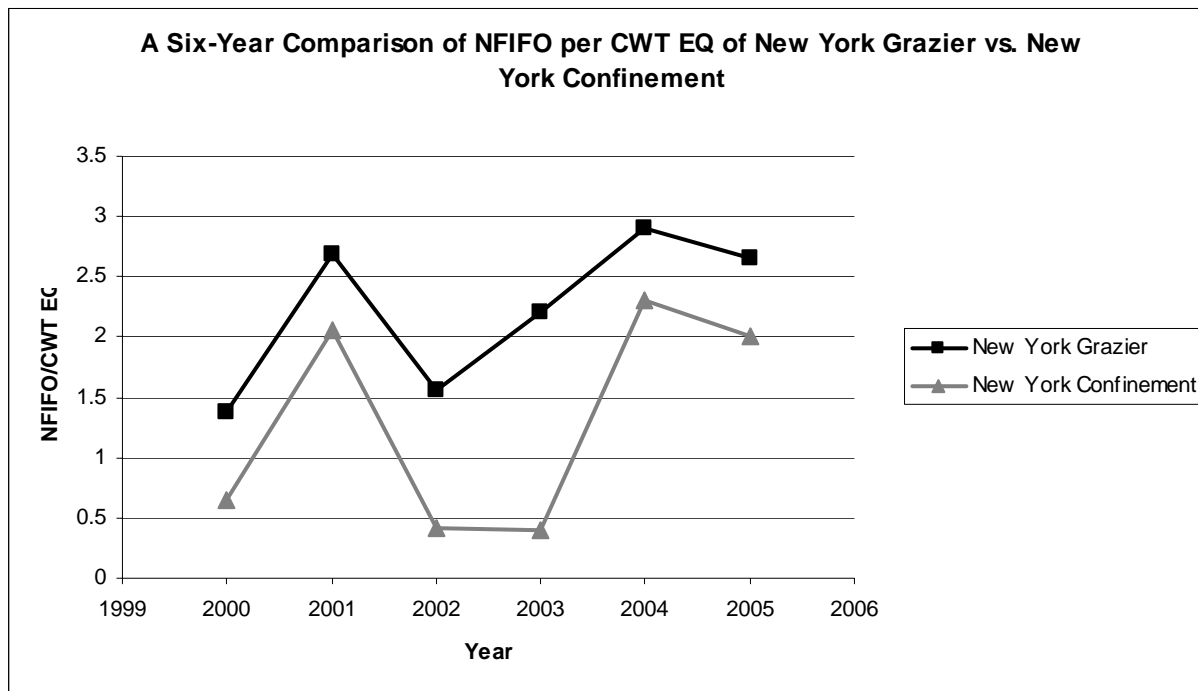
Most of the available data indicates that the NFIFO per cow and NFIFO per CWT EQ decreases as herd size increases. That is only one of the many reasons to be very careful when comparing the average financial performance of graziers to the average financial performance of confinement herds. While progress has been made in standardizing data handling procedures and analysis for graziers in some states, this level of uniformity does not yet exist with all confinement data. Consequently, the comments made about the relative financial performance of graziers versus confinement herds focus on data from New York and Wisconsin. These states have collected their confinement data under conditions similar to those used to collect grazer data.

In all six years, the Wisconsin graziers had an advantage over their confinement counterparts in NFIFO per CWT EQ and per cow and in the basic, non-basic and allocated cost/CWT EQ categories. The smallest advantage occurred in 2003. If all labor was unpaid, Wisconsin graziers would have retained their NFIFO per CWT EQ advantage in all years but 2003 and 2005, and their NFIFO per cow advantage in 2000 to 2002.

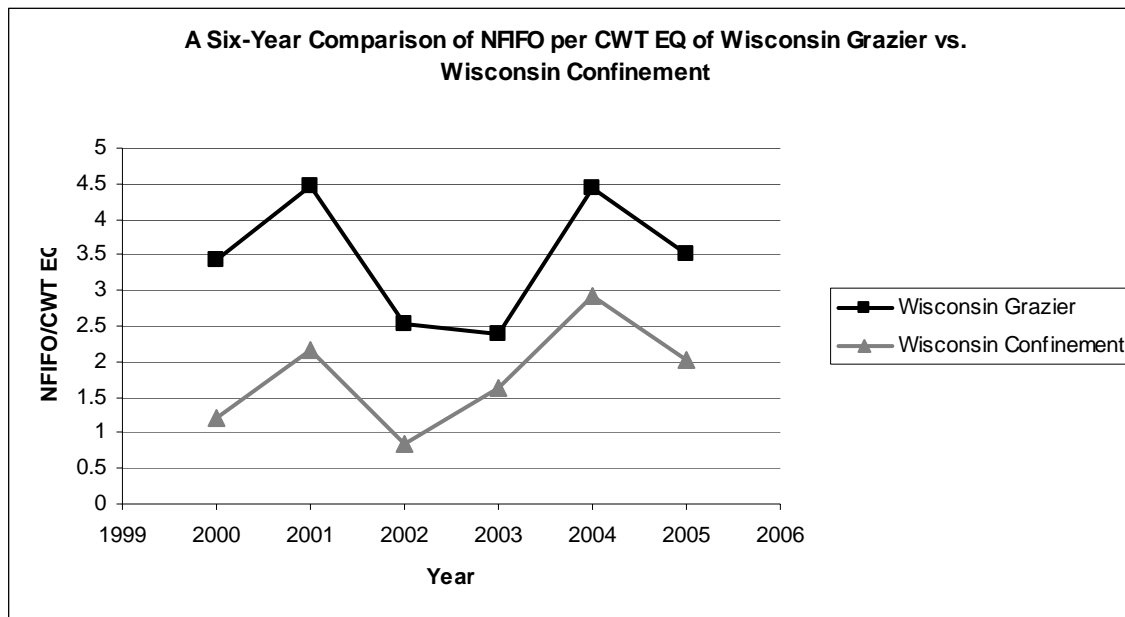
In all six years, the New York graziers had an advantage over their confinement counterparts in NFIFO per CWT EQ and in the allocated and non-basic cost categories. New York graziers had a NFIFO per cow advantage over their confinement counterparts in all years but 2004. If all labor was unpaid, New York graziers would have kept their NFIFO per cow advantage in 2002 and 2003 and would have kept their NFIFO per CWT EQ advantage in 2000, 2002, and 2003.

The New York graziers had an advantage in the basic cost category in three years and a very slight disadvantage in the other three years. Together, this suggests that the graziers in this study spread their NFIFO per CWT EQ advantage among many cost items.

### Graph 5-1



## **Graph 5-2**



A higher percent of total labor used on the larger confinement farms was hired. To better understand the effects of this information on financial performance, it is useful to examine the impact of labor compensation on NFIFO per cow and NFIFO per CWT EQ by recalculating NFIFO as if all labor was unpaid.

### **2005 Data**

As shown in Table 5-1 which follows, the Wisconsin graziers' NFIFO per CWT EQ advantage in 2005 would disappear from \$0.99 (\$3.50-\$2.51) to -\$0.15 (\$4.06-\$4.21) if all labor was unpaid. In addition, the NFIFO per cow advantage would disappear, narrowing from \$84 (\$800-\$716) to -\$281 (\$919-\$1200) in 2005 if all labor compensation was unpaid.

The New York graziers' NFIFO per CWT EQ advantage in 2005 would disappear from \$0.64 (\$2.65-\$2.01) to -\$0.15 (\$4.07-\$4.22) if all labor compensation was unpaid. The NFIFO per cow advantage would disappear from \$54 (\$605-\$551) to -\$309 (\$868-\$1177) if all labor compensation was unpaid.

The NFIFO/CWT EQ if all labor was unpaid was remarkably similar between New York and Wisconsin graziers and between New York and Wisconsin confinement herds.



Because of rounding, some small mathematical differences might be found in the summary tables below.

<b>Table 5-1</b> <b>Comparing the Financial Performance of</b> <b>Graziers to Confinement Dairy Herds in Two</b> <b>Participating States in 2005</b>	<b>Wisconsin</b>		<b>New York</b>	
	<b>Grazier</b>	<b>Confinement</b>	<b>Grazier</b>	<b>Confinement</b>
Number of Herds	41	617	50	185
Number of Cows per Herd	68	133	103	392
Average Lbs. Milk per Cow	16,700	21,788	17,113	23,335
Average Lbs. Milk per Herd	3,562	2,896,790	1,767,108	9,147,275
Group Average Mailbox Milk Price	\$16.79	\$15.83	\$17.10	\$15.97
U.S. All Milk Price (used to calculate CWT EQ)*	\$15.14	\$15.14	\$15.14	\$15.14
Average Basic Cost per CWT EQ	\$8.51	\$9.12	\$9.41	\$9.37
Non-Basic Cost per CWT EQ	\$3.13	\$3.50	\$3.08	\$3.83
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$11.64	\$12.62	\$12.49	\$13.19
NFIFO per Cow (if all labor was unpaid)	\$919	\$1,200	\$868	\$1,177
NFIFO per CWT EQ (if all labor was unpaid)	\$4.06	\$4.21	\$4.07	\$4.22
NFIFO per Farm	\$54,308	\$95,171	\$62,429	\$216,117
<b>NFIFO per Cow</b>	<b>\$800</b>	<b>\$716</b>	<b>\$605</b>	<b>\$551</b>
<b>NFIFO per CWT EQ</b>	<b>\$3.50</b>	<b>\$2.51</b>	<b>\$2.65</b>	<b>\$2.01</b>

\*See Chapters IX and X for more information about CWT EQ and cost categories.

As shown in Table 5-2 which follows, the Wisconsin graziers' NFIFO per CWT EQ advantage in 2004 would narrow from \$1.51 (\$4.44-\$2.93) to \$0.24 (\$4.95-\$4.71) if all labor was unpaid. In addition, the NFIFO per cow advantage would disappear, narrowing from \$202 (\$966-\$764) to -\$153 (\$1076-\$1229) in 2004 if all labor compensation was unpaid.

The New York graziers' NFIFO per CWT EQ advantage in 2004 would disappear from \$0.61 (\$2.91-\$2.30) to -\$0.21 (\$4.39-\$4.60) if all labor compensation was unpaid. The NFIFO per cow disadvantage would increase from -\$6 (\$602-\$608) to -\$309 (\$908-\$1,217) if all labor compensation was unpaid.

Because of rounding, some small mathematical differences might be found in the summary tables below.

