

Impact of Changing Milk and Input Prices on 2008 Wisconsin Dairy Profit Margins

By Tom Kriegl¹
March 19, 2008

Summary: A decline in milk prices to about \$16.00/CWT or less could send net farm income from operations (NFIFO) per unit into negative territory for some Wisconsin dairy farms. Families owning such farms may have to borrow more money or rely on savings, depreciation, or non-farm income to maintain family living expenses in 2008.

The reader should be aware that comparing very different farm types using Net Farm Income from Operations (NFIFO) per cow has two main concerns.

First, NFIFO is return to unpaid labor and management and equity capital on small farms. But on large farms NFIFO is basically the return to just equity capital.

Second, the dollars available for the owner(s) and family: On small farms it is NFIFO per cow times a small number of cows plus a small amount paid to family members. (Example: \$700 per cow times 60 cows = \$42,000 plus \$5,000 paid to family members = \$47,000).

On large farms the dollars available for the owner(s) and family is NFIFO per cow times a large number of cows plus usually a large amount paid to family members. (Example: \$200 per cow times 500 cows = \$100,000 plus \$75,000 paid to family members = \$175,000 and that doesn't include the value of time off).

Also remember, when predicting the future well being of farms, as relative prices change farmer managers adjust their mix of purchased inputs.

Since every farm is different and since prices and costs change often, all Wisconsin dairy farms are encouraged to project their own 2008 cost of production and profit margins soon. They should carefully examine all of their practices and make all of the appropriate adjustments in an attempt to maintain profit margins. Reduced profit margins eventually can encourage reduced production and reduced demand for inputs which can cause the breakeven point to constantly change. I expect Wisconsin dairy systems to weather the expected profit margin reductions as well or better than their counterparts in other states.

The dramatic increase in purchased feed prices from late 2006 through 2007 wasn't a major problem for most Wisconsin dairy farmers because their milk prices increased even more dramatically during the same time. Consequently, no fancy analysis was needed during that time for most Wisconsin dairy farmers to know that it was economically advantageous to continuing striving for relatively high production even if they purchased a significant portion of the feed they use.

A more careful examination of dairy farm profit margins is warranted now that milk prices will likely decline from the highs in 2007, possibly down to about \$16/CWT while the cost of energy, purchased feed and many crop raising inputs have increased again in recent months. Interest is one of the few costs that may be lower than a year ago.

Since very little 2007 dairy farm financial data is processed yet, the seven-year average cost of production per cow from Wisconsin data for five Wisconsin dairy systems was used as a starting point to get a general sense of the impact of declining milk prices and increased input costs. The five Wisconsin dairy systems from the AgFA data base includes the 250 plus cow size group, the 51-75 cow size group, all confinement herd sizes combined, organic and grazing systems.

¹ Center for Dairy Profitability, College of Agricultural and Life Sciences and Cooperative Extension, University of Wisconsin – Madison. Please see the Center's website at <http://cdp.wisc.edu>.

Since many input costs have doubled from the seven year average levels to 2008, the seven-year average per cow cost of purchased feed, chemicals, fertilizer and lime, gasoline fuel and oil, and utilities were doubled to see how that would affect NFIFO/cow at the seven-year average income level per cow from Wisconsin dairy system data in the AgFA database at the Center for Dairy Profitability (the seven-year simple average milk price was about \$14.00). This increased level of cost was then compared to income per cow at the milk price level of \$20.00, \$17.00, and \$16.00 for all groups but organic. Then the cost of production and NFIFO/cow was calculated for all systems at these prices. For the organic system, NFIFO/Cow was calculated at a milk price of \$20.00 and (\$23.32—a milk price increase of twenty percent from the seven-year average price).

Table 1: Projected 2008 NFIFO/Cow with Five Cost Items Double the Seven-Year Average						
Wisconsin Dairy System	Average Herd Size	NFIFO/Cow if Milk Price is:				
		\$14.00	\$16.00	\$17.00	\$20.00	\$23.32
Confinement > 250 Cows	500	(\$655)	(\$545)	\$106	\$833	N/A
Confinement, All Wisconsin	140	(\$420)	\$22	\$261	\$910	N/A
Confinement 51-75 Cows	65	(\$255)	\$199	\$445	\$1,113	N/A
Grazing Herds	65	(\$6)	\$350	\$543	\$1,067	N/A
Organic*	50	N/A	N/A	N/A	\$226*	\$820**
* \$20.00 is close to the seven-year average Wisconsin organic milk price. Therefore, it reflects the approximate NFIFO per Cow if the organic milk price hadn't increased since then. There is little reason to project NFIFO/Cow for organic at lower prices.						
** A milk price of \$23.32 resulted from a 20% increase in the 7-year average milk price for organic farms resulting in a projected NFIFO of \$820/Cow for 2008. There is little reason to project NFIFO/Cow for other systems at this price.						

Adjusting the analysis, the per cow cost of custom hire, freight and trucking, and seeds were also doubled to see how that would affect NFIFO/cow at the milk price of \$20.00, \$17.00, \$16.00, and \$14.00 for all groups but organic. For the organic system, NFIFO/Cow was calculated at milk price of \$20.00 and (\$23.32—a milk price increase of twenty percent from the seven-year average price).

The opportunity cost of unpaid labor, management and equity capital was not included in this analysis. On a per unit basis such as per cow, the opportunity cost of unpaid labor, management and equity capital tend to be higher for smaller operations than for larger operations.

Table 2: Projected 2008 NFIFO/Cow with Eight Cost Items Double the Seven-Year Average						
Wisconsin Dairy System	Average Herd Size	NFIFO/Cow if Milk Price is:				
		\$14.00	\$16.00	\$17.00	\$20.00	\$23.32
Confinement > 250 Cows	500	(\$882)	(\$1,225)	(\$120)	\$606	N/A
Confinement, All Wisconsin	140	(\$539)	(\$336)	\$142	\$791	N/A
Confinement 51-75 Cows	65	(\$466)	(\$258)	\$233	\$901	N/A
Grazing Herds	65	(\$120)	\$7	\$429	\$952	N/A
Organic	50	N/A	N/A	N/A	\$51*	\$544**
* \$20.00 is close to the seven-year average Wisconsin organic milk price. Therefore, it reflects the approximate NFIFO per Cow if the organic milk price hadn't increased since then. There is little reason to project NFIFO/Cow for organic at lower prices.						
** A milk price of \$23.32 resulted from a 20% increase in the 7-year average milk price for organic farms resulting in a projected NFIFO of \$820/Cow for 2008. There is little reason to project NFIFO/Cow for other systems at this price.						