Summary of Economic Studies of Organic Dairy Farming in Wisconsin (Seven Years), New England, and Quebec

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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 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." It would help people make the decision whether or not to switch to organic if data measured the financial challenge of the transition and estimated how long it might take to make-up for that challenge. To better understand and fairly compare the financial performance of organic farms, the stages of progression of individual organic farms should be recognized.

These stages or categories of organic production are:

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. Initially there was an attempt to collect organic dairy data from the states involved in the Great Lakes Grazing Network (GLGN), Dairy Grazing Farms Financial Project. However, data from states outside of Wisconsin was far less available than Wisconsin data.

Data from organic dairy farms are scarce.

Actual farm financial data from organic dairy farms is still scarce but increasing. Much of the Wisconsin organic data was collected by the Fox Valley and Lakeshore Farm Management Assns, and Wisconsin Farm and Business Management Inc. Because of the scarcity of the organic data in any single year, this analysis and comparison of Wisconsin certified market organic financial performance with other systems focuses on a seven year average for each group. None of the summarized groups are random. Some Wisconsin organic herds graze only as much as required to remain certified organic, and they are not categorized as management intensive rotational graziers (MIRG) in this analysis. Similarly, some of the graziers in the Wisconsin grazing summary were certified market organic producers. Organic graziers and non-organic graziers were also summarized together as graziers and separately. Since organic graziers' performance was similar to non-organic graziers, the results from the together version were

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used in this analysis. It would have been ideal to have enough data to make meaningful comparisons of grazing and non-grazing organic herds. A greater emphasis on grazing from organic certification standards may soon eliminate non-grazing organic dairy farms.

Table 1 below more clearly shows the number of organic and grazing organic farms in the summary by year. Since the March 20, 2006 report by a similar title, at least one farm year has been added to each year of data.

Table 1

Year	GLGN Organic Farms	Wisconsin Organic Farms	Wisconsin Organic and Graze
1999	6	6	2
2000	8	8	2
2001	11	8	4
2002	12	8	4
2003	13	12	8
2004	13	11	7
2005	19	17	10

Table 2 below shows the first full year in which participating farms received organic milk prices.

Table 2

First Year Organic Price	Number of Farms
1994	4
1995	1
1996	1
1997	1
1999	3
2001	1
2003	2
2004	2
2005	2

The Wisconsin organic dairy farms that shared financial data were a fairly experienced group, especially prior to 2005. Six started farming from 1970 to 1977. Only five started after 1990. The most recent start-up was in 2003 with an already certified herd and farm. Less experienced producers are not likely to perform as well as the group that shared data.

Table 3 shows the annual average price received for milk by each group in this analysis.

Table 3	Organic	Graziers	Confinement
Year	Milk Price	Milk Price	Milk Price
1999	$18.12	$15.10	$14.71
2000	$18.33	$12.38	$12.21
2001	$19.86	$15.41	$14.96
2002	$19.21	$12.55	$12.66
2003	$19.40	$14.01	$12.92
2004	$19.99	$17.29	$16.72
2005	$21.17	$17.09	$15.95

The differences in milk price between confinement and graziers are small compared to the differences between these two groups and the organic herds. The price of organic milk is typically higher and more stable than the non-organic milk price. The organic milk price has been on a gradual upward trend while the non-organic price has bounced up and down. Under this price atmosphere, organic financial performance can be expected to be at its relative best in years that the national average milk price is low.

Table 4 shows the amount of milk sold per cow for each group in this analysis.

Table 4	Organic	Graziers	Confinement
Year	Lbs Milk Sold/Cow	Lbs Milk Sold/Cow	Lbs Milk Sold/Cow
1999	15,260	15,374	20,210
2000	15,282	16,083	20,546
2001	14,256	15,644	20,454
2002	14,923	15,644	20,858
2003	13,555	15,796	21,346
2004	14,174	16,526	21,277
2005	13,806	16,700	21,815

The lbs of milk sold per cow by organic and grazing herds was about 70% and 75% less respectively compared to confinement. Lbs of milk sold per cow appear to be increasing a bit for confinement and grazing herds but declining for organic herds. This decline in lbs of milk sold per organic cow could be a result of doubling the number of organic observations in later years.

