

WISCONSIN DAIRY DATA

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Cost of Milk Production per Hundredweight Equivalent In Milk Sold per Cow Ranges by Gary Frank

Usually a lively discussion occurs when the cost of milk production and milk sold per cow are mentioned in the same sentence. Does it cost less to produce a unit of milk when you have a high herd average or does it cost more? In which cost categories are there differences? Are lower values in some cost categories offset by higher values in others? To try and shed some light on these questions, the cost of milk production per hundredweight equivalent (CWT EQ) was calculated for the following milk sold per cow ranges: less than 17,500 pounds per cow, 17,500 to 20,000 pounds per cow, 20,000 to 22,500 pounds per cow and greater than 22,500 pounds per cow.

Table 1

	Pounds of Milk Sold per Cow			
	Less than 17,500	17,500 to 20,000	20,000 to 22,500	More than 22,500
Number of Farms	194	185	174	132
Average Number of Dairy Cows per Farm	77.3	95.8	123.7	169.5
Pounds of Milk Sold per Cow	14,912	18,851	21,241	24,782
Total Cash Income - Basis Adjustments	15.00	14.95	14.34	14.75
Total Non-Cash Income	(0.06)	(0.00)	0.60	0.19
Total Income	14.94	14.94	14.94	14.94

Table 2

Basic Cost				
Breeding Fees	0.13	0.18	0.18	0.20
Crop Protection Chemicals	0.21	0.22	0.21	0.16
Custom Hire (Machine Work)	0.35	0.44	0.42	0.48
Feed Purchase	2.54	2.48	2.69	3.15
Fertilizer and Lime	0.42	0.38	0.31	0.24
Freight and Trucking	0.17	0.17	0.19	0.22
Gasoline, Fuel, and Oil	0.40	0.34	0.28	0.25
Farm Insurance	0.22	0.20	0.16	0.13
Rent/Lease Equipment	0.14	0.12	0.16	0.12
Rent/Lease Other	0.58	0.65	0.54	0.46
Repairs and Maintenance	1.06	0.91	0.75	0.71
Seeds and Plants Purchased	0.37	0.37	0.27	0.25
Supplies Purchased	0.57	0.48	0.42	0.39
Taxes	0.27	0.23	0.17	0.13
Utilities	0.35	0.31	0.27	0.24
Veterinary Fees and Medicine	0.37	0.42	0.42	0.46
Other Livestock Expenses	0.19	0.36	0.55	0.83
Other Farm Expenses	0.49	0.47	0.47	0.47
- Change in Prepaid Expenses	(0.07)	(0.08)	(0.13)	(0.11)
Change in Accounts Payable	(0.02)	(0.02)	0.01	(0.03)
Depreciation on Purchased Breeding Livestock	0.51	0.44	0.44	0.33
Total Basic Cost	9.26	9.04	8.79	9.07

Results

Table 1 shows the number of farms, cows per farm, milk sold per cow, and the breakdown of income in the various milk sold per cow ranges. It shows there are 185 farms, 95.8 cows per farm, 18,851 milk sold per cow and basically no non-cash income for the farms in the 17,500 to 20,000 pounds of milk sold per cow range. Also there appears to be a positive correlation between herd size and milk sold per cow.

Table 2 shows that the “Basic Cost” of milk production decreases as milk sold per cow increases, until the highest milk sold per cow range, and then it increases \$0.28 to \$9.07. Breeding Fees, Purchased Feed, Veterinary & Medicine and Other Livestock Expenses (mostly BST) increase as milk sold per cow increases. Farm Insurance, Repairs & Maintenance, Supplies, Taxes and Utilities decrease.

Table 3

Interest Cost	Debt per Cow	2,562	3,028	3,102	2,947
	Mortgage Interest	0.46	0.38	0.29	0.20
	Other Interest	0.52	0.59	0.59	0.54
	Total Interest Cost	0.98	0.97	0.88	0.74
Labor Cost					
	Employee Benefits - Dependents	0.24	0.21	0.17	0.12
	Employee Benefits - Non-Dependents	0.11	0.12	0.23	0.26
	Labor Hired - Dependents	0.33	0.38	0.34	0.26
	Labor Hired - Non-Dependents	0.66	0.73	0.90	1.24
	Value of Unpaid Labor & Management	2.01	1.38	0.84	0.53
	Total Labor Cost	3.34	2.82	2.48	2.40
Depreciation & Equity Cost					
	Machinery, Equipment, Building Depreciation	1.48	1.37	1.27	1.01
	Equity per Cow	6,843	6,276	5,669	5,243
	Interest on Equity Capital	1.79	1.36	1.05	0.90
	Total Depreciation & Equity Cost	3.27	2.73	2.32	1.91
	Total Expenses	16.84	15.55	14.48	14.12
	Total Income - Total Expenses	(1.90)	(0.61)	0.46	0.82

Table 3 shows that even as debt per cow increases, interest paid per CWT EQ decreases. Labor costs and depreciation per CWT EQ decrease also as milk sold per cow increases. Equity per cow falls 30%, but the interest on equity capital per CWT EQ falls 50%. Total Income – Total Expenses (profit) increases \$2.72 per CWT EQ from the lowest milk sold per cow range to the highest.

Table 4

Net Farm Income from Operations (NFIFO) Summary					
	Total Allocated Costs	13.04	12.82	12.58	12.70
	Net Farm Income From Operations (NFIFO)	1.90	2.12	2.36	2.24
	Gain (Loss) on Sale of All Farm Capital Assets	0.25	0.11	0.06	0.04
	Net Farm Income (NFI)	2.15	2.24	2.41	2.28

Table 4 tells a somewhat different story. In the various milk sold per cow ranges, Net Farm Income per CWT EQ is nearly identical, an increase of only \$0.13. How can this be? The answer lies in two items. They are “Value of Unpaid Labor & Management” and “Interest on Equity Capital.” The combination of these two account for approximately \$2.40 of the \$2.72 decrease in costs. These two “expenses” are not included in Net Farm Income.

Conclusion

Cost of milk production decreases as milk sold per cow increases. The amount that it decreases depends on which costs we are considering. If we are considering only Basic Costs, the cost of production does not change greatly. If we are looking at all cost (including the opportunity costs of labor, management, and equity capital), increased milk sold per cow has a large impact on cost per CWT EQ (\$2.72). If we are looking at the return to the operator’s labor, management and equity capital (Net Farm Income), that return does not increase a large amount.