<b>Table 5-2</b> <b>Comparing the Financial Performance of</b> <b>Graziers to Confinement Dairy Herds in Two</b> <b>Participating States in 2004</b>	<b>Wisconsin</b>		<b>New York</b>	
	<b>Grazier</b>	<b>Confinement</b>	<b>Grazier</b>	<b>Confinement</b>
Number of Herds	38	660	29	151
Number of Cows per Herd	65	134	111	387
Average Lbs. Milk per Cow	16,526	21,277	16,116	22,465
Average Lbs. Milk per Herd	1,078,890	2,855,985	1,789,972	8,693,937
Group Average Mailbox Milk Price	\$17.29	\$16.72	\$17.67	\$16.61
U.S. All Milk Price (used to calculate CWT EQ)*	\$16.10	\$16.10	\$16.10	\$16.10
Average Basic Cost per CWT EQ	\$8.54	\$9.57	\$10.00	\$9.91
Non-Basic Cost per CWT EQ	\$3.12	\$3.60	\$3.19	\$3.89
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$11.66	\$13.17	\$13.19	\$13.80
NFIFO per Cow (if all labor was unpaid)	\$1,076	\$1,229	\$908	\$1,217
NFIFO per CWT EQ (if all labor was unpaid)	\$4.95	\$4.71	\$4.39	\$4.60
NFIFO per Farm	\$63,091	\$102,600	\$68,896	\$235,396
<b>NFIFO per Cow</b>	<b>\$966</b>	<b>\$764</b>	<b>\$602</b>	<b>\$608</b>
<b>NFIFO per CWT EQ</b>	<b>\$4.44</b>	<b>\$2.93</b>	<b>\$2.91</b>	<b>\$2.30</b>

\*See Chapters IX and X for more information about CWT EQ and cost categories.

As shown in Table 5-3 which follows, the Wisconsin graziers' NFIFO per CWT EQ advantage in 2003 would disappear from \$0.74 (\$2.38-\$1.64) to -\$0.34 (\$2.78-\$3.12) if all labor was unpaid. In addition, the NFIFO per cow advantage would disappear, narrowing from \$36 (\$504-\$468) to -\$304 (\$588-\$892) in 2003 if all labor was unpaid.

The New York graziers' NFIFO per CWT EQ advantage in 2003 would narrow from \$1.82 (\$2.21-\$0.39) to \$0.98 (\$3.42-\$2.44) if all labor was unpaid. The NFIFO per cow advantage would narrow from \$410 (\$518-\$108) to \$128 (\$800-\$672) if all labor compensation was unpaid.

**2003 is a bit different from the other years in that Wisconsin graziers had their smallest advantage over their confinement counterparts. The opposite was true for New York.**

Because of rounding, some small mathematical differences might be found in the summary tables below.

<b>Table 5-3 Comparing the Financial Performance of Graziers to Confinement Dairy Herds in Two Participating States in 2003</b>				
	<b>Wisconsin</b>		<b>New York</b>	
	<b>Grazier</b>	<b>Confinement</b>	<b>Grazier</b>	<b>Confinement</b>
Number of Herds	43	652	28	173
Number of Cows per Herd	61	123	108	348
Average Lbs. Milk per Cow	15,796	21,346	15,840	22,610
Average Lbs. Milk per Herd	961,726	2,625,558	1,709,627	7,868,387
Group Average Mailbox Milk Price	\$14.01	\$12.92	\$14.57	\$13.07
U.S. All Milk Price (used to calculate CWT EQ)*	\$12.50	\$12.50	\$12.50	\$12.50
Average Basic Cost per CWT EQ	\$7.50	\$7.70**	\$7.70**	\$8.60
Non-Basic Cost per CWT EQ	\$2.62	\$3.16	\$2.59	\$3.51
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$10.12	\$10.86	\$10.29	\$12.11
NFIFO per Cow (if all labor was unpaid)	\$588	\$892	\$800	\$672
NFIFO per CWT EQ (if all labor was unpaid)	\$2.78	\$3.12	\$3.42	\$2.44
NFIFO per Farm	\$30,655	\$57,481	\$55,934	\$37,560
<b>NFIFO per Cow</b>	<b>\$504</b>	<b>\$468</b>	<b>\$518</b>	<b>\$108</b>
<b>NFIFO per CWT EQ</b>	<b>\$2.38</b>	<b>\$1.64</b>	<b>\$2.21</b>	<b>\$0.39</b>

\*See Chapters IX and X for more information about CWT EQ and cost categories.

\*\* By coincidence, basic costs of both groups were equal.

As shown in Table 5-4 which follows, the Wisconsin graziers' NFIFO per CWT EQ advantage in 2002 would narrow from \$1.68 (\$2.53 – \$0.85) to \$0.78 (\$3.14 – \$2.36) if all labor was unpaid. In addition, the NFIFO per cow advantage would nearly disappear, narrowing from \$294 (\$524 – \$230) to \$10 (\$651 – \$641) in 2002 if all labor was unpaid.

The New York graziers' NFIFO per CWT EQ advantage in 2002 would narrow from \$1.15 (\$1.56-\$0.41) to \$0.52 (\$2.86-\$2.34) if all labor compensation was unpaid. The NFIFO per cow advantage would narrow from \$255 (\$374-\$119) to \$114 (\$786-\$672) if all labor was unpaid.

Because of rounding, some small mathematical differences might be found in the summary tables below.

<b>Table 5-4 Comparing the Financial Performance of Graziers to Confinement Dairy Herds in Two Participating States in 2002</b>	<b>Wisconsin</b>		<b>New York</b>	
	<b>Grazier</b>	<b>Confinement</b>	<b>Grazier</b>	<b>Confinement</b>
Number of Herds	31	581	34	194
Number of Cows per Herd	61	117	102	323
Average Lbs. Milk per Cow	15,644	20,858	16,353	22,591
Average Lbs. Milk per Herd	954,085	2,440,386	1,675,724	7,305,774
Group Average Mailbox Milk Price	\$12.55	\$12.66	\$14.27	\$12.93
U.S. All Milk Price (used to calculate CWT EQ)*	\$12.15	\$12.15	\$12.15	\$12.15
Average Basic Cost per CWT EQ	\$7.23	\$7.91	\$7.84	\$8.22
Non-Basic Cost per CWT EQ	\$2.39	\$3.39	\$1.84	\$3.52
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$9.62	\$11.30	\$9.68	\$11.74
NFIFO per Cow (if all labor was unpaid)	\$651	\$641	\$786	\$672
NFIFO per CWT EQ (if all labor was unpaid)	\$3.14	\$2.36	\$2.86	\$2.34
NFIFO per Farm	\$31,928	\$26,963	\$38,316	\$38,284
<b>NFIFO per Cow</b>	<b>\$524</b>	<b>\$230</b>	<b>\$374</b>	<b>\$119</b>
<b>NFIFO per CWT EQ</b>	<b>\$2.53</b>	<b>\$0.85</b>	<b>\$1.56</b>	<b>\$0.41</b>

\*See Chapters IX and X for more information about CWT EQ and cost categories.

As shown in Table 5-5 which follows, the Wisconsin grazer NFIFO per CWT EQ advantage in 2001 would narrow from \$2.31 (\$4.48 – \$2.17) to \$1.27 (\$5.02 – \$3.75) if all labor was unpaid. In addition, the NFIFO per cow advantage would nearly disappear, narrowing from \$322 (\$842 – \$520) to \$36 (\$933 – \$897) in 2001 if all labor was unpaid.

The New York grazer NFIFO per CWT EQ advantage in 2001 would narrow from \$0.63 (\$2.68 - \$2.05) to - \$0.11 (\$3.96-\$4.07) if all labor was unpaid. The New York grazer advantage in NFIFO per cow would disappear from \$41 (\$549-\$508) to -\$353 (\$810-\$1163) if all labor was unpaid. In addition, the New York confinement herds would have had a higher NFIFO per cow than the Wisconsin confinement and grazing herds in 2001 if all labor was unpaid.

Because of rounding, some small mathematical differences might be found in the summary tables below.

<b>Table 5-5 Comparing the Financial Performance of Graziers to Confinement Dairy Herds in Two Participating States in 2001</b>	<b>Wisconsin</b>		<b>New York</b>	
	<b>Grazier</b>	<b>Confinement</b>	<b>Grazier</b>	<b>Confinement</b>
Number of Herds	27	627	53	192
Number of Cows per Herd	62	106	94	340
Average Lbs. Milk per Cow	15,644	20,454	16,150	22,191
Average Lbs. Milk per Herd	974,346	2,192,928	1,513,178	6,983,700
Group Average Mailbox Milk Price	\$15.41	\$14.96	\$15.81	\$14.68
U.S. All Milk Price (used to calculate CWT EQ)*	\$14.94	\$14.94	\$14.94	\$14.94
Average Basic Cost per CWT EQ	7.68	9.03	9.06	9.01
Non-Basic Cost per CWT EQ	2.78	3.74	3.2	3.88
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	10.46	12.77	12.26	12.89
NFIFO per Cow (if all labor was unpaid)	933	897	810	1163
NFIFO per CWT EQ (if all labor was unpaid)	5.02	3.75	3.96	4.07
NFIFO per Farm	52,446	54,579	51,428	172,785
<b>NFIFO per Cow</b>	<b>842</b>	<b>520</b>	<b>549</b>	<b>508</b>
<b>NFIFO per CWT EQ</b>	<b>4.48</b>	<b>2.17</b>	<b>2.68</b>	<b>2.05</b>

\*See Chapters IX and X for more information about CWT EQ and cost categories.

As shown in Table 5-6 which follows, the Wisconsin graziers' NFIFO per CWT EQ advantage in 2000 would narrow from \$2.24 (\$3.44-\$1.20) to \$0.90 (\$3.50-\$2.60) if all labor was unpaid. In addition, the NFIFO per cow advantage would narrow from \$321 (\$617-\$296) to \$49 (\$689-\$640) in 2000 if all labor was unpaid.

The New York graziers' NFIFO per CWT EQ advantage in 2000 would narrow from \$0.73 (\$1.38-\$0.65) to \$0.53 (\$2.34-\$1.81) if all labor was unpaid. The NFIFO per cow advantage would disappear from \$134 (\$315-\$181) to -\$129 (\$534-\$663) if all labor was unpaid.

Because of rounding, some small mathematical differences might be found in the summary tables below.