General Summary Of Observations Of The Economics Of Organic Dairy Farms.

1. Actual farm financial data from organic dairy farms is still scarce (the total number of organic farms is still a small percent of the total number of dairy farms in most states).
2. A number of individual farms are achieving financial success with an organic system. The Wisconsin organic dairy farms that shared financial data were a fairly experienced group, especially prior to 2005. It is likely that a less experienced group would not perform as well as the group that shared data.
3. Wisconsin organic price premiums ranged from $2.70 to $6.66/hundredweight (CWT) compared to Wisconsin non-organic graziers and from $3.27 to $6.55/CWT compared to Wisconsin non-organic confinement in 1999-2005 data.
4. The price premium is very important to the economic competitiveness of organic dairy farms.
5. Organic dairy producers receiving organic prices were more competitive with other dairy systems in years that the national average milk price was low.
6. Wisconsin Organic dairy farm's seven-year simple average Net Farm Income from Operations, (NFIFO)/$ income ranks below graziers and above all confinement sizes.
7. Grazing Organic dairy farm's seven-year simple average NFIFO/$ income ranks slightly below graziers.
8. Grazing probably "helps" the organic system more than vice versa.
9. For those farms (we've encountered a few of these) whose routine practices for the past three or more years just happen to meet organic requirements, about the only downside to becoming certified and obtaining organic prices is the cost of and record keeping effort to become certified.
10. The three to five year transition from a "conventional" system to organic is often challenging financially and other ways. We have been trying to measure the long-term financial impact of this transition.
11. In a comparison of 10 Quebec farms transitioning to organic with 22 similar sized non-organic Quebec farms, the transitioning farms did better financially in the first year, not as good in the third year and about the same in the fifth year.
12. The lbs of milk sold per cow from organic dairy farms was fairly similar from Wisconsin to New England to Quebec. This level was about 70% of the lbs of milk sold per cow by Wisconsin

confinement herds. Wisconsin grazing herds sold about 75% of the lbs of milk sold per cow by Wisconsin confinement herds.

13. In 2004, 30 organic dairy farms from Maine and Vermont were not as competitive as
    a. non-organic New England dairy farms
    b. any Wisconsin dairy system
14. In 1999, seven Vermont organic dairy farms were economically competitive with New England non-organic dairy farms.
15. Feed costs were much higher for New England farms than in the Corn Belt – especially for those which were organic. Organic grain prices are typically twice the price of non-organic grain in the same location. Organic grain prices in New England can easily be double the price of organic grain in Wisconsin. Organic forage prices are typically about 30% more than the price of non-organic forage in the same location.
16. Be careful about comparing a dairy system from one state to a different dairy system in another state. The financial performance of Wisconsin organic dairy farms looks dramatically different from the 2004 financial performance of New England organic dairy farms.
17. The jury is still out regarding many other economic questions about organic dairy farming. Vermont and Maine plan to collect data again in 2005 and 2006. Economic data from Wisconsin organic dairy farms is increasing.

Comparing Financial Performance of Some Wisconsin Organic, Grazing and Confinement Dairy Farms From 1999 to 2005

Since many non-organic farmers are asking how the financial performance of organic farming compares with non organic systems, a seven year simple average cost of production summary was compiled for Wisconsin organic, grazing and confinement herds.

Several measures should be examined when analyzing financial performance because no single measure tells the whole story. However one usually has to use just a few measures to explain the results. The primary measure used here to discuss the cost of production of organic, confinement, and grazing herds is cost per dollar of income or as a percent of income. This is a measure commonly used in the non-agricultural business world and provides a much better apples-to-apples comparison than cost per cow or per CWT sold. It is quite similar to the CWT EQ measure used in Wisconsin. In fact, the cost per dollar of income and cost/CWT EQ measures applied to the same data will provide the same relative results.

