



## FACT SHEET #4: COMPARING SEASONAL CALVING WITH NON-SEASONAL HERDS

### First Year Report on 2000 Great Lakes Grazing Network Grazing Dairy Data July 2002

#### Overview

The data and conclusions of this paper are derived from the report titled Regional Multi-State Interpretation of Small Farm Financial Data, the first year report of a USDA Integrated Food and Agricultural Systems (IFAS) grant project #00-52501-9708. Some strengths of this work include standardized data handling and analysis procedures, combined actual farm data of ten states and one province to provide financial benchmarks to help farm families and their communities be successful and sustainable. The main report is also based upon work supported by Smith Lever funds from the Cooperative State Research, Education and Extension Service, U.S. Department of Agriculture.

The first enterprise analyzed in this project is 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 typically be from dairy livestock sales plus milk sales. Additionally, 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.

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 ninety-two graziers in the Great Lakes region provides some insight into the economics of grazing as a dairy system in the northern U.S.:

- There is a range of profitability amongst graziers. A comparison of the most profitable half with the least profitable half shows that the top herds had an advantage of \$2.41 in Net Farm Income From Operations per Hundred Weight Equivalent (NFIFO/CWT EQ). This is examined specifically in Fact Sheet #2 of this series.
- 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 more than 100 cows. The smaller herds have a \$0.54 per CWT EQ advantage in the cost of paid labor, which accounts for more than the \$0.44 NFIFO/CWT EQ overall advantage that the smaller herds have. See Fact Sheet #3 in this series for more on this point.
- The average grazer in the study who is fully seasonal (stops milking at least one day each year), has a less desirable financial performance than the average non-seasonal herd, whether NFIFO/cow, NFIFO/CWT EQ or total NFIFO is used as the yardstick. Despite having access to data from many states, only seven seasonal herds' data were available for analysis. Fact Sheet #4 in the series investigates seasonal milking at greater length.
- The graziers in the study were economically competitive with confinement herds in the states that had comparable data from both groups. Fact Sheet # 5 in the series focuses on the comparisons between grazing and confinement dairy farming.

The study also 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. Any comparison between the measures in this report and data based on the current market value (CMV) of assets will be misleading. Here, the measures of profitability are calculated in this report using the historic cost asset valuation method (HC) to provide a better measure of profit levels generated by operating the farm business.

#### Comparing Seasonal Calving/Milking with Non-Seasonal Herds

Unfortunately for research purposes, less than ten percent of the herds in the study practice seasonal calving/milking. The average seasonal herd (one that stops milking at least one day each year) in the study has 70% more cows which produce about 66% as much milk per cow as the cows in the non-seasonal herds.

The NFIFO per CWT EQ and per cow of the non-seasonal herds is more than twice as high as the NFIFO per CWT EQ for the seasonal herds. The seasonal herds need more than twice as many cows compared with the non-seasonal herds to achieve a given amount of total NFIFO. Several years of Wisconsin data shows a similar ratio when the NFIFO/forage acre harvested was used to compare seasonal with non-seasonal herds.

The ratio is less than two to one when comparing the total NFIFO of non-seasonal with seasonal herds. The average seasonal herd in this comparison offsets some of its lower NFIFO per CWT EQ and per cow by having more cows. The total NFIFO

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ranges from negative to \$78,205 for the seasonal farms in the comparison.

The seasonal herds spend less per CWT EQ for more than half of the basic cost categories compared to the non-seasonal herds. Interestingly enough, the non-seasonal herds spend half as much per CWT EQ for fertilizer and lime but spent \$1.04 more per CWT EQ for purchased feed. Overall, the seasonal herds spent \$1.23 less per CWT EQ for all basic costs. However, the non-seasonal herds have a \$2.11 per CWT EQ advantage in the four cost categories (paid labor, paid management, depreciation and interest) that are added to the basic cost category to create the allocated cost category (allocated costs equals total income minus NFIFO).

Looking in more detail in this category of costs, it can be seen that the non-seasonal graziers have an advantage of \$0.41 per CWT EQ in interest expense, a \$0.44 per CWT EQ advantage in labor expense and a \$1.26 per CWT EQ advantage in depreciation.

The \$2.11 per CWT EQ advantage in the allocated minus basic cost of the non-seasonal herds more than offsets the seasonal herd's total basic cost advantage of \$1.23 per CWT EQ.

This accounts for the \$0.88 per CWT EQ advantage that the non-seasonal herds have in NFIFO per CWT EQ. Such results will likely surprise many people, since one of the advantages often attributed to seasonal systems is the need for less capital investment and reduced capital costs. At least on a per CWT EQ basis, that clearly is not the case with the farms in this comparison.

This comparison also raises questions about the perceived advantage in labor efficiency that proponents of seasonal calving/milking claim for such systems. If paid labor and management compensation were added back, the ratio of NFIFO per CWT EQ between the seasonal and non-seasonal herds would narrow, but the non-seasonal herds retain advantage as seen below.

### Comparing Seasonal with Non-Seasonal Calving/Milking with Non-Seasonal Herds

	Seasonal	Non-Seasonal	Average
Number of Herds	7	85	92
Number of Cows per Herds	145	85	90
Average Lbs. Milk per Cow	11,667	17,560	16,836
Average Lbs. Milk per Herd	1,691,715	1,496,401	1,511,264
Average Basic Cost per CWT EQ	\$6.73	\$7.96	\$7.83
Allocated Cost per CWT EQ	\$11.46	\$10.58	\$10.67
Allocated Minus Basic Cost per CWT EQ	\$4.73	\$2.62	\$2.84
NFIFO per Cow	\$160.00	\$398.00	\$395.00
NFIFO per CWT EQ	\$0.87	\$1.75	\$1.66
NFIFO per Farm	\$23,202.00	\$33,913.00	\$33,098.00
NFIFO per CWT EQ (without deducting any labor compensation)	\$2.20	\$2.64	\$2.60

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 [tskriegl@facstaff.wisc.edu](mailto:tskriegl@facstaff.wisc.edu) or by writing the UW Center for Dairy Profitability, 277 Animal Science Bldg., 1675 Observatory Drive, Madison, WI 53706. The following researchers are leading the project in their respective states: Jim Endress (Illinois), Larry Tranel and Robert Tigner (Iowa), Ralph Booker (Indiana), Bill Bivens and Sherrill Nott (Michigan), Margot Rudstrom (Minnesota), Greg Bishop-Hurley (Missouri) Jim Grace (New York), Thomas Noyes and Clif Little (Ohio), Jack Kyle and John Molenhuis (Ontario, Canada), J. Craig Williams (Pennsylvania), and Tom Kriegl and Gary Frank (Wisconsin). Any opinions, findings, conclusions or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture.