

# Great Lakes Grazing Network Dairy Financial Summary Preliminary First Year Report.<sup>1 2</sup>

## Summary

Management Intensive Rotational Grazing can be economically competitive as a dairy system in the northern U.S. The **graziers in the Great Lakes Grazing Network Dairy Financial Summary averaged a much higher net farm income** from operations per cow (NFIFO/cow) and net farm income from operations per hundredweight equivalent of milk sold (NFIFO/CWT EQ) when compared to the average of 605 Wisconsin confinement dairy farms.

Cost of production values from the graziers in the report are presented on a whole farm, per cow and per CWT EQ basis for you to use to **compare with your costs**. To accurately compare your performance with anyone else, you should also calculate your cost of production using the per hundredweight equivalent of milk sold (NFIFO/CWT EQ) method.<sup>3 4</sup>

## Introduction

Aided by a USDA Integrated Food and Agricultural Systems grant, 10 states and one province have standardized data handling procedures and combined actual farm financial and a more limited amount of production data to provide financial benchmarks to help farm families and their communities become successful and sustainable. This preliminary first report uses a relatively new computer program called Agricultural Financial Advisor (AgFA©) to analyze the data. The data is presented in the cost per CWT EQ format, comparing the average of 39 participating dairy graziers with the performance of the top third and the bottom third.

This report is preliminary for a couple of reasons. One reason is that about 65 more data sets are being added. A second reason is that the analysis uses the current market valuation method to value assets because not all of the data contains asset information in

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<sup>1</sup> 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).

<sup>2</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 [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. This report was prepared for the Great Lacks Grazing conference, February 10-11, 2002.

<sup>3</sup> The conventional farm values are summaries of 605 farms used in *the Cost of Milk Production on Selected Dairy Farms Report for 2000* by Dr. Gary Frank of the University of Wisconsin Center for Dairy Profitability.

<sup>4</sup> CWT EQ sold is an indexing procedure which focuses on the primary product that is sold and puts all farms on an equal footing in terms of milk price for analysis purposes. For more information about the CWT EQ method, consult *Cost of Production Versus Cost of Production*, Dr. Gary Frank, UW Center for Dairy Profitability, 1997.

the historic cost asset valuation format. A third reason is that many additional financial comparisons are possible.

The Great Lakes Grazing Network Dairy Financial Summary Project is also **actively seeking actual farm financial data from other dairy graziers and other enterprises** such as organic dairy, custom heifer growers, and graziers of other livestock.

### **Comparing the Cost of Production of “All” Graziers With Your Cost of Production.**

Table three shows the average cost of production values from thirty-nine graziers in the Great Lakes Grazing Network Dairy Financial Summary. These values are presented on a whole farm, per cow and per CWT EQ basis. You can use the per cow and per CWT EQ columns to compare with your costs for every 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 differences 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. But while much more interpretation remains, the data in this report may confirm some beliefs and may contradict others.

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 grazier in this analysis would add about \$115 of profit per year. (A penny added to the price per 100 pounds of milk sold would have the same effect.)

Not to dismiss Benjamin Franklin, it is obvious that to the average grazier 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.

### **Comparing the Top Third with the Bottom Third of Graziers Using Basic CWT EQ Sold.<sup>5</sup>**

The 39 graziers are divided into top and bottom thirds, using basic cost per CWT EQ.<sup>6</sup> The 13 graziers with the lowest basic cost are in the top group while those with the highest basic cost are in the bottom group. The range of basic cost in the top group is \$5.10 to \$6.43. The range for the bottom group is \$7.10 to \$9.52. The average basic cost

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<sup>5</sup> Basic costs are all the cash and non-cash costs except the opportunity costs and interest, depreciation, labor, and management. Livestock depreciation is included as a basic cost in the table to reflect the depreciation costs associated with differing cull rates between systems. It is included with basic costs in this table, because like all other basic cost items, it is greatly influenced by operational management decisions

<sup>6</sup> See Tables 3 and 4

for the top group is \$2.61 lower than the low group. The top group enjoys a \$4.09 NFIFO/CWT advantage over the bottom group.