The need to use this measure is driven mainly by two factors. The organic milk price was usually much higher than the milk price received by confinement and grazing herds. The pounds of milk sold per cow by confinement herds was 30% and 40% more per cow sold by grazing and organic herds respectively.

To help compare the financial performance of three Wisconsin dairy systems, Appendix I contains the seven-year simple average cost of production as a percent of income report for Wisconsin organic, grazing and confinement dairy farms. It contains values for many cost items.

Table 5 shows the range in observations size, herd size, NFIFO/$ income and seven-year simple average NFIFO/$ income for organic, grazing, and the all Wisconsin confinement group.

Table 5	Farm # Range	Ave. Herd Size Range	NFIFO/$ Income	Range
Graziers	21-43	61-68	25.52%	19.23-31.86%
Organic	6-17	48-64	20.91%	13.53-26.26%
All Confinement	581-660	96-133	14.26%	6.99-18.21%

The cost of labor does explain part but not all of the difference in NFIFO/$ of income advantage of graziers over organic and both over confinement herds.

In two of seven years, the summarized Wisconsin organic farms (ones which received organic prices the entire year) had an advantage in NFIFO as a percent of income over the summarized Wisconsin graziers. The organic herds had a small advantage in 2002 and 2003 respectively. Wisconsin graziers had larger advantages in NFIFO as a percent of income over Wisconsin organic farms from 1999 to 2001 and from 2004 to 2005.

Wisconsin organic dairy farms had a NFIFO/$ Income advantage over the average Wisconsin confinement herd in six of seven years from 1999 to 2005. In 2001, the average Wisconsin confinement herds had slightly higher NFIFO as a percent of income.

The cost per cow measure will provide a different (and less useful for comparing systems) perception of financial performance than shown by the cost per dollar of income. However, it is very useful to have for budgeting the startup or expansion of any dairy system. **Therefore, Appendix II contains a seven-year simple average cost of production per cow summary for Wisconsin organic, confinement and grazing herds.**

Additional observations from Some Wisconsin Organic Dairy Farms From 1999 to 2005

In contrast to Appendix 1 which compares cost items on a seven-year simple average basis, the below comments indicate the consistency in which a cost item of one group is higher than the other group.

Compared to the average Wisconsin grazing herd, the average Wisconsin organic herd had **lower** costs as a percent of income most years in the categories of:

- Purchased feed (7 of 7)
- Chemicals (7 of 7; no surprise here, even though graziers have very low chemical costs)
- Veterinarian and medicine (7 of 7)
- Depreciation of purchased livestock (6 of 7 this results from either turnover or expansion)

In contrast, organic herds had **higher** costs all seven years in the categories of:

- Repairs
- Gas, fuel and oil
- Supplies
- Seeds purchased
- Custom Machine hire
- Rent

Organic herds had **higher** costs in most years in the categories of:

- Farm Insurance (6 of 7)
- Breeding fees (5 of 7 and tied once)
- Non-dependent labor (5 of 7)
- Utilities (4 of 7 and tied once)
- Depreciation (4 of 7)

Compared to the average Wisconsin confinement herd, the average Wisconsin organic herd had **lower** costs as a percent of income in most years in the categories of:

- Purchased feed (7 of 7)
- Veterinarian and medicine (7 of 7)
- Chemicals (7 of 7; no surprise here)
- Depreciation of purchased livestock (5 of 7 this results from either turnover or expansion)

In contrast, organic herds had **higher** costs as a percent of revenue most years in the categories of:

- Depreciations (7 of 7)
- Gas, fuel and oil (7 of 7)
- Utilities (7 of 7)

- Supplies (7 of 7)
- Property taxes (7 of 7)
- Farm Insurance (7 of 7)
- Seeds purchased (7 of 7)
- Repairs (6 of 7)
- Marketing and hedging (6 of 7)
- Interest (4 of 7)
- Fertilizer and lime (4 of 7)
- Custom Hire (4 of 7)

More about Feed Cost

Feed is the single largest cost item as a percent of income in all systems. Consequently it deserves extra attention.