<b>Table 5-6 Comparing the Financial Performance of Graziers to Confinement Dairy Herds in Two Participating States in 2000</b>	<b>Wisconsin</b>		<b>New York</b>	
	<b>Grazier</b>	<b>Confinement</b>	<b>Grazier</b>	<b>Confinement</b>
Number of Herds	16	605	65	239
Number of Cows per Herd	65	109	93	294
Average Lbs. Milk per Cow	16,404	20,202	17,107	22,167
Average Lbs. Milk per Herd	1,066,764	2,192,928	1,585,980	6,517,830
Group Average Mailbox Milk Price	\$12.38	\$12.21	\$13.30	\$12.61
U.S. All Milk Price (used to calculate CWT EQ)*	\$12.33	\$12.33	\$12.33	\$12.33
Average Basic Cost per CWT EQ	\$6.60	\$7.75	\$8.12	\$8.06
Non-Basic Cost per CWT EQ	\$2.59	\$3.38	\$2.83	\$3.62
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$9.19	\$11.13	\$10.95	\$11.68
NFIFO per Cow (if all labor was unpaid)	\$689	\$640	\$534	\$663
NFIFO per CWT EQ (if all labor was unpaid)	\$3.50	\$2.60	\$2.34	\$1.81
NFIFO per Farm	\$40,120	\$32,199	\$29,227	\$50,897
<b>NFIFO per Cow</b>	<b>\$617</b>	<b>\$296</b>	<b>\$315</b>	<b>\$181</b>
<b>NFIFO per CWT EQ</b>	<b>\$3.44</b>	<b>\$1.20</b>	<b>\$1.38</b>	<b>\$0.65</b>

\*See Chapters IX and X for more information about CWT EQ and cost categories.

Graziers' NFIFO per CWT EQ advantage was spread across many cost items. Still, in summary, graziers' disadvantage in income and production per farm and per cow was more than offset by their control of operating expense, investment and debt. The average grazer, in both states, was more profitable on a per CWT EQ basis than their confinement counterparts in all years in spite of lower production per cow. In the six years, 44% of the Wisconsin graziers' NFIFO per CWT EQ advantage occurred among the non-basic costs. The comparable value for New York was 99%.

## **XVIII. Major Cost Items**

### **A. Major Cost Items on Wisconsin Grazing and Confinement Dairy Farms**

Cost management should receive regular attention on any farm. Focusing on the largest cost categories is an important tactic in controlling costs.

It is widely believed that there is a big difference in cost structure between grazing and non-grazing dairy farms. Actual farm financial data shows that **the similarities are as striking as the differences.**

**Eleven years (1995-2005) of comparisons of the financial performance** of a yearly average of 26 grazing herds and an average of 736 confinement herds in Wisconsin show that graziers providing data consistently had lower costs per hundredweight equivalent (CWT EQ) and per dollar of income at the basic, non-basic, allocated and total cost levels and had higher net farm income from operations (NFIFO)/CWT EQ than their confinement counterparts (**Important-see cost definitions in Chapter IX**).

As explained in Chapter VI, comparing different systems within the same state is more useful than comparing one system from one state to another system from a different state.

#### **Differences**

**Graziers' basic costs averaged about 91% of the confinement basic cost/CWT EQ. Graziers' non-basic costs averaged about 70% of the confinement non-basic cost/CWT EQ. In eleven years, 54% of the graziers' advantage in NFIFO per CWT EQ resulted from their advantage in non-basic costs. The graziers' advantage was spread across many cost items.**

Basic costs typically used 69% of allocated costs for confinement and 74% for grazing herds.  
Non-basic costs typically used 31% of allocated costs for confinement and 26% for grazing herds.

Basic plus non-basic cost equals allocated cost.

Basic costs typically used 59% of income for confinement and 54.1% for grazing herds.  
Non-basic costs typically used 26.3% of income for confinement and 18.9% for grazing herds.  
Allocated costs typically used 85.4% of income for confinement and 73% for grazing herds

**With 73% of income used up by allocated costs (basic plus non-basic), 27 cents of every dollar of income was left for NFIFO** (returns to unpaid labor, management and equity) **for graziers.**

**With 85.4% of income used up by allocated costs (basic plus non-basic), 14.6 cents of every dollar of income was left for NFIFO** (returns to unpaid labor, management and equity) **for confinement farms.**

*Without non-farm income, NFIFO (plus depreciation taken) is **the annual source** of family living funds.*

#### **Similarities**

A striking similarity is that the four largest cost items per CWT EQ were essentially the same for both graziers and confinement.

**The Big Four Grazing Dairy Costs! (used 56.2% of the total allocated cost and 40.8% of the income)**  
**The Big Four Confinement Dairy Costs! (used 52.8% of the total allocated cost and almost 45.1% of the income)**

<u>Graziers</u>		<u>Confinement</u>	
1. Purchased feed	20.5% of income	Purchased feed	18.8% of income
2. Non-livestock depreciation	9.7% of income	Paid Labor & Mgt	10.5% of income
3. Paid Labor & Mgt	5.6% of income	Non-livestock depr	10.1% of income
4. Interest	5.0% of income	Interest	5.7% of income

**The Second Big Four! (used another 14.1% of income for graziers and 16.3% of income for confinement farms)**

<u>Graziers</u>		<u>Confinement</u>	
5. Repairs, all	4.8% of income	Repairs , all	5.3% of income
6. Supplies	3.8% of income	Rent, all	4.2% of income
7. Other Farm Expense	3.1% of income	Other Farm Expense	3.7% of income
8. Rent, all	2.3% of income	Supplies	3.0% of income

**The “High Five” cost items were the same for graziers and confinement although the ranking differed a little bit.**

1. **Purchased feed** was the highest cost category for each system each year. It used from 25% to 33% of the allocated cost on grazing and 20% to 26% on confinement farms. It used from 16% to 21% of income for both systems. Paid labor and management, depreciation and interest were the other three of the four major costs for all systems. These three cost categories together are the non-basic cost category and typically accounted for about another 20% of allocated costs on grazing and 26% on confinement farms. These three cost categories used from 17% to 21% of income on grazing and 22% to 28% of income on confinement farms, depending on the year. Purchased feed is a basic cost. For graziers, purchased feed cost was often larger than the total non-basic costs.

Purchased feed used a higher percent of total allocated costs and income for graziers because most of them fed grain but few of them raised grain. Most confinement farms fed and raised grain. Obviously the purchased feed category doesn't measure the cost of raised feed.

2. **Non-livestock depreciation is a non-basic cost and was the second largest cost** in most years for graziers. It was second or a close third for confinement herds. It used from 8% to 15% of total allocated costs for grazing and 9% to 17% for confinement herds. It used from 6% to 14% of total income for grazing and 7% to 13% of income for confinement herds.

**Livestock depreciation** is a basic cost and was much smaller than non-livestock depreciation. It used from 1.3% to 3.2% of income for confinement herds and 0.3% to 2.5% of income for graziers. Herds that increase or maintain size by purchasing replacements experience higher amounts of livestock depreciation. If livestock depreciation were added to non-livestock depreciation, its ranking among cost categories would not change for graziers but would move to second place for confinement herds.

3. **Paid labor and management is a non-basic cost and was the second highest cost category for confinement herds** in most years. It was third highest when it wasn't in second place. For graziers, it ranked from third to sixth highest among the eleven years. It used from 10% to 13% of total allocated costs and 8% to 12% of income for confinement, and 4% to 8% of allocated costs and 3% to 6% of income for graziers. The difference between confinement and grazing in this category is exaggerated by the fact that the grazing data had less dependent labor in it. Much of the dependent labor paid on farms was paid to family members for tax management purposes.

4. **Interest** used from about 5% to 9% of total allocated cost and 4% to 7% of income for graziers and confinement herds.
5. **Rounding out the high five, repair** costs were the third highest in four years, fourth highest in four years, and fifth highest in three years for graziers. **Repair** costs were the fourth highest in three years and fifth highest in eight years for confinement herds.

**The cost items included in the second big four but not the high five** in either system are all basic costs. “Other farm expense” and “supplies” were in the second big four for both systems but difficult to interpret since each one can contain a wide variety of individual items.

Rent paid for any farm asset (land, buildings, equipment) was in sixth place for confinement herds and in eighth place for graziers. Confinement herds spent almost double the percent of income on rent compared to graziers.

**Two cost items that often are thought of as being major** used a much smaller part of income than most people would suspect. These two items are **veterinary and medicine expense and property tax**. Property tax typically used about 1.8% of income for graziers and 1.4% of income for confinement. Prior to use value assessment of farm land in Wisconsin, property tax used about 2.2% of income for both groups. Veterinary and medicine typically used about 2.3% of grazer income and 2.8% of income for confinement herds.

**The ranking of major cost items in the “high five” list may differ slightly** from the ranking in the tables mainly because the rankings in the “high five” list combine both dairy systems. In addition, expense items were ranked each year for each system to obtain ranges in values discussed in the “high five” list. Remember that an average doesn’t reveal the amount of variation from one year to another.

**Table 6-1** uses an eleven year simple average of the cost of production per cow, per CWT EQ, and as a percent of income for cost items from Wisconsin graziers and Wisconsin confinement herds available from the AgFA database. The cost items are shown in the same sequence for graziers and confinement herds to help readers compare specific cost items between the two dairy systems. The cost items appear in a format fairly similar to their appearance in a typical AgFA© cost of production report with basic costs shown nearly alphabetically. Non-basic costs are listed below the basic costs. NFIFO and NFI are also shown below total costs.

The same data are formatted differently in **Table 6-2** where cost items are ranked from highest to lowest, separately for graziers and confinement herds. Total costs, NFIFO and NFI are not included in Table 6-2.

Careful readers of the tables will notice that all of the percentages in a column add up to more than 100%. That is because the tables include major cost categories such as allocated, basic and non-basic and total, in addition to the individual cost items that make up these larger categories. For example, non-basic costs include paid labor and management, interest and non-livestock depreciation. Because of rounding, other small mathematical differences might be found in the tables.