**Table 1: Comparing Selected Measures Between the Top Third (Lowest Basic Cost/CWT EQ) and Bottom Third (Highest Basic Cost/CWT EQ) Grazier Herds**

	<b>Top</b>	<b>Bottom</b>
Number of Cows/Herd	70	76
Average Basic Cost/ CWT EQ	\$5.86	\$8.47
NFIFO/Cow	\$1195	\$319
NFIFO/CWT EQ	\$5.53	\$1.44

When examining individual basic cost items between these two groups, a few items stand out.

1. Purchased feed is \$1.24 less for the top group
2. Repairs and maintenance is \$.38 less for the top group.
3. Renting equipment and custom hire are less for the top group.
4. The combined categories of supplies, other livestock expense and other farm expense are \$.32 less for the top group.
5. The bottom group is lower in four categories: fertilizer and lime, seeds and plants purchased, farm insurance, and depreciation on purchased livestock.

Going beyond basic costs, the top group has higher non-dependent labor costs but lower interest costs. On the surface, the top group has depreciation costs that are \$1.26 lower. At least part of this advantage is due to paper valuation gains for the top group. Notice that the negative depreciation on the cost of production report is actually appreciation of assets.<sup>7</sup>

### **Comparing Graziers to Confinement Farms**

When the average graziers financial performance is compared with that of conventional (mainly traditional confinement) Wisconsin dairy farms, graziers have a substantially higher NFIFO/cow and NFIFO/ CWT. A higher percent of total labor used on the larger confinement farms is hired. The larger confinement farms are also more likely to compensate dependents for tax management purposes. To better understand these differences, it is useful to examine the impact of dependent and non-dependent labor compensation on NFIFO/cow and NFIFO/CWT EQ. Table two does this.

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<sup>7</sup> **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 all long-run financial obligations of the business. **Total allocated cost** equals total cost minus the opportunity cost of unpaid labor, management and capital supplied by the owning family. Since everyone does not consciously calculate opportunity cost, allocated cost is often used by default as a proxy for total cost.

**Table 2: Adjusting NFIFO to Account for Different Labor Compensation Practices**

	Graziers		Confinement	
	NFIFO/Cow	NFIFO/CWT EQ	NFIFO/Cow	NFIFO/CWT EQ
NFIFO as calculated	\$944	\$4.23	\$296	\$1.20
NFIFO without deducting dependent labor compensation	\$949	\$4.25	\$408	\$1.65
NFIFO without deducting any compensation	\$1131	\$5.07	\$640	\$2.60

The graziers NFIFO/farm was also higher even though the average conventional farm had 108.8 cows compared to 69 for the average grazier.

This increased profitability exists despite substantially lower production (16,153 vs. 20,546 lbs.) and income per cow for the average grazier. The average grazier has \$281 less income per cow but that was offset by about \$421 less basic cost per cow.

The graziers' basic cost per cwt. milk equivalent sold was also lower by \$1.10.

Comparing the graziers' and confinement farms' allocated and total costs is tricky. This was partly illustrated in the above discussion about the impact of labor expense on NFIFO. Another factor making this comparison tricky is that economic depreciation was calculated for the confinement farms but not for the graziers. However, if the allocated cost/CWT EQ for the graziers was increased by adding the same amount of economic depreciation to it, the graziers still show an advantage in the allocated and total cost comparison.

In summary, graziers' disadvantage in income per farm and per cow was more than offset by their control of operating expense, investment and debt. The graziers are more profitable in spite of—but probably not because of—lower production per cow.