Given the higher market price commanded by organic hay and grain, it might be surprising that Wisconsin organic dairy farms had lower purchased feed costs as a percent of income than any other Wisconsin dairy system. Graziers were the highest in this cost item.

The higher price of organic hay and grain provides a powerful incentive for organic dairy farmers to raise most of their livestock feed. It appears that most Wisconsin organic dairy farmers raise a high proportion of their feed just as most Wisconsin smaller confinement dairy farms do. Wisconsin graziers tend not to raise grain. Larger confinement farms appear to raise a smaller proportion of their feed compared to smaller confinement and organic farms.

During 2006 and 2007, due to changes in organic certification rules, several farms will have their herds certified organic before their land is certified. Until their land is certified, these new organic farms will buy a much higher proportion of their feed than is the case for most organic farms in this report. This will make the financial performance of these new farms different from the organic farms in this report.

Table 6 ranks several Wisconsin dairy farm sizes and systems by a seven-year simple average NFIFO as a percent of income.

Table 6

Purchased Feed Cost:

Seven Year Average Ranking of Wisconsin Dairy by Percent of Income

System	Percent of Income	Range Percent of Income
Organic	13.95%	11.04-17.26%
Confinement 76-100 Cows	15.35%	14.18-16.70%
Confinement 51-75 Cows	15.37%	13.68-16.80%
Confinement <50 Cows	15.53%	14.06-16.21%
Confinement 101-150 Cows	16.97%	15.37-19.08%
All Confinement	18.65%	15.99-20.94%
Confinement 151-250 Cows	19.13%	16.85-21.03%
Graziers	20.75%	18.82-21.31%
Confinement>250 Cows	22.11%	19.50-24.04%

The three smallest Wisconsin confinement groups had purchased feed costs as a percent of income that were only slightly higher than the organic group. While the differences between sizes is sometimes small, the larger the confinement group, the higher the percent of income taken by purchased feed. Because Wisconsin graziers tend feed but not raise grain, their purchased feed cost is higher than most others.

Feed (purchased and raised) is the single highest cost item as a percent of income in all systems. 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 as a percent of income could be higher for a farm that raises most of its feed. All of the costs of raising feed should be considered when individuals choose their mix of purchased versus raised feed. 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. It is beyond the scope of this analysis to try to determine the fixed cost associated with raising feed. Instead, the easily identified cost categories of chemicals, custom machine work, fertilizer and lime, gas, fuel, and oil, seeds and other crop expenses were assumed to be the cost of raising feed in this data. This estimate more likely understates rather than overstates the cost of raising feed for each group.

These easily measured cost categories were summarized for each group and shown in Table 7 as estimated feed raising cost.

Table 7

Estimated Feed Raising Cost:

As a Percent of Income

System	Percent of Income	Range Percent of Income
Graziers	5.32%	4.69-6.86%
Confinement >250 Cows	8.83%	8.08-9.25%
Confinement 150-250 Cows	10.33%	9.57-11.40%
All Confinement	10.59%	9.85-11.01%
Organic	11.54%	8.88-12.61%
Confinement 101-150 Cows	11.67%	10.43-12.82%
Confinement <50 Cows	11.83%	10.47-13.83%
Confinement 51-75 Cows	12.22%	10.44-13.80%
Confinement 76-100 Cows	13.08%	11.68-14.89%

The ranking of farm sizes and systems for feed raising cost was almost opposite the ranking for purchased feed cost. In other words, the farm sizes and systems that had the highest purchased feed cost tended to have lower estimated feed raising costs.

In an attempt to approximate the total feed cost, the estimated cost of raising feed **plus** the cost of purchased feed were combined and summarized for each group as shown in Table 8 as purchased feed plus estimated feed raising costs. This estimate of total feed cost likely understates rather than overstates total feed cost for all systems.

Table 8

Purchased Feed Plus Estimated Feed Raising Cost

System	Percent of Income	Range Percent of Income
Organic	25.50%	20.39-29.63%
Graziers	26.07%	26.34-30.29%
Confinement <50 Cows	27.36%	24.53-30.04%
Confinement 51-75 Cows	27.60%	24.12-30.15%
Confinement 76-100 Cows	28.44%	25.86-29.80%
Confinement 101-150 Cows	28.64%	25.80-30.49%
Confinement 151-250 Cows	29.46%	26.72-30.78%
All Confinement	29.19%	25.85-31.21%
Confinement >250 Cows	30.94%	27.58-32.69%

The Wisconsin organic dairy farms were lowest in estimated total feed cost, followed closely by Wisconsin graziers, then by the confinement herds from smallest to largest in size. Again, it is striking how closely the ranking follows herd size within the confinement system.

Because the costs in this report are mainly indexed to income, the higher milk price received by organic farms is part of the reason that organic estimated total cost is lowest of all Wisconsin systems. When measured on a per cow basis, one gets a different relative perspective. The per cow perspective is less useful in evaluating financial performance between herds and groups, but useful for individual farm budgeting.

Away from the Corn Belt, it appears like it is more difficult for organic dairy producers to raise most of their own grain. The price of organic grain also appears to be much higher the farther away one goes from the Corn Belt. This is a major financial challenge for organic producers located far from the Corn Belt.

From 1999 to 2005, there had been a slight upward trend in estimated total feed cost among all sizes and systems analyzed here. During this period, the increase appeared smallest for graziers and largest for organic and large confinement.

The organic advantage in estimated total feed cost as a percent of income was smallest in 2005. That probably was more a result of greatly increasing the organic farm observations from 1999 to 2005 than any other factor. It occurred before the recent and noticeable spike in energy and grain prices.

This recent and noticeable spike in energy and grain prices suggests that systems that rely more heavily on purchased feed are more likely to experience noticeable increases in their feed cost as a percent of income.

Interpreted from "Cost and Returns to Organic Dairy Farming in Maine and Vermont for 2004"[2]

About 63 of the 450 dairy farms in Maine and 70 of the 1,250 dairy farms in Vermont received organic milk prices in 2004. New England organic dairy farms typically enjoy a price premium of $6.00-10.00/CWT of milk sold more than Wisconsin non-organic herds and about $3.00-$5.00/CWT of milk sold more than Wisconsin organic herds. In 2004, they averaged $4.90/CWT more than the New England non-organic herds and $3.21 more than Wisconsin organic herds. Both New England groups had similar lbs of milk sold per cow.

With that kind of price advantage, some might expect New England organic herds to be economically competitive with other dairy systems including those in Wisconsin.

Researchers at the University of Maine and the University of Vermont with funding from a USDA grant collected farm financial data from 30 organic dairy farms in their states in 2004. The average organic herd in that study had 48 cows and sold 14,354 lbs milk per cow. All were judged to be practicing MIRG.

The average organic performance in the report was converted to cost per hundredweight equivalent (CWT EQ) at the U. W. Center for Dairy Profitability. Not only were the New England organic herds not economically competitive with New England non-organic herds, their NFIFO/CWT EQ was lower than the NFIFO/CWT EQ for Wisconsin organic herds, graziers and for all confinement herd sizes in the 2004 Wisconsin Milk Production Cost report. Revenue from milk sales barely exceeded allocated expenses. Other farm income and non-farm income were needed to provide for family living expenses on the New England organic dairy farms in 2004.

If the New England organic group were a state group in the Great Lakes Grazing Network project, they would be last by a margin of $0.91 NFIFO/CWT EQ in 2004. Because the organic milk price has been on

[2] Dalton, Timothy J., Lisa A. Bragg, Rick Kersbergen, Robert Parsons, Glenn Rogers, Dennis Kauppila, Qingbin Wang. "Cost and Returns to Organic Dairy Farming in Maine and Vermont for 2004. University of Maine. November 2005.

an upward trend and non-organic producers received record prices in 2004, it is likely that New England organic dairy farms would be more economically competitive in years of lower non-organic milk prices.