**Table 6-1 Wisconsin Grazier and Confinement Eleven-Year Average Cost of Production**

	Wis. Grazier 11-Year Average				Wis. Confinement 11-Year Average			
	Cost of Production				Cost of Production			
	Per Cow	/CWT EQ	As a % of Allocated	As a % of Income	Per Cow	/CWT EQ	As a % of Allocated	As a % of Income
<b>U. S. Average Milk Price</b>	\$2,879.12	\$13.99		100.00%	\$3,516.62	\$13.99		100.00%
<b>Cash Expenses</b>								
Breeding Fees	\$28.81	\$0.14	1.38%	1.00%	\$38.76	\$0.15	1.29%	1.10%
Car and Truck Expense	\$9.29	\$0.05	0.45%	0.32%	\$16.04	\$0.06	0.53%	0.46%
Chemicals	\$10.98	\$0.05	0.53%	0.38%	\$49.94	\$0.20	1.66%	1.42%
Conservation Expenses	\$0.50	\$0.00	0.02%	0.02%				
Custom Hire (Machine Work)	\$53.63	\$0.26	2.57%	1.86%	\$91.95	\$0.37	3.06%	2.61%
Custom Heifer Raising	\$10.92	\$0.05	0.52%	0.38%	\$18.19	\$0.07	0.61%	0.52%
Feed Purchase	\$588.82	\$2.86	28.24%	20.45%	\$659.92	\$2.63	21.97%	18.77%
Fertilizer and Lime	\$62.44	\$0.30	2.99%	2.17%	\$89.00	\$0.35	2.96%	2.53%
Freight and Trucking	\$23.99	\$0.12	1.15%	0.83%	\$30.53	\$0.12	1.02%	0.87%
Gasoline, Fuel, and Oil	\$47.11	\$0.23	2.26%	1.64%	\$71.61	\$0.28	2.38%	2.04%
Farm Insurance	\$38.20	\$0.19	1.83%	1.33%	\$42.81	\$0.17	1.43%	1.22%
Marketing & Hedging	\$33.76	\$0.16	1.62%	1.17%	\$62.87	\$0.25	2.09%	1.79%
Rent/Lease All	\$65.73	\$0.32	3.15%	2.28%	\$149.02	\$1.25	4.96%	4.24%
Repairs all	\$137.80	\$0.67	6.61%	4.79%	\$187.51	\$0.75	6.24%	5.33%
Seeds and Plants Purchased	\$34.93	\$0.17	1.68%	1.21%	\$73.77	\$0.29	2.46%	2.10%
Supplies Purchased	\$109.90	\$0.53	5.27%	3.82%	\$105.89	\$0.42	3.52%	3.01%
Taxes	\$51.84	\$0.25	2.49%	1.80%	\$48.58	\$0.19	1.62%	1.38%
Utilities	\$58.79	\$0.29	2.82%	2.04%	\$68.13	\$0.27	2.27%	1.94%
Veterinary Fees and Medicine	\$64.88	\$0.32	3.11%	2.25%	\$100.11	\$0.40	3.33%	2.85%
Other Farm Expenses	\$89.99	\$0.44	4.32%	3.13%	\$131.28	\$0.52	4.37%	3.73%
Combined Non-Cash Adjustments	-\$7.20	-\$0.03	-0.35%	-0.25%	(\$8.85)	-\$0.04	-0.29%	-0.25%
Depreciation: Livestock	\$30.58	\$0.15	1.47%	1.06%	\$48.32	\$0.19	1.61%	1.37%
<b>Total Basic Cost</b>	<b>\$1,546.53</b>	<b>\$7.52</b>	<b>74.17%</b>	<b>53.72%</b>	<b>\$2,076.80</b>	<b>\$8.26</b>	<b>69.13%</b>	<b>59.06%</b>
<b>Total Interest Cost Paid</b>	<b>\$143.81</b>	<b>\$0.70</b>	<b>6.90%</b>	<b>4.99%</b>	<b>\$200.78</b>	<b>\$0.80</b>	<b>6.68%</b>	<b>5.71%</b>
Total Dependent Labor Cost	\$6.61	\$0.03	0.32%	0.23%	\$105.25	\$0.42	3.50%	2.99%
Total Non-Dependent Labor Cost	\$109.90	\$0.53	5.27%	3.82%	\$265.89	\$1.06	8.85%	7.56%
Total Paid Labor Cost	\$160.52	\$0.78	7.70%	5.58%	\$371.14	\$1.48	12.35%	10.55%
<b>Depreciation: Non-livestock</b>	<b>\$278.27</b>	<b>\$1.35</b>	<b>13.35%</b>	<b>9.66%</b>	<b>\$355.69</b>	<b>\$1.42</b>	<b>11.84%</b>	<b>10.11%</b>
<b>Total Non-basic Cost</b>	<b>\$538.59</b>	<b>\$2.62</b>	<b>25.83%</b>	<b>18.71%</b>	<b>\$927.42</b>	<b>\$3.69</b>	<b>30.87%</b>	<b>26.37%</b>
<b>Total Allocated Cost (Basic + Non-basic)</b>	<b>\$2,085.11</b>	<b>\$10.13</b>	<b>100.00%</b>	<b>72.42%</b>	<b>\$3,004.22</b>	<b>\$11.95</b>	<b>100.00%</b>	<b>85.43%</b>
Unpaid Labor/Management	\$483.82	\$2.35	23.20%	16.80%	\$303.39	\$1.21	10.10%	8.63%
Interest On Equity	\$242.32	\$1.18	11.62%	8.42%	\$263.36	\$1.05	8.77%	7.49%
<b>Total Opportunity Cost</b>	<b>\$726.14</b>	<b>\$3.53</b>	<b>34.83%</b>	<b>25.22%</b>	<b>\$566.75</b>	<b>\$2.25</b>	<b>18.87%</b>	<b>16.12%</b>
<b>Total Cost</b>	<b>\$2,811.26</b>	<b>\$13.66</b>	<b>134.83%</b>	<b>97.64%</b>	<b>\$3,570.96</b>	<b>\$14.21</b>	<b>118.87%</b>	<b>101.55%</b>
Total Income - Total Cost	\$67.87	\$0.33	3.25%	2.36%	(\$54.34)	-\$0.22	-1.81%	-1.55%
<b>Net Farm Income from Operations (NFIFO)</b>	<b>\$772.72</b>	<b>\$3.76</b>	<b>37.06%</b>	<b>26.84%</b>	<b>\$512.40</b>	<b>\$2.04</b>	<b>17.06%</b>	<b>14.57%</b>
Gain (Loss) on Sale of All Farm Assets	\$10.32	\$0.05	0.49%	0.36%	\$16.68	\$0.07	0.56%	0.47%
Net Farm Income (NFI)	\$783.04	\$3.81	37.55%	27.20%	\$515.77	\$2.05	17.17%	14.67%



**Table 6-2 Wisconsin Grazier and Confinement 11-Year Average Cost of Production Items Ranked from Highest to Lowest**

Wisconsin Grazier 11-Year Average					Wisconsin Confinement 11-Year Average				
Cost of Production					Cost of Production				
	Per Cow	/CWT EQ	As a % of Allocated	As a % of Income		Per Cow	/CWT EQ	As a % of Allocated	As a % of Income
U. S. Average Milk Price	\$2,879.12	\$13.99		100.00%	U. S. Average Milk Price	\$3,516.62	\$13.99		100.00%
<b>Cash Expenses</b>					<b>Cash Expenses</b>				
<b>Total Allocated Cost</b>	<b>\$2,085.11</b>	<b>\$10.13</b>	<b>100.00%</b>	<b>72.42%</b>	<b>Total Allocated Cost</b>	<b>\$3,004.22</b>	<b>\$11.95</b>	<b>100.00%</b>	<b>85.43%</b>
<b>Total Basic Cost</b>	<b>\$1,546.53</b>	<b>\$7.52</b>	<b>74.17%</b>	<b>53.72%</b>	<b>Total Basic Cost</b>	<b>\$2,076.80</b>	<b>\$8.26</b>	<b>69.13%</b>	<b>59.06%</b>
Feed Purchase	\$588.82	\$2.86	28.24%	20.45%	<b>Total Non-basic Cost</b>	<b>\$927.42</b>	<b>\$3.69</b>	<b>30.87%</b>	<b>26.37%</b>
<b>Total Non-basic Cost</b>	<b>\$538.59</b>	<b>\$2.62</b>	<b>25.83%</b>	<b>18.71%</b>	Feed Purchase	\$659.92	\$2.63	21.97%	18.77%
<b>Depreciation: Non-livestock</b>	<b>\$278.27</b>	<b>\$1.35</b>	<b>13.35%</b>	<b>9.66%</b>	Total Paid Labor Cost	\$371.14	\$1.48	12.35%	10.55%
Total Paid Labor Cost	\$160.52	\$0.78	7.70%	5.58%	<b>Depreciation: Non-livestock</b>	<b>\$355.69</b>	<b>\$1.42</b>	<b>11.84%</b>	<b>10.11%</b>
<b>Total Interest Cost Paid</b>	<b>\$143.81</b>	<b>\$0.70</b>	<b>6.90%</b>	<b>4.99%</b>	Total Non-Dependent Labor Cost	\$265.89	\$1.06	8.85%	7.56%
Repairs all	\$137.80	\$0.67	6.61%	4.79%	<b>Total Interest Cost Paid</b>	<b>\$200.78</b>	<b>\$0.80</b>	<b>6.68%</b>	<b>5.71%</b>
Total Non-Dependent Labor Cost	\$109.90	\$0.53	5.27%	3.82%	Repairs all	\$187.51	\$0.75	6.24%	5.33%
Supplies Purchased	\$109.90	\$0.53	5.27%	3.82%	Rent/Lease All	\$149.02	\$1.25	4.96%	4.24%
Other Farm Expenses	\$89.99	\$0.44	4.32%	3.13%	Other Farm Expenses	\$131.28	\$0.52	4.37%	3.73%
Rent/Lease All	\$65.73	\$0.32	3.15%	2.28%	Supplies Purchased	\$105.89	\$0.42	3.52%	3.01%
Veterinary Fees and Medicine	\$64.88	\$0.32	3.11%	2.25%	Total Dependent Labor Cost	\$105.25	\$0.42	3.50%	2.99%
Fertilizer and Lime	\$62.44	\$0.30	2.99%	2.17%	Veterinary Fees and Medicine	\$100.11	\$0.40	3.33%	2.85%
Utilities	\$58.79	\$0.29	2.82%	2.04%	Custom Hire (Machine Work)	\$91.95	\$0.37	3.06%	2.61%
Custom Hire (Machine Work)	\$53.63	\$0.26	2.57%	1.86%	Fertilizer and Lime	\$89.00	\$0.35	2.96%	2.53%
Taxes	\$51.84	\$0.25	2.49%	1.80%	Seeds and Plants Purchased	\$73.77	\$0.29	2.46%	2.10%
Gasoline, Fuel, and Oil	\$47.11	\$0.23	2.26%	1.64%	Gasoline, Fuel, and Oil	\$71.61	\$0.28	2.38%	2.04%
Farm Insurance	\$38.20	\$0.19	1.83%	1.33%	Utilities	\$68.13	\$0.27	2.27%	1.94%
Seeds and Plants Purchased	\$34.93	\$0.17	1.68%	1.21%	Marketing & Hedging	\$62.87	\$0.25	2.09%	1.79%
Marketing & Hedging	\$33.76	\$0.16	1.62%	1.17%	Chemicals	\$49.94	\$0.20	1.66%	1.42%
Depreciation: Livestock	\$30.58	\$0.15	1.47%	1.06%	Taxes	\$48.58	\$0.19	1.62%	1.38%
Breeding Fees	\$28.81	\$0.14	1.38%	1.00%	Depreciation: Livestock	\$48.32	\$0.19	1.61%	1.37%
Freight and Trucking	\$23.99	\$0.12	1.15%	0.83%	Farm Insurance	\$42.81	\$0.17	1.43%	1.22%
Chemicals	\$10.98	\$0.05	0.53%	0.38%	Breeding Fees	\$38.76	\$0.15	1.29%	1.10%
Custom Heifer Raising	\$10.92	\$0.05	0.52%	0.38%	Freight and Trucking	\$30.53	\$0.12	1.02%	0.87%
Car and Truck Expense	\$9.29	\$0.05	0.45%	0.32%	Custom Heifer Raising	\$18.19	\$0.07	0.61%	0.52%
Total Dependent Labor Cost	\$6.61	\$0.03	0.32%	0.23%	Car and Truck Expense	\$16.04	\$0.06	0.53%	0.46%
Conservation Expenses	\$0.50	\$0.00	0.02%	0.02%	Combined Non-Cash Adjustments	<b>(\$8.85)</b>	<b>-\$0.04</b>	<b>-0.29%</b>	<b>-0.25%</b>
Combined Non-Cash Adjustments	<b>-\$7.20</b>	<b>-\$0.03</b>	<b>-0.35%</b>	<b>-0.25%</b>					