**Table 3: Average Cost of Production of Thirty-Nine Graziers from Several States/Provinces (Basic Cost of Production per Hundredweight Equivalent of Milk Sold, Range from \$5.10 to \$9.52)**

<b>Income</b>	<b><u>2000</u></b>	<b><u>2000</u></b>	<b><u>2000</u></b>
	<b>Per Farm</b>	<b>Per Cow</b>	<b>CWT EQ</b>
<b>Total Income</b>	<b>189,823.30</b>	<b>2,750.86</b>	<b>12.33</b>
<b>Expenses</b>			
Breeding Fees	1,806.59	26.18	0.12
Car and Truck Expenses	1,408.87	20.42	0.09
Chemicals	99.74	10.14	0.05
Custom Hire (Machine Work)	3,931.74	56.98	0.26
Feed Purchase	31,987.51	463.55	2.08
Fertilizer and Lime	4,075.95	59.07	0.26
Freight and Trucking	5,440.13	78.84	0.35
Gasoline, Fuel, and Oil	4,111.51	59.58	0.27
Farm Insurance	2,474.26	35.86	0.16
Marketing & Hedging	2,932.31	42.49	0.19
Rent/Lease Equipment	1,336.77	19.37	0.09
Rent/Lease Other	2,522.46	36.55	0.16
Repairs and Maintenance	12,573.51	182.21	0.82
Seeds and Plants Purchased	1,911.13	27.70	0.12
Supplies Purchased	4,101.97	59.44	0.27
Taxes-Other	3,233.18	46.85	0.21
Utilities	4,501.18	65.23	0.29
Veterinary Fees	3,513.44	50.92	0.23
Other Crop Expenses	530.95	7.69	0.03
Other Livestock Expenses	3,370.46	48.84	0.22
Other Farm Expenses	4,308.79	62.44	0.28
Change in Prepaid Expenses	286.92	4.16	0.02
Change in Accounts Payable	1,023.72	14.84	0.07
Cost of Items for Resale	0.00	0.00	0.00
Taxes-Payroll	207.03	3.00	0.01
Depreciation on Purchased Breeding Livestock	106.77	1.55	0.01
<b>Total Basic Cost</b>	<b>102,396.90</b>	<b>1,483.90</b>	<b>6.65</b>

**Table 3, Continued**

	<b>Per Farm</b>	<b>Per Cow</b>	<b>CWT EQ</b>
<b>Interest Cost</b>			
Mortgage Interest	5,065.18	73.40	0.33
Other Interest	5,573.69	80.77	0.36
<b>Total Interest Cost</b>	<b>10,638.87</b>	<b>154.18</b>	<b>0.69</b>
<b>Labor Cost</b>			
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	2,015.21	29.20	0.13
Labor Hired - Dependents	333.72	4.84	0.02
Labor Hired – Non-Dependents	10,563.49	153.08	0.69
Value of Unpaid Labor & Management	34,491.97	499.85	2.24
<b>Total Labor Cost</b>	<b>47,404.38</b>	<b>686.97</b>	<b>3.08</b>
<b>Depreciation &amp; Equity Cost</b>			
Machinery, Equipment, Building Depreciation	(765.37)	(11.09)	(0.05)
Interest on Equity Capital	32,541.91	471.59	2.11
<b>Total Depreciation &amp; Equity Cost</b>	<b>31,776.55</b>	<b>460.50</b>	<b>2.06</b>
<b>Total Expenses</b>	<b>192,216.70</b>	<b>2785.54</b>	<b>12.49</b>
<b>Total Income - Total Expenses</b>	<b>(2,393.39)</b>	<b>(34.68)</b>	<b>(0.16)</b>
Total Allocated Costs (Total Income - NFIFO)	125,182.81	1814.11	8.13
Net Farm Income from Operations (NFIFO)	64,640.49	936.75	4.20
Gain/Loss on Sales of All Farm Capital Assets	527.31	7.64	0.03
<b>Net Farm Income (NFI)</b>	<b>65,167.80</b>	<b>944.39</b>	<b>4.23</b>

**Table 4: Average Cost of Production of the Top Third Graziers (13) from Several States/Provinces with the Lowest Basic Cost per Hundredweight Equivalent of Milk Sold. (Range From \$5.10 to \$6.43)**