The higher cost of paid labor and purchased feed nullified much of the milk price advantage New England organic producers had over non-organic producers. The following comments are quoted from the researchers report. The cwt sold numbers in the following quote were left in original form instead of being converted to the CWT EQ method used in Wisconsin.

The two most important cost centers in organic and non-organic dairy production are purchased feed and hired labor. These two cost centers account for 50% of the annual cost of producing organic milk. Higher feed and hired labor costs account for 84% of the price premium ($4.90/cwt) paid to organic producers.

Purchased feed

Overall, the 48 cow organic farm spent $49,416 for purchased feed during 2004 which translates to $1,003/cow or approximately $7.24/cwt of milk produced. This was $298/cow ($p<0.01$) and $2.66/cwt ($p<0.01$) more than non-organic producers in Maine. Organic feeding practices were significantly more expensive than non-organic practices. Higher feed cost was the largest and most important difference between organic and non-organic production. The additional expense of feeding organic dairy cows is equal to 54% of the price differential received for organic milk.

Labor

The report states *In organic dairy production, the majority of farm labor is provided by the family. On average 5,042 hours of family labor were used on organic farms which converts to approximately 113 hrs/cow or 0.89 hrs/cwt of milk produced. These numbers are not significantly different from those of non-organic farmers.*

It continues on to say *The quantity and cost of hired labor per cow and per cwt of milk produced are significantly higher for organic production.* And that *This additional cost is equivalent to 30% of the price differential between organic and non-organic milk.*

However, one of the authors in a more recent conversation said there was no statistically significant difference in labor amounts or labor costs between organic and non-organic dairy farms in Vermont and Maine.

Feed costs were much higher for New England farms than in the corn belt – especially for those which were organic. Organic grain prices are typically twice the price of non-organic grain in the same location. Organic forage prices are typically about 30% more than the price of non-organic forage in the same location.

Purchased feed costs are extremely high in New England (organic about double the price of organic feed in Wisconsin) and offsets much of the substantial milk price premium enjoyed by New England organic dairy farms.

Relatively consistent differences in financial performance between states have appeared in all years in the Great Lakes Grazing Network Dairy Grazing Farms Financial Summary with Wisconsin and Ontario having the most desirable performance and the Eastern states having the least desirable performance.

This set of state-to-state differences also seems to be important when comparing the financial performance of Wisconsin organic dairy farms with New England organic dairy farms.

An Economic Comparison of Organic and Conventional Dairy Production, And Estimations On The Cost Of Transitioning To Organic Production[3]

The Northeast Organic Farming Association of Vermont's Dairy Technical Assistance Program with funds from Ben & Jerry's, CROPP Cooperative, Horizon, USDA Sustainable Agriculture Research and Education Grant, Yankee Farm Credit, persuaded seven Vermont certified organic dairy farms to supply income, expense and balance sheet information from 1999. These organic farms were compared to 182 Vermont non-organic farms collected by Yankee Farm Credit System located in Springfield, Massachusetts.

The organic herds were all considered to be graziers. Five were Jersey herds and another was a mixture of Jerseys and Holsteins. Herd size ranged from 30 to 75 with an average herd size of 46 with an average milk price of $22.83. The average non-organic herd size was 65 with an average milk price of $15.01. The organic herds sold 13,261 lbs of milk per cow versus 18,729 for the non-organic herds. The organic herds averaged net farm income of $1,012 per cow versus $849 for non-organic. Gross income per cow was remarkably close between the two groups. However, expenses per cow were lower for the organic group. The organic farms had lower expenses for chemicals, fertilizer and lime, milk hauling, interest, labor repairs, seeds, taxes and veterinary and medicine. Feed and crop raising costs were considerably higher for the organic farms than for the non-organic group.

Many of the results of this study are opposite of the results shown by 2004 organic data from Vermont and Maine discussed above.