## B. Major Cost Items on Great Lakes Grazing Network (GLGN) Grazing Dairy Farms

Cost data from GLGN farms provide an interesting comparison to Wisconsin grazing and confinement farms (Important-see cost definitions in Chapter IX).

In this six-year average:

- Basic costs represented 74% of allocated costs and 61% of income.
- Non-basic costs represented 25.7% of allocated costs and 21% of income.
- **With 81.7% of income used up by allocated costs (basic plus non-basic), 18.3 cents of every dollar of income was left for NFIFO** (NFIFO equals returns to unpaid labor, management and equity). *Without non-farm income, NFIFO (plus depreciation taken) is the annual source of family living funds.*

**The Big Four Costs! (used almost 57% of the total allocated cost and 46.4% of the income for GLGN grazing dairy farms)**

1. Purchased feed	27.2% of allocated cost and 22.2% of income
2. Non-livestock depreciation	12.5% of allocated cost and 10.2% of income
3. Paid labor and management	9.3% of allocated cost and 7.6% of income
4. Repairs	7.8% of allocated cost and 6.4% of income

**Purchased feed** was easily the highest cost category each year. **Paid labor and management, non-livestock depreciation and repairs** were the other three of the four major costs for GLGN grazing dairy farms. On the average, these three cost categories together typically accounted for almost 30% of allocated costs and over 24% of income on GLGN grazing farms. Paid labor and management and non-livestock depreciation are non-basic costs. Purchased feed and repairs are basic costs. For the GLGN graziers, the six-year average purchased feed cost was slightly larger than total non-basic costs.

Livestock depreciation is a basic cost and was much smaller than non-livestock depreciation. It used less than one percent of income for GLGN graziers. Herds that increase or maintain size by purchasing replacements experience higher amounts of livestock depreciation. If livestock depreciation were added to non-livestock depreciation, its second place ranking among cost categories would not change.

**Paid labor is a non-basic cost and was the third highest cost category** in five years. It was second highest when it wasn't in third place.

**The Second Big Four Costs!**

5. Interest	5.4% of allocated cost and 4.4% of income
6. Marketing and hedging	3.9% of allocated cost and 3.2% of income
7. Other livestock expense	3.2% of allocated cost and 2.6% of income
8. Supplies	3.0% of allocated cost and 2.5% of income

Collectively, the second "big four" accounted for about another 15.5% of allocated cost and 12.7% of income. Interest is a non-basic cost. "Marketing and hedging," "other livestock expense," and "supplies" are basic costs and are more difficult to interpret since each one can contain a wide variety of individual items.

Property tax and veterinary and medicine expense used a smaller portion of allocated cost and income than many perceive. Property tax typically used about 2.1% of allocated cost and 1.7% of income. Veterinary and medicine typically represented about 2.6% of the allocated cost and 2.1% of income.

### Cost of Production (COP) Table

The six-year (2000-2005) simple average COP report is shown in **Table 6-3** two ways. First, costs are shown in the COP sequence used in AgFA© to show the calculation of allocated, basic, non-basic and total cost. Secondly, cost items are ranked from highest to lowest to help understand and control costs. Individual year performance was also examined in these ways from an average of 105 farms per year.

Columns show each cost item per cow, per hundredweight equivalent, and as a percent of income. Careful readers of the tables will notice that all of the percentages in a column add up to more than 100%. That is because the tables include major cost categories such as allocated, basic, non-basic and total (**defined in Chapter IX**), in addition to the individual cost items that make up these larger categories. For example non-basic costs are paid labor and management, interest and non-livestock depreciation. Because of rounding, other small mathematical differences might be found in the tables.

Table 6-3 Great Lakes Grazing Network Grazier Six-Year Average Cost of Production

Standard Cost of Production Report	Cost of Production			Standard Cost of Production Report	Cost of Production		
	/Cow	/CWT EQ	As a % of Income		/Cow	/CWT EQ	As a % of Income
<b>U. S. Average Milk Price</b>				<b>U. S. Average Milk Price</b>			
<b>Cash Expenses</b>				<b>Cash Expenses</b>			
Breeding Fees	\$31.23	\$0.15	1.06%	<b>Total Allocated Costs</b>	<b>\$2,412.86</b>	<b>\$11.32</b>	<b>81.71%</b>
Car and Truck Expense	\$6.00	\$0.03	0.20%	<b>Total Basic Cost</b>	<b>\$1,791.90</b>	<b>\$8.41</b>	<b>60.68%</b>
Chemicals	\$18.63	\$0.09	0.63%	Feed Purchase	\$657.73	\$3.09	22.27%
Custom Hire (Machine Work)	\$69.23	\$0.32	2.34%	<b>Non-Basic (Allocated Minus Basic) Costs</b>	<b>\$620.96</b>	<b>\$2.91</b>	<b>21.03%</b>
Custom Heifer Raising	\$1.67	\$0.01	0.06%	Depreciation - non-livestock	\$302.49	\$1.42	10.24%
Feed Purchase	\$657.73	\$3.09	22.27%	<b>Total Paid Employee Compensation</b>	<b>\$225.52</b>	<b>\$1.06</b>	<b>7.64%</b>
Fertilizer and Lime	\$65.73	\$0.31	2.23%	Total Non-Dependent Employee Compensation	\$219.03	\$1.03	7.42%
Freight and Trucking	\$18.37	\$0.09	0.62%	Repairs all	\$189.18	\$0.89	6.41%
Gasoline, Fuel, and Oil	\$67.82	\$0.32	2.30%	Repairs and Maintenance	\$174.73	\$0.82	5.92%
Farm Insurance	\$40.89	\$0.19	1.38%	<b>Total Interest Cost</b>	<b>\$130.66</b>	<b>\$0.61</b>	<b>4.42%</b>
Marketing & Hedging	\$94.14	\$0.44	3.19%	Marketing & Hedging	\$94.14	\$0.44	3.19%
Rent/Lease Equipment	\$8.53	\$0.04	0.29%	Other Livestock Expenses	\$77.44	\$0.36	2.62%
Rent/Lease Other	\$58.63	\$0.28	1.99%	Supplies Purchased	\$73.22	\$0.34	2.48%
Rent all	<b>\$67.16</b>	<b>\$0.32</b>	<b>2.27%</b>	Utilities	\$69.89	\$0.33	2.37%
Repairs and Maintenance	\$174.73	\$0.82	5.92%	Custom Hire (Machine Work)	\$69.23	\$0.32	2.34%
Building and Fence Repairs	\$9.91	\$0.05	0.34%	Gasoline, Fuel, and Oil	\$67.82	\$0.32	2.30%
Machinery Repairs	\$4.55	\$0.02	0.15%	Rent all	\$67.16	\$0.32	2.27%
Repairs all	<b>\$189.18</b>	<b>\$0.89</b>	<b>6.41%</b>	Fertilizer and Lime	\$65.73	\$0.31	2.23%
Seeds and Plants Purchased	\$35.16	\$0.16	1.19%	Other Farm Expenses	\$64.39	\$0.30	2.18%
Supplies Purchased	\$73.22	\$0.34	2.48%	Veterinary Fees and Medicine	\$63.83	\$0.30	2.16%
Taxes	\$50.59	\$0.24	1.71%	Rent/Lease Other	\$58.63	\$0.28	1.99%
Utilities	\$69.89	\$0.33	2.37%	Taxes	\$50.59	\$0.24	1.71%
Veterinary Fees and Medicine	\$63.83	\$0.30	2.16%	Farm Insurance	\$40.89	\$0.19	1.38%
Other Farm Expenses	\$64.39	\$0.30	2.18%	Seeds and Plants Purchased	\$35.16	\$0.16	1.19%
Other Crop Expenses	\$4.30	\$0.02	0.15%	Breeding Fees	\$31.23	\$0.15	1.06%
Other Livestock Expenses	\$77.44	\$0.36	2.62%	Depreciation - Livestock	\$21.22	\$0.10	0.72%
Combined Non-Cash Adjustments	(\$0.91)	\$0.00	-0.03%	Chemicals	\$18.63	\$0.09	0.63%
Depreciation - Livestock	\$21.22	\$0.10	0.72%	Freight and Trucking	\$18.37	\$0.09	0.62%
<b>Total Basic Cost</b>	<b>\$1,791.90</b>	<b>\$8.41</b>	<b>60.68%</b>	Building and Fence Repairs	\$9.91	\$0.05	0.34%
				Rent/Lease Equipment	\$8.53	\$0.04	0.29%
Total Interest Cost	\$130.66	\$0.61	4.42%	Total Dependent Employee Compensation	\$6.49	\$0.03	0.22%
Total Dependent Employee Compensation	\$6.49	\$0.03	0.22%	Car and Truck Expense	\$6.00	\$0.03	0.20%
Total Non-Dependent Employee Compensation	\$219.03	\$1.03	7.42%	Machinery Repairs	\$4.55	\$0.02	0.15%
Total Paid Employee Compensation	\$225.52	\$1.06	7.64%	Other Crop Expenses	\$4.30	\$0.02	0.15%
				Custom Heifer Raising	\$1.67	\$0.01	0.06%
Depreciation - non-livestock	\$302.49	\$1.42	10.24%	Combined Non-Cash Adjustments	(\$0.91)	\$0.00	-0.03%
Non-Basic (Allocated Minus Basic) Costs	\$620.96	\$2.91	21.03%				
<b>Total Allocated Costs</b>	<b>\$2,412.86</b>	<b>\$11.32</b>	<b>81.71%</b>				
Unpaid Labor/Management	\$415.15	\$1.95	14.06%				
Interest On Equity	\$286.24	\$1.34	9.69%				
<b>Total Opportunity Costs</b>	<b>\$701.39</b>	<b>\$3.29</b>	<b>23.75%</b>				
<b>Total Expenses</b>	<b>\$3,114.26</b>	<b>\$14.62</b>	<b>105.46%</b>				
Net farm Income Operations (NFIFO)							
(NFIFO=Nat'l Ave. Price-Total Allocated Cost)	\$816.70	\$3.83	27.66%				
Gain (Loss) on Sale of All Farm Assets	\$25.51	\$0.12	0.86%				
<b>Net Farm Income (NFI)</b>	<b>\$565.22</b>	<b>\$2.65</b>	<b>19.14%</b>				