Income	<u>2000</u> Per Farm	<u>2000</u> Per Cow	<u>2000</u> CWT EQ
<b>Total Income</b>	<b>186,465.61</b>	<b>2,662.33</b>	<b>12.33</b>
<b>Expenses</b>			
<b>Basic Cost</b>			
Breeding Fees	1,480.69	21.14	0.10
Car and Truck Expenses	1,133.77	16.19	0.07
Chemicals	529.92	7.57	0.04
Custom Hire (Machine Work)	3,454.46	49.32	0.23
Feed Purchase	27,223.31	388.69	1.80
Fertilizer and Lime	4,985.00	71.18	0.33
Freight and Trucking	3,713.15	53.02	0.25
Gasoline, Fuel, and Oil	3,271.85	46.71	0.22
Farm Insurance	2,752.69	39.30	0.18
Marketing & Hedging	2,792.85	39.88	0.18
Rent/Lease Equipment	67.69	0.97	0.00
Rent/Lease Other	3,099.69	44.26	0.20
Repairs and Maintenance	11,458.92	163.61	0.76
Seeds and Plants Purchased	2,402.69	34.31	0.16
Supplies Purchased	4,116.54	58.78	0.27
Taxes-Other	2,902.77	41.45	0.19
Utilities	4,191.62	59.85	0.28
Veterinary Fees	3,530.38	50.41	0.23
Other Crop Expenses	474.46	6.77	0.03
Other Livestock Expenses	2,593.62	37.03	0.17
Other Farm Expenses	3,352.77	47.87	0.22
Change in Prepaid Expenses	(1217.00)	(17.38)	(0.08)
Change in Accounts Payable	17.31	0.25	0.00
Cost of Items for Resale	0.00	0.00	0.00
Depreciation on Purchased Breeding Livestock	230.77	3.29	0.02
<b>Total Basic Cost</b>	<b>88,559.92</b>	<b>1,264.45</b>	<b>5.86</b>

**Table 4 Continued**

	<b>Per Farm</b>	<b>Per Cow</b>	<b>CWT EQ</b>
<b>Interest Cost</b>			
Mortgage Interest	7,705.00	110.01	0.51
Other Interest	2,627.92	37.52	0.17
<b>Total Interest Cost</b>	<b>10,332.92</b>	<b>147.53</b>	<b>0.68</b>
<b>Labor Cost</b>			
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	2,655.85	37.92	0.18
Labor Hired - Dependents	0.00	0.00	0.00
Labor Hired – Non-Dependents	10,433.08	148.96	0.69
Value of Unpaid Labor & Management	31,903.08	455.51	2.11
<b>Total Labor Cost</b>	<b>44,992.00</b>	<b>642.39</b>	<b>2.98</b>
<b>Depreciation &amp; Equity Cost</b>			
Machinery, Equipment, Building Depreciation	(8,309.33)	(118.64)	(0.55)
Interest on Equity Capital	28,680.76	409.50	1.90
<b>Total Depreciation &amp; Equity Cost</b>	<b>20,371.43</b>	<b>290.86</b>	<b>1.35</b>
<b>Total Expenses</b>	<b>164,256.27</b>	<b>2,345.23</b>	<b>10.86</b>
<b>Total Income - Total Expenses</b>	<b>22,209.33</b>	<b>317.10</b>	<b>1.47</b>
Total Allocated Costs (Total Income - NFIFO)	103,672.44	1,480.22	6.86
Net Farm Income from Operations (NFIFO)	82,793.17	1,182.11	5.47
Gain/Loss on Sales of All Farm Capital Assets	901.23	12.87	0.06
<b>Net Farm Income (NFI)</b>	<b>83,694.40</b>	<b>1,194.98</b>	<b>5.53</b>

**Table 5: Average Cost of Production of the Bottom Third Graziers (13) from Several States/Provinces with the Highest Basic Cost per Hundredweight Equivalent of Milk Sold. (Range From \$7.10 to \$9.52)**