Interpreted from: "Productivity and Profitability of Organic Dairy Farms in Quebec"[4]

Laval University in Quebec compared 10 Quebec organic dairy farms with 22 similar sized non-organic dairy farms. The organic farms started transitioning from conventional to organic in 1989 and all were certifiable organic in 1995. The "organic farms" did not receive organic prices until after the study ended. Production and economic data was collected from all farms from 1990 through 1995. The average organic herd had 42.5 cows in the first year and 48.1 in the fifth year. The average non-organic herd had 35.9 cows in the first year and 41.3 in the fifth year.

Here are a few conclusions drawn by Kriegl from that study:

1. The study found little difference in profitability from the pre-transition stage to the first year of receiving organic prices.
2. Although the report provides little detail about the transition period, it does say that the third year in the transitional stage was difficult for the organic farms and the first year in the transition was the easiest.
3. The study found little difference in financial performance between the organic and conventional farms in 1995. This is a bit surprising because none of the organic farms receive organic price premiums during the study including year five when all the organic farms were certified.
4. "Milk yield per cow and labor efficiency were decreased by the transition to organic farming."
5. "Good conventional dairy farmers who chose to go organic became good organic dairy farmers."
6. "Data suggest that while the organic mode of production is associated with a decline in productivity, profitability on organic dairy farms can be maintained.
7. Profit was measured in this study as net income per farm. Compared to using net income per cow or per CWT EQ, total net income favored the larger farms (the organic ones in this case) in comparing profitability. If profit had been measured as per cow or per CWT EQ, the organic farms' performance would have been a bit less than the non-organic performance instead of nearly equal at most points in the study. However, measuring profitability per cow or per CWT EQ

[3] McCrory, Lisa. "An Economic Comparison of Organic and Conventional Dairy Production, and Estimations on the Cost of Transitioning to Organic Production." Northeast Organic Farming Association of Vermont's Dairy Technical Assistance Program. May 2001.

[4] Paillat, N., G. Allard, and D. Pellerin. "Productivity and Profitability of Organic Dairy Farms in Quebec." Poster. Universite Laval.

would not likely change the researchers' conclusion that transitioning to organic didn't make much change in their financial performance **relative** to non–organic farms.

Appendix I Seven-Year Simple Average Cost of Production as a Percent of Income for Wisconsin Organic Grazing and Confinement Herds

	Grazier*	Organic**	Confinement (All Sizes)
Range of Observations per Year	21-43	6-17	581-660
Range of Average Herd Size per Year	61-69	48-64	97-134
Percent of Income	100.00%	100.00%	100.00%
Expenses			
Breeding Fees	1.04%	1.24%	1.16%
Car and Truck Expense	0.48%	0.73%	0.45%
Chemicals	0.41%	0.06%	1.37%
Custom Hire (Machine Work)	1.93%	3.31%	3.00%
Custom Heifer Raising	0.59%	0.00%	0.53%
Feed Purchase	19.86%	13.95%	18.75%
Fertilizer and Lime	2.16%	2.24%	2.18%
Freight and Trucking	0.53%	2.13%	1.00%
Gasoline, Fuel, and Oil	1.85%	3.08%	2.13%
Farm Insurance	1.35%	1.69%	1.21%
Marketing & Hedging	1.49%	1.78%	1.70%
Rent	2.54%	4.00%	4.25%
Repairs all	5.06%	7.02%	5.11%
Seeds and Plants Purchased	1.30%	2.52%	2.00%
Supplies Purchased	4.10%	5.03%	2.98%
Taxes	1.65%	1.83%	1.35%
Utilities	2.18%	2.40%	1.97%
Veterinary Fees and Medicine	2.24%	1.66%	2.93%
Other Farm Expenses	3.04%	2.23%	4.40%
Combined Non-Cash Adjustments	0.23%	-0.20%	-0.13%
Depreciation: Livestock	0.79%	0.36%	2.08%
Total Basic Cost	**54.88%**	**55.99%**	**60.31%**
Total Interest Cost	**4.61%**	**5.34%**	**4.87%**
Total Paid Labor Cost	**5.90%**	**4.32%**	**11.21%**
Depreciation: Non-livestock	**11.47%**	**13.34%**	**8.96%**
Total Non-basic Cost	**19.60%**	**23.00%**	**25.43%**
Total Allocated Cost (Basic + Non-basic)	**74.48%**	**78.99%**	**85.74%**
Unpaid Labor/Management	17.64%	11.96%	9.08%
Interest On Equity	9.71%	8.98%	7.49%
Total Opportunity Cost	**27.35%**	**20.94%**	**16.57%**
Total Cost	101.83%	99.94%	102.23%
Total Income - Total Cost	-1.83%	**0.07%**	**-2.23%**
Net Farm Income from Operations (NFIFO)	**25.52%**	**21.01%**	**14.26%**
Gain (Loss) on Sale of All Farm Assets	0.25%	0.61%	0.29%
Net Farm Income (NFI)	25.77%	21.62%	14.55%