## **XIX. Preview of Financial Performance of Graziers by Breed of Cattle**

Dairy herds in the GLGN database represent a number of different breeds of dairy cows as well as crossbred cattle. **Many graziers are keenly interested in breeding the ideal grazing dairy cow.** Therefore, data in this project have been sorted by breed in an attempt to measure the impact of breed on profitability.

The participating herds were categorized as being one of the seven major dairy breeds (Ayrshire, Brown Swiss, Guernsey, Jersey, Holstein (black and white), Holstein (red and white), and Milking Shorthorn) if the herd was at least 85% of one of the above breeds. No red and white Holstein herds were in the data. *The term purebred as used here doesn't require registration. It is used to designate an animal that most experienced observers would recognize as a member of a specific breed and is not known to have crossbreeding in recent ancestry.*

Since not all herds are homogeneous, additional categories and their definitions are necessary.

- 1) Other implies a herd that is at least 85% of a "pure breed" other than the seven major dairy breeds listed as a choice above. Examples are Dutch Belted and Normande.
- 2) Crossbred implies a herd consisting mainly of cows that are the genetic result of a deliberately planned crossbreeding program.
- 3) Mixed implies a combination of several "pure" breeds or a combination of one or more purebreds plus crossbreeds such that no single homogeneous group represents the "predominant breed in the herd." The definition of a herd of mixed breeds is so broad that no two "mixed" herds are alike. The mixed breed category is a "catch all" category. If a herd doesn't fit into one of the more precisely defined breed categories, it was included in the mixed breed category.

There are not enough herds from most breeds to make any meaningful comparisons.

In 2005, 62 of the herds were identified as Holstein. Of the 53 that were not identified as Holstein, 42 were mixed, 6 were Jersey, 4 were crossbred, and one was Brown Swiss.

In 2004, 61 of the herds were identified as Holstein. Of the 40 that were not identified as Holstein, 30 were mixed, 5 were Jersey, 4 were crossbred, and one was Brown Swiss.

In 2003, 61 of the herds were identified as Holstein. Of the 41 that were not identified as Holstein, 28 were mixed, 6 were Jersey, 6 were crossbred, and one was Brown Swiss.

In 2002, 63 of the herds were identified as Holstein. Of the 40 that were not identified as Holstein, 26 were mixed, 8 were Jersey, 3 were crossbred, with one each of Ayrshire, Brown Swiss, and Dutch Belted.

In 2001, 70 of the herds were identified as Holstein. Of the 54 herds that were not categorized as Holstein, 34 were mixed, 10 were Jersey, five were crossbred, three were Ayrshire, and one each of Brown Swiss and Dutch Belted.

Only one other pure breed (other than Holstein) was found as the predominant breed in 8 or more herds in the study in more than one year. That breed is Jersey and this number of observations is too small to use for confident conclusions. Also since many the Jersey herds practiced seasonal calving, the Jersey herd performance may be influenced more by calving practice than by breed. Another section of this report discusses the financial performance of herds meeting the seasonal calving/milking definition.

With Holstein and non-Holstein being the two largest "breed" groups, the third largest number of observations is the mixed group with 42 observations in 2005, 29 in 2004, 28 in 2003, 26 in 2002 and 34 in 2001. The mixed group is the most Holstein-like subset of the non-Holstein group.

A mixed herd could consist of up to 85% of one pure breed. In the data, several of the mixed herds are between 50 and 84% Holstein. One herd was 75% Ayrshire. Most mixed herds do not have a breed that makes up as much as 50% of the total.

It is difficult to compare mixed or crossbred herds as a group with any other breed group, because no two crossbred or mixed herds are alike. **The best comparison that can be made with this group of data is to**

**compare Holstein with non-Holstein herds.** Not even this comparison was made for 2000 because many herds in the 2000 data were not categorized as precisely as previously described. The mixed group data was shown in the table in the third year report. While not shown in later reports, the relative performance of the mixed group was similar to the performance of the non-Holstein group as shown in Graph 7-1.

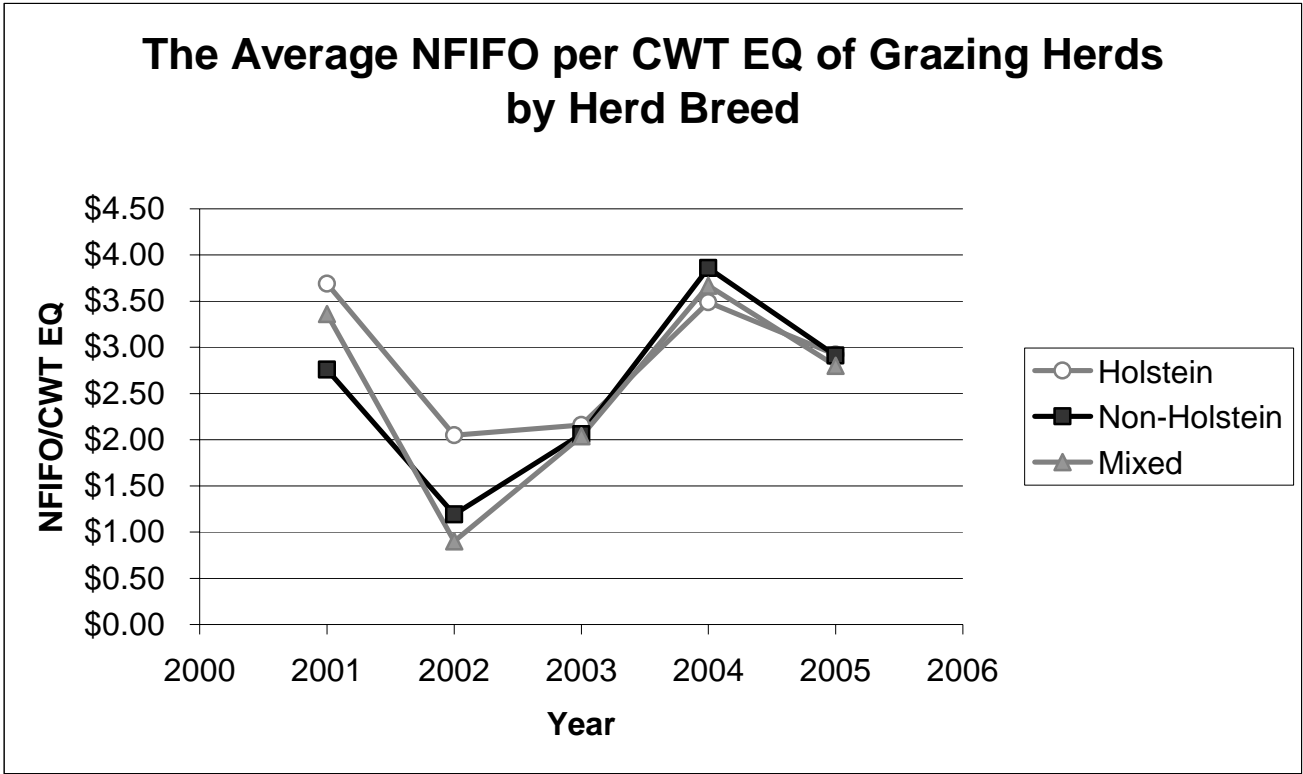
In 2004, for the first time in four years, the non-Holstein herds had an advantage over the Holstein herds in NFIFO per CWT EQ. **In 2005, the Holstein advantage in NFIFO/CWT EQ was very slim.**

In all years, the herds with 85% or more Holsteins had noticeably higher NFIFO per cow than the non-Holstein herds. The Holstein advantage was larger with the NFIFO per cow measure than when measured by NFIFO per CWT EQ. This is contrary to a fairly common belief that Holstein is a less profitable breed for grazing systems. Because a dairy farm is a very complex business with many variables, the differences in profit levels between the two groups cannot be entirely credited to the breed of cows. For example, while the years of grazing and farming experience for all of the graziers is not available in all of the data, it does appear that Holstein herds tend to also have the more experienced managers. The managers with more years of experience have had more time to increase equity and decrease debt. Such factors may be responsible for some of the difference in performance between the Holstein herds and those called non-Holstein.

Therefore the results don't allow us to say that one breed is more profitable than the others.

Graph 7-1 uses selected measures to compare the performance of Holstein, Non-Holstein, and mixed herds. Table 7-1 uses selected measures to compare the performance of Holstein and Non-Holstein herds.

**Graph 7-1**



Because of rounding, some small mathematical differences might be found in the summary tables below.