<b>Income</b>	<u>2000</u> <b>Per Farm</b>	<u>2000</u> <b>Per Cow</b>	<u>2000</u> <b>CWT EQ</b>
<b>Total Income</b>	<b>207,326.83</b>	<b>2,727.98</b>	<b>12.33</b>
<b>Expenses</b>			
<b>Basic Cost</b>			
Breeding Fees	1,805.69	23.76	0.11
Car and Truck Expenses	1,363.77	17.94	0.08
Chemicals	821.54	10.81	0.05
Custom Hire (Machine Work)	4,858.62	63.93	0.29
Feed Purchase	51,113.62	672.55	3.04
Fertilizer and Lime	4,110.46	54.09	0.24
Freight and Trucking	5,731.54	75.41	0.34
Gasoline, Fuel, and Oil	4,690.85	61.72	0.28
Farm Insurance	2,237.77	29.44	0.13
Marketing & Hedging	4,097.46	53.91	0.24
Rent/Lease Equipment	3,366.23	44.29	0.20
Rent/Lease Other	3,401.08	44.75	0.20
Repairs and Maintenance	19,102.62	251.35	1.14
Seeds and Plants Purchased	1,301.31	17.12	0.08
Supplies Purchased	5,883.77	77.42	0.35
Taxes-Other	2,943.62	38.73	0.18
Utilities	4,909.85	64.60	0.29
Veterinary Fees	3,878.08	51.03	0.23
Other Crop Expenses	501.46	6.60	0.03
Other Livestock Expenses	4,691.92	61.74	0.28
Other Farm Expenses	5,847.85	76.95	.035
Change in Prepaid Expenses	2100.23	27.63	0.12
Change in Accounts Payable	3016.54	39.69	0.18
Taxes-Payroll	621.08	8.17	0.04
Depreciation on Purchased Breeding Livestock	89.54	1.55	0.01
<b>Total Basic Cost</b>	<b>142,486.46</b>	<b>1,874.82</b>	<b>8.47</b>

**Table 5 Continued**

	<b>Per Farm</b>	<b>Per Cow</b>	<b>CWT EQ</b>
<b>Interest Cost</b>			
Mortgage Interest	3,019.85	39.73	0.18
Other Interest	9,947.31	130.89	0.59
<b>Total Interest Cost</b>	<b>12,967.15</b>	<b>170.62</b>	<b>0.77</b>
<b>Labor Cost</b>			
Employee Benefits - Dependents	0.00	0.00	0.00
Employee Benefits - Non-Dependents	1,684.38	22.16	0.10
Labor Hired - Dependents	157.15	2.07	0.01
Labor Hired – Non-Dependents	12,603.23	165.83	0.75
Value of Unpaid Labor & Management	33,396.38	439.43	1.99
<b>Total Labor Cost</b>	<b>47,841.15</b>	<b>629.49</b>	<b>2.85</b>
<b>Depreciation &amp; Equity Cost</b>			
Machinery, Equipment, Building Depreciation	12,007.88	158.00	0.71
Interest on Equity Capital	26,517.03	348.91	1.58
<b>Total Depreciation &amp; Equity Cost</b>	<b>38,524.91</b>	<b>506.91</b>	<b>2.29</b>
<b>Total Expenses</b>	<b>241,819.67</b>	<b>3,181.84</b>	<b>14.38</b>
<b>Total Income - Total Expenses</b>	<b>(34,492.85)</b>	<b>(453.85)</b>	<b>(2.05)</b>
Total Allocated Costs (Total Income - NFIFO)	181,906.26	2,393.50	10.82
Net Farm Income from Operations (NFIFO)	25,420.56	334.48	1.51
Gain/Loss on Sales of All Farm Capital Assets	(1,149.08)	(15.12)	(0.07)
<b>Net Farm Income (NFI)</b>	<b>24,271.49</b>	<b>319.36</b>	<b>1.44</b>