*See Table I showing that two to ten of these farms are organic producers depending on the year.
**See Table I showing that two to ten of these farms are graziers depending on the year.

Appendix II Seven-Year Simple Average Cost of Production per Cow for Wisconsin Organic Grazing and Confinement Herds

	Grazier*	Organic**	Confinement
Range of Observations per Year	21-43	6-17	581-660
Range of Average Herd Size per Year	61-69	48-64	97-134
Income	$2,888.40	$3,473.66	$3,657.12
Expenses			
Breeding Fees	$29.90	$43.22	$42.52
Car and Truck Expense	$13.88	$25.27	$16.46
Chemicals	$11.85	$1.86	$49.97
Custom Hire (Machine Work)	$55.65	$115.82	$19.30
Custom Heifer Raising	$17.12	$0.00	$109.74
Feed Purchase	$573.71	$487.20	$685.68
Fertilizer and Lime	$62.48	$77.95	$79.89
Freight and Trucking	$15.24	$73.80	$36.44
Gasoline, Fuel, and Oil	$53.42	$107.19	$77.74
Farm Insurance	$39.12	$59.06	$44.35
Marketing & Hedging	$42.95	$61.09	$155.55
Rent	$73.47	$14.31	$186.89
Repairs all	$146.05	$242.13	$73.17
Seeds and Plants Purchased	$37.57	$87.43	$108.95
Supplies Purchased	$118.31	$174.50	$49.44
Taxes	$47.60	$63.49	$71.91
Utilities	$62.92	$83.63	$107.27
Veterinary Fees and Medicine	$64.60	$57.35	$161.03
Other Farm Expenses	$91.12	$77.83	$62.08
Combined Non-Cash Adjustments	$6.56	($7.48)	($4.83)
Depreciation: Livestock	$22.93	$13.31	$75.94
Total Basic Cost	**$1,585.23**	**$1,947.40**	**$2,205.44**
Total Interest Cost	**$133.26**	**$184.10**	**$178.14**
Total Paid Labor Cost	**$170.48**	**$148.28**	**$410.09**
Depreciation: Non-livestock	**$331.41**	**$461.85**	**$358.14**
Total Non-basic Cost	**$566.00**	**$794.23**	**$920.13**
Total Allocated Cost (Basic + Non-basic)	**$2,151.22**	**$2,741.63**	**$3,135.61**
Unpaid Labor/Management	$509.50	$415.60	$312.07
Interest On Equity	$280.48	$310.43	$257.43
Total Opportunity Cost	**$789.99**	**$726.03**	**$569.50**
Total Cost	$2,941.20	$3,467.67	$3,514.42
Total Income - Total Cost	($52.80)	$6.00	($77.49)
Net Farm Income from Operations (NFIFO)	**$737.18**	**$732.03**	**$521.50**
Gain (Loss) on Sale of All Farm Assets	$7.19	$21.17	$9.97
Net Farm Income (NFI)	$744.37	$753.20	$531.47

*See Table I showing that two to ten of these farms are organic producers depending on the year.
**See Table I showing that two to ten of these farms are graziers depending on the year.