<b>Table 7-1 Performance Measures Selected from the Average Performance of Grazing Farms From Many States by Herd Breed</b>					
	<b>Holstein</b>				
	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Number of Herds	70	63	61	61	62
Number of Cows per Herd	74**	74**	72	78	85
Average Lbs. Milk per Cow	16,817	17,277	17,187	17,523	18,299
Average Lbs. Milk per Herd	1,247,371	1,280,295	1,229,971	1,374,954	1,552,960
Group Average Mailbox Milk Price	\$16.17	\$13.92	\$15.24	\$17.42	\$16.70
U.S. All Milk Price (used in calculating CWT EQ)*	\$14.94	\$12.15	\$12.50	\$16.10	\$15.14
Average Basic Cost per CWT EQ	\$8.30	\$7.36	\$7.68	\$9.33	\$9.08
Non-Basic Cost per CWT EQ	\$2.95	\$2.74	\$2.66	\$3.28	\$3.14
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$11.25	\$10.10	\$10.34	\$12.61	\$12.22
NFIFO per Cow (if all labor was unpaid)	\$982	\$792	\$767	\$1,043	\$949
NFIFO per CWT EQ (if all labor was unpaid)	\$4.69	\$3.18	\$3.24	\$4.61	\$4.03
NFIFO per Farm	\$57,199	\$37,812	\$36,823	\$61,954	\$58,337
<b>NFIFO per Cow</b>	<b>\$771</b>	<b>\$510</b>	<b>\$515</b>	<b>\$790</b>	<b>\$687</b>
<b>NFIFO per CWT EQ</b>	<b>\$3.69</b>	<b>\$2.05</b>	<b>\$2.16</b>	<b>\$3.49</b>	<b>\$2.92</b>

<b>Table 7-1 continued Performance Measures Selected from the Average Performance of Grazing Farms From Many States by Herd Breed</b>					
	<b>Non-Holstein</b>				
	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Number of Herds	54	40	41	40	53
Number of Cows per Herd	97	105	111	116	115
Average Lbs. Milk per Cow	14,093	13,165	13,649	13,760	14,406
Average Lbs. Milk per Herd	1,371,647	1,378,691	1,515,252	1,595,087	1,660,357
Group Average Mailbox Milk Price	\$16.54	\$13.46	\$15.19	\$18.02	\$16.89
U.S. All Milk Price (used in calculating CWT EQ)*	\$14.94	\$12.15	\$12.50	\$16.10	\$15.14
Average Basic Cost per CWT EQ	\$8.89	\$8.29	\$7.98	\$9.31	\$9.17
Non-Basic Cost per CWT EQ	\$3.29	\$2.67	\$2.46	\$2.93	\$3.06
Allocated Cost per CWT EQ (Basic + Non-Basic Cost)	\$12.18	\$10.96	\$10.44	\$12.24	\$12.23
NFIFO per Cow (if all labor was unpaid)	\$758	\$428	\$578	\$918	\$812
NFIFO per CWT EQ (if all labor was unpaid)	\$4.05	\$2.25	\$2.90	\$4.89	\$4.06
NFIFO per Farm	\$50,201	\$13,759	\$45,560	\$84,014	\$67,092
<b>NFIFO per Cow</b>	<b>\$515</b>	<b>\$227</b>	<b>\$410</b>	<b>\$725</b>	<b>\$582</b>
<b>NFIFO per CWT EQ</b>	<b>\$2.76</b>	<b>\$1.19</b>	<b>\$2.06</b>	<b>\$3.86</b>	<b>\$2.91</b>

\*See Chapters IX and X for more information about CWT EQ and cost categories.

\*\*By coincidence, both herd sizes are equal.

## XX. Preview of Organic Dairy Farm Financial Performance

Potential organic dairy producers want to know three things about the economic impact of choosing that system:

1. What are the potential rewards once the goal of organic certification and marketing is achieved?
2. How long will it take to attain the goal?
3. What will it cost to attain the goal?

Consequently, analyzing the economic performance of organic farms is fairly complex.

It is often said “when switching from conventional to organic, things will get worse before they will get better.” To better understand and fairly compare the financial performance of organic farms, the stages of progression of individual organic farms should be recognized.

This project obtained data from farms in each of the following stages or categories of organic production:

- A. **Pre-organic-** The period of operation of a farm before it attempted to become organic. Since anyone not attempting to become organic could be called pre-organic, it may not be as important to gather data from that period as it is to gather data from farms at some other “organic stage.”
- B. **Transitional organic-** The period of operation of a farm from the time it began to adopt organic practices until achieving organic certification. This is expected to be the least profitable stage
- C. **Certified organic-** The period of operation of a farm from the time it achieved organic certification until receiving organic milk price premiums.
- D. **Certified market organic-** The period of operation of a farm during which it receives organic milk price premiums.

In reality, few farms will supply financial data from years prior to the point at which they “join the project.” At times farms may slip into and out of the above stages or categories, especially between certified organic and certified market organic. Some certified organic producers only obtain organic premiums for part of the year. When that happens, additional judgment will be required to determine the best way to sort the data.

**Data from organic dairy herds are scarce.**

Table 8-1 Number of Organic Farms Submitting Data by Source and Selected Characteristics						
	Organic Farms New York	Organic Farms Ontario	Organic Farms Wisconsin	Total Organic Farms	Organic and Graze	Seasonal Calving/ Milking
2005	1		17	18	11	3
2004	1	1	11	13	10	2
2003	1	1	9	11	9	2
2002	3		6	9	6	1
2001	4		6	10	7	1
2000			6	6	2	1

**Because the organic data is so dominated by Wisconsin, and because of the hazards in comparing one dairy system from one state to a different system from a different state, a separate report has been produced to compare the economics of organic dairy farms to grazing and confinement farms, all from Wisconsin.**

Below are a few observations that should be valid comparing organic to grazing dairy farms.

The average organic dairy farm that submitted data in 2005 to 2003 was smaller, sold slightly fewer pounds of milk per cow and per farm than the average grazing herd. The average organic dairy farm that submitted data in 2002 was larger, sold fewer pounds of milk per cow, but more pounds of milk per farm than the average grazing herd in 2002. In 2001, the average grazing organic herd was smaller, sold fewer pounds of milk per cow and per farm than the average grazing herd. The amount of NFIFO generated each year by the average organic farm was enough to satisfy most small family farm managers. This is explained in part by the higher average price per CWT of milk sold by the organic herds as shown in Table 8-2.

<b>Table 8-2</b>				
<b>Average Milk Price per CWT Sold</b>				
<b>Received by Grazing versus Organic</b>				
<b>Dairy Farms Submitting Data</b>		<b>GLGN</b>	<b>GLGN</b>	<b>Organic</b>
		<b>Graziers</b>	<b>Organic</b>	<b>Premium</b>
	2005	\$16.79	\$22.46	\$5.67
	2004	\$15.68	\$20.79	\$5.11
	2003	\$15.22	\$20.42	\$5.20
	2002	\$13.73	\$19.57	\$5.84
	2001	\$16.31	\$19.99	\$3.68
	2000	\$13.16	\$18.33	\$5.17



## Appendix 1

The Agriculture Financial Advisor (AgFA<sup>®</sup>) program has been developed to assist in the collection, analysis, storage of financial data and certain farm profile information from all farm types. Dr. Gary Frank, Randy Gregory, and the University of Wisconsin's Farm Management Education Team are the developers. Several attributes built into AgFA<sup>®</sup> are similar to attributes of other farm financial computer programs.

In addition, AgFA<sup>®</sup> is set apart from many other computer programs for working with farm data by:

- Allowing for use of the profile data to create specific farm type benchmarks and provide other information to assist farm managers in decision-making for improved profits and lifestyles.
- Allowing data to be keyboard entered into a Windows style input form or electronically transferred from accounting software or other electronic records.
- Allowing licensed users to enter data and receive reports on their own desktop computer or via their own Internet connected computer.
- Allowing each user to obtain summaries (via the Internet) of their group's data and summaries of the entire AgFA<sup>®</sup> data set. The group reports are in the same format as individual reports. Both types can have three years of data on the same report. *Note: groups of less than six users will not be summarized as a method of protecting the **confidentiality** of individual farm's data.*
- Rapid sorting and calculating of a group's financial information. As soon as a user enters a new farm's financial data, the user can obtain an analysis of their group that includes the new farm (if there are six or greater farms in the identified group).
- For more information about AgFA<sup>®</sup>, contact at the UW Center for Dairy Profitability, 1675 Observatory Drive, Madison, WI, (608) 263-5665.

# Cost of Producing Milk per CWT EQ

Prepared by Gary Frank, Center for Dairy Profitability – Madison, WI

Work Sheet:

An Example Farm

Your Farm

1.	<b>Total Schedule F Income</b> (Schedule F, line 11)	<b>\$126,161</b>	_____
2.	<b>Form 4797 Income<sup>1</sup></b>	<b>\$12,143</b>	_____
3.	<b>Change<sup>2</sup> in Feed Inventory</b>	<b>-\$4,127</b>	_____
4.	<b>Change<sup>2</sup> in Dairy Livestock Inventory</b>	<b>\$10,500</b>	_____
5.	<b>Change in Acc. Rec. Other Lst Inv., Etc.</b>	<b>\$0</b>	_____
6.	<b>Total Farm Income</b> (On this worksheet, add lines 1 through 5.)	<b>\$144,677</b>	_____
7.	<b>Average Milk Price<sup>3</sup></b> Use \$15.14 when calculating 2005 cost of production.	<b>\$12.86</b>	_____
8.	<b>Hundredweight Equivalents</b> (CWT EQ) of Milk Produced Critical Value <sup>4</sup> (On this worksheet, divide line 6 by line 7)	<b>\$11,250</b>	_____
9.	<b>Total Schedule F Expenses</b> (Schedule F, line 35)	<b>\$122,521</b>	_____
10.	<b>Change<sup>2</sup> in Accounts Payable</b>	<b>\$1,543</b>	_____
11.	<b>Change<sup>2</sup> in Prepaid Expenses</b>	<b>\$1,200</b>	_____
12.	<b>Total Allocated Costs</b> (On this worksheet, add lines 9 and 10, then subtract line 11)	<b>\$122,864</b>	_____
13.	<b>Total Interest Paid</b> (Add Schedule F lines 23a and 23b)	<b>\$8,470</b>	_____
14.	<b>Wages and Benefits Paid</b> (Only those reported on Schedule F; to obtain this value add Schedule F lines 17, 24, and 25)	<b>\$12,682</b>	_____
15.	<b>Depreciation Claimed</b> (Schedule F line 16 minus Depr. claimed on livestock)	<b>\$15,346</b>	_____
16.	<b>Total Basic Costs</b> (On this worksheet, line 12 minus lines 13, 14, and 15)	<b>\$86,366</b>	_____
17.	<b>Basic Cost per CWT EQ<sup>5</sup></b> (On this worksheet, line 16 divided by line 8)	<b>\$7.68</b>	_____ Goal <= \$8.00
18.	<b>Total \$s available for other costs<sup>6</sup></b> (On this worksheet, line 6 minus line 16)	<b>\$58,311</b>	_____
19.	<b>Basic Cost Margin per COW</b> (On this worksheet, divide line 18 by average number of cows, both milking and dry, in herd.)	<b>\$1,166</b>	_____ Goal => \$1,200
20.	<b>Total Allocated Costs per CWT EQ</b> (On this worksheet, divide line 12 by line 8)	<b>\$10.92</b>	_____
21.	<b>Total \$ available to cover unallocated costs<sup>7</sup></b> (On this worksheet, (line 7 minus line 20) times line 8)	<b>\$21,825</b>	_____
22.	<b>Unpaid labor &amp; management charge per CWT EQ \$1.98</b> (Unpaid labor & management charge divide by line 8) (In this example, the opportunity cost of all family labor & management was set at \$35,000. This minus wages paid to family members of \$12,682 = \$22,318. This divided by line 8 equals \$1.98.)		_____
23.	<b>Total Allocated plus unpaid labor &amp; management</b> (On this worksheet, add lines 20 and 22.)	<b>\$12.90</b>	_____ Goal <= line 7

The footnotes are on the back of this page.

## Footnotes

<sup>1</sup>When Form 4797 contains only income from the sale of culled raised dairy livestock, enter the income reported. If it contains the sale of purchased dairy livestock and the "one-time" sale of some other asset(s), such as an old plow, adjustments must be made.

Note: In the case of the "one-time" sale, that income must be subtracted from the Total Form 4797 income before a value is entered. In the case where purchased breeding livestock are included, enter the net amount. This net will take into account the unrecovered basis that was claimed against this sale.

<sup>2</sup>Change equals the ending amount minus the beginning amount. The best way to get this value is to ask yourself if there was any change in this item during the year in question. If the answer is "yes" then follow with the question, "how much"? This method avoids having to determine the absolute inventory level at the beginning and end of the year in question.

<sup>3</sup>If you wish to compare your costs to the costs on other farms, use the U.S. average all milk price for the year in question. It was \$13.68, \$12.24, \$13.09, \$12.80, \$12.97, \$12.74, \$14.88, \$13.34, \$15.43, \$14.37, \$12.33, \$14.94, \$12.15, \$12.50, \$16.10, and \$15.14 in 1990 - 2005, respectively. Or you can divide your total milk income (before any deductions for hauling, marketing, etc.) by the number of hundredweight of milk you sold during the year to calculate the average milk price on your farm. However, then you can only accurately compare your costs this year to your costs in previous years.

<sup>4</sup>The Critical Value should be divided into the total cost of an expense item to obtain its Cost of Production per Hundredweight Equivalent (CWT EQ). Example: your purchased feed costs are \$34,871 and your Critical Value is 12,842. Then, your purchased feed costs are \$2.72 ( $34871 / 12842$ ) per CWT EQ. You can then compare your costs to those on the tables.

<sup>5</sup>The average Basic Cost on selected Wisconsin dairy farms was \$7.54, \$7.68, \$7.11, \$7.41, \$8.55, \$7.86, \$8.23, \$7.72, \$7.75, \$7.91, \$9.03, \$7.70, \$9.57 and \$9.10 in 1992-2005, respectively. Farmers should calculate this value each year to monitor changes in their basic production costs. This value allows farm managers to compare their cost to previous years, other dairy businesses, and the price without regard to herd size, production level, debt position, and percent of total labor paid. See *Managing the Farm* Vol. 28 No. 1 & 2 for more information.

<sup>6</sup>The "other" cost items are: Interest (both that actually paid and the opportunity cost interest on your equity in the business), Capital Consumed (reduction in the value of your machinery, equipment, etc. caused by using it and/or by it becoming obsolete), Labor and Management Paid and the Opportunity Cost of Unpaid Labor and Management. Any return above all these costs is an economic profit.

<sup>7</sup>Unallocated costs, for most farm managers, are their (and their family's) Labor and Management plus a Return to Equity Capital. However, some farm managers pay their family members (or themselves) some wages and benefits that are deductible on Schedule F. In those cases, this margin will not be as large as when the return to the entire farmer's (and family's) labor, management and equity capital are imbedded in it.

In the example, the farm's margin available for unallocated costs is \$21,825; this is not the return to the farmer's (and family's) Labor, Management and Equity Capital. The Return to Labor, Management and Equity Capital is the amount calculated above plus the Wages and Benefits paid to family members. In the example, if all the Wages and Benefits paid were to family members, the total return to their Labor, Management and Equity Capital is \$34,507 (\$21,825 plus \$12,682)

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## Selected Acronyms, Definitions and Terms

**AgFA<sup>®</sup>** (Agricultural Financial Advisor<sup>®</sup>) – The computer program used to analyze the data in this report.

**Allocated Costs** - equals total cost minus the opportunity cost of unpaid labor, management and capital supplied by the owner(s). Since opportunity cost is not consciously calculated by everyone, allocated cost is often used by non-economists as a default proxy for total cost. Allocated cost also equals total income minus NFIFO. See Chapter IX for more information.

**Basic costs** - equals allocated cost minus, interest, non-livestock depreciation, paid labor and paid management. See Chapter IX for more information. Also see non-basic costs.

**CCC** - Commodity Credit Corporation

**CMV** - Current Market Value Asset Valuation Method

**COP** - Cost of Production

**Continuous calving/milking**- A calving/milking strategy in which calving is distributed calving among most months of the year. Cows are milked every day of the year.

**CWT EQ- per hundredweight equivalent of milk sold** is an indexing procedure which focuses on the primary product that is sold and standardizes farms in terms of milk price and other variables for analysis purposes.

In contrast, *the number at the top of the CWT **sold** column on the cost of production reports is the **INCOME per 100 pounds of milk sold** by the business. **It is not the milk price.** The income per 100 pounds of milk sold is calculated by dividing total farm income by the hundredweight of milk sold. This is necessary because each expense item is divided by the hundredweight of milk sold. Therefore these expense amounts must be compared to the **INCOME per hundredweight of milk sold** and not to the price of milk. **See Chapter X for more information.***

**GLGN** - Great Lakes Grazing Network

**Group average mailbox milk price**- is calculated in this report by summing all the gross income from milk sales from all of the farms in the group and dividing that sum by the sum of the total hundredweights of milk sold by all the farms in the group.

**HC** - Historic Cost asset valuation method

**IFAFS** - Initiative for Future Agricultural and Food Systems (the name of the class of grant from the USDA that is supporting the project)

**MIRG** - Management Intensive Rotational Grazing

**NFI** - Net Farm Income represents the returns to unpaid labor, management and equity capital invested in the business.

**NFIFO** - Net Farm Income from Operations represents the returns to unpaid labor, management, and equity capital invested in the business. NFIFO excludes income from unusual capital item sales.

**NFIFO if all labor and management was unpaid.** This supplementary NFIFO measure is calculated because NFIFO, on small farms, is the return to almost all labor and management (because most of it is unpaid) and equity capital. Whereas on large farms essentially NFIFO is the return to only equity capital. Therefore using just NFIFO to compare may be inequitable.

The total cost of production for businesses that have mainly paid labor and management is more accurate than those which have mainly unpaid costs. This is because there isn't a universally agreed upon method for calculating the opportunity cost of **unpaid** labor, management and equity. Therefore, this supplementary measure provides additional insight to the comparisons apart from potential disagreements about the proper amount of opportunity costs. Total costs and opportunity costs are also calculated in the cost of production reports in this document.

**Non-Basic Costs** – are interest, non-livestock depreciation, paid labor and paid management. The four non-basic costs are added to basic cost to become allocated costs. See Chapter IX for more information.

**Opportunity Cost**- The best alternative return that could be earned for any resource. In farm financial analysis the most frequent use of this concept is the calculation of the opportunity cost of unpaid labor, management and equity capital.

**ROROA** - Rate of Return on Assets can be thought of as the average interest rate being earned on all investments in the farm or ranch business. If assets are valued at market value, the rate of return on assets can be looked at as the "opportunity cost" of farming versus alternate investments. If assets are valued at cost value, the rate of return on assets more closely represents the actual return on the average dollar invested in the farm. The rate of return on farm assets is calculated as follows:  $\text{Rate of Return on Assets} = \frac{\text{Return on Farm Assets}}{\text{Average Farm Investment}}$ , where:  $\text{Return on Farm Assets} = \text{Net Farm Income} + \text{Farm Interest} - \text{Value of Operator's Labor \& Management}$  and  $\text{Average Farm Investment} = \frac{(\text{Beginning Total Farm Assets} + \text{Ending Total Farm Assets})}{2}$ .

**ROROE** - Rate of Return on Equity represents the interest rate being earned on your farm net worth. If assets are valued at market value, this return can be compared to returns available if the assets were liquidated and invested in alternate investments. If assets are valued at cost value, this more closely represents the actual return on the funds that have been invested or retained in the business. The rate of return on the farm equity is calculated as follows:  $\text{Rate of Return on Equity} = \frac{\text{Return Farm Equity}}{\text{Average Farm Net Worth}}$ , where:  $\text{Return on Farm Equity} = \text{Net Farm Income} - \text{Value of Operator's Labor \& Management}$ , and  $\text{Average Farm Net Worth} = \frac{(\text{Beginning Farm Net Worth} + \text{Ending Farm Net Worth})}{2}$ .

**Seasonal Calving/Milking**- A calving/milking strategy in which the dry period of all the cows in the herd overlap enough to shut down the milking facility for more than a day and preferably for at least a few weeks each year for a period of consecutive years. Any calving strategy not meeting the preceding seasonal definition is referred to as **non-seasonal** in this analysis.

**Semi-Seasonal Calving/Milking**- A calving/milking strategy in which at least one cow is milked every day of the year. Calving is "bunched" in one or two times of the year; healthy, productive animals that don't conceive in the breeding window are not culled.

**USDA** - United States Department of Agriculture

**U.S. All Milk Price**- is calculated by the USDA by summing all the gross income from milk sales from all of the farms in the country and dividing that sum by the sum of the total hundredweights of milk sold by all the farms in the country. This price is used for the Hundredweight of Milk Sales Equivalent (CWT EQ) calculation. See Chapter X for more information.

In contrast, *the number at the top of the CWT **sold** column on the cost of production reports is the **INCOME per 100 pounds of milk sold** by the business. **It is not the milk price.** The income per 100 pounds of milk sold is calculated by dividing total farm income by the hundredweight of milk sold. This is necessary because each expense item is divided by the hundredweight of milk sold. Therefore these expense amounts must be compared to the INCOME per hundredweight of milk sold and not to the price of milk. See Chapter X for more